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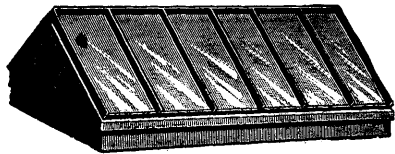
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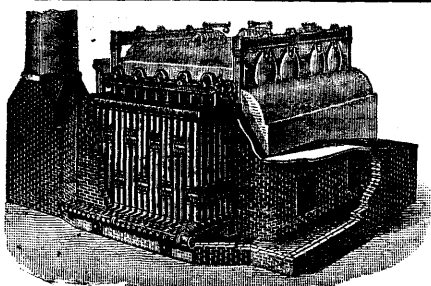
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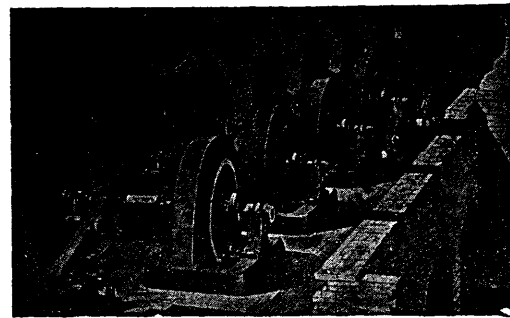
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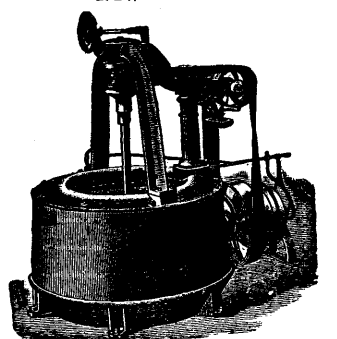
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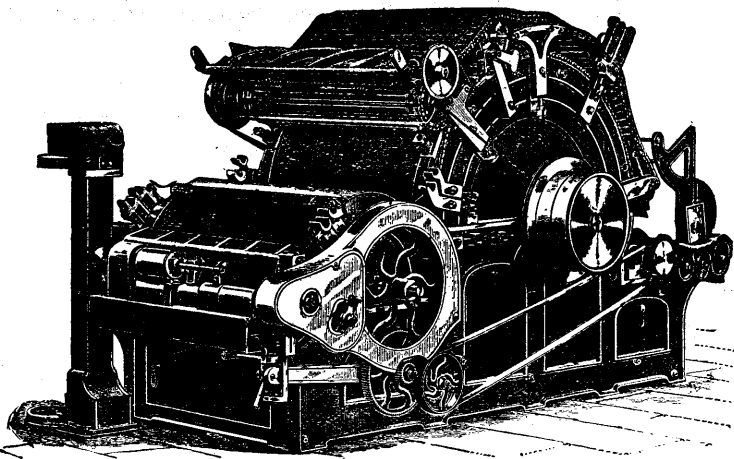
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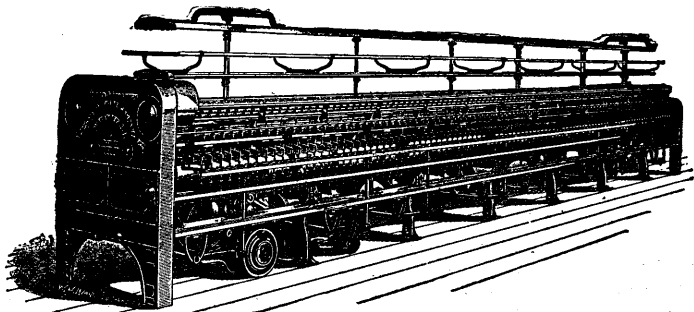
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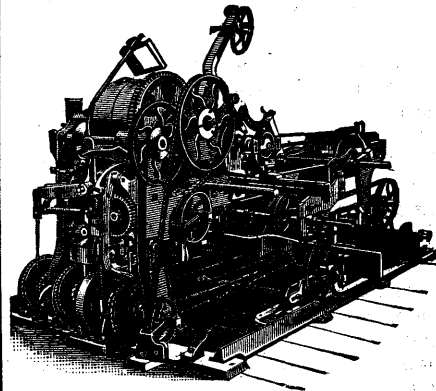


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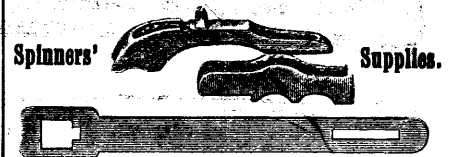
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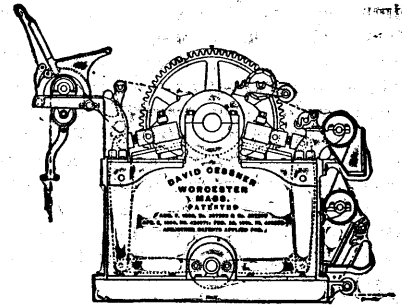
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There is much said about the careless handling of matches. Those who shut up their houses or flats, on leaving home for a journey, need not give the matches away or burn them. Slip the box under the back lids of the range, and it will keep them dry and safe, and no marauding mouse can reach it to start a conflagration.



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NORTHERN INDUSTRIAL NEWS.

MAINE.

The Huse Spool and Bobbin Company was organized last week at Kingfield. The company is capitalized at \$50,000, and has the following directorate: President, O. W. Simmons; treasurer and general manager, Fred C. Huse; R. A. Huse, Jr., H. S. Wing and E. B. Jenkins. A very desirable tract of land has been secured and work has been commenced on the necessary buildings, which will include a main mill 140x36 feet, two stories high, an engine and boiler house, dry house, saw mill, office and other smaller structures. The mill will be completed and equipped in about three months, when a large force of men will be employed.

MASSACHUSETTS.

Work at the Middlesex mills, Lowell, started up Tuesday, after a few weeks' suspension.

The woolen weave room of the Arlington Mills, Lawrence, shut down for three days last week.

Wachusett Mills, Worcester, have placed a repeat order for humidifiers with the American Moistening Company, Boston.

Several departments of the cotton mill of the Arlington Mills, Lawrence, are being run over-time.

The American Moistening Company, Boston, has an order from the Portland Cordage Company, Portland, Ore., for humidifiers.

The Kitson Machine Company, Lowell, is turning out the largest production of machinery that it ever has in the history of the company.

The Lowell Machine Shop, Lowell, has 2200 men on its pay roll, working full time in all of the shops and in some departments extra.

The Boott cotton mills, Lowell, are running overtime, and enough orders are on hand to keep the plant going in full until the first of next year.

The Flynt Building Company of Palmer has been awarded the contract to build a large power house and a dam for the Palmer mills at Three Rivers.

The Appleton Company, Lowell, is running its plant on full time, and finds a ready market for its goods. This plant will not shut down this summer.

The Draper Company, Hopedale, built, in the month of July, nearly 1700 Northrop looms, besides its large business in spindles, loom temples, warpers, etc.

The New England Cotton Yarn Company has provided for the addition of 32,000 spindles out of this year's earnings. The company is in fine financial condition, and is at present operating 588,000 spindles.

The Ingrain department of the Lowell branch of the Bigelow Carpet Company has suspended operations for a week or so. Business in the axminster, brussels and wilton departments is good at present.

The Atherton Machine Company of Lowell, which went into insolvency nearly two years ago, will pay to its preferred creditors one hundred cents on a dollar and to the common creditors 46 99-100 cents on dollar.

William Sutton is doubling the water power capacity of Sutton's mills, No. Andover, by placing a new turbine wheel in position in Cochichewick brook. The waterway will be excavated so as to give a fall of nine feet.

The Hodges Fibre Carpet Company, Indian Orchard, have taken one-half of the new mill lately built by the Indian Orchard Company. This gives them an additional floor space of 35,000 square feet, and 50 new looms have been ordered.

The Whitinsville Spinning Ring Company

of Whitinsville reports large orders for its goods in hand and is running its factory on full time. This company make the highest grade goods only, and its customers number many of our largest cotton and woolen mills.

David B. Gessner, builder of the improved Gessner rotary press for finishing woolen and worsted goods, also of improved napping machine at Worcester, reports his business as being good, and is running his factory on full time. The machines built by Mr. Gessner have no superior in the market.

The water in the Merrimack river is unusually low at present, and great caution has to be exercised in the use of the water in order to prevent a famine. Several plants which are entirely dependent upon the river for power are inconvenienced greatly, while those who have steam plants are forced to use them.

One of the latest Crompton & Knowles, 20-harness dobbie, 4x4 box motion, positive motion, pick and pick, has been donated to the Lowell Textile School; also, one of the latest Harriman looms, with patent shuttle-changing device. The latter is particularly gratefully received, as Mr. Harriman, the inventor, was formerly a student at the school.

The Fiskdale mills, Fiskdale, which have been running steady for many years and paying fine profits, contemplate the enlargement of the plant to twice its present size. The entire plans and details of the project are, as yet, incomplete, but as the company is erecting a new reservoir with four times the capacity of the present one, it is not to be doubted that the enlargement will be made.

The Whitin Machine Works at Whitinsville has its new shop completed and is moving into the same. This large building is of brick and is constructed in the most approved manner, being beautifully lighted from the windows, and for a workshop its arrangement cannot be excelled. It gives the company about 100,000 more square feet of floor space, thus enabling them to work 2000 or more help with ease.

The following certificate of corporation has been handed to the commissioner of corporations: Lowell Bleachery, Lowell, E. C. Clarke, treasurer. Annual meeting July 16, 1900. Assets—Real estate, buildings and machinery, \$517,121; cash and debts received, \$58,865; manufacturers and merchants, \$23,067; total, \$599,053. Liabilities—Capital stock, \$400,000; debts, \$185,000; profit and loss, \$3853; total, \$593,853.

The large wooden building formerly used as a dyehouse by the Merrimack Woolen Company, Dracut, was burned early Friday morning of last week. The blaze broke out in two different sections of the building, and is believed to have been incendiary. The building has not been used of late, and contained only old machinery and tanks. The loss is approximately \$5,000, covered by insurance. This is the fifth suspicious fire that has occurred in Dracut within a few months.

The following certificate has been handed to the commissioner of corporations: Hamilton Manufacturing Company, Lowell, C. B. Amory, treasurer. Annual meeting July 16, 1900. Assets: Real estate and buildings, \$974,849; machinery, \$625,151; cash and debts received, \$1,502,297; manufacturers and merchants, \$1,014,968; mill No. 7, \$4127; total, \$4,121,392. Liabilities: Capital stock, \$1,800,000; debts, \$1,428,060; profit and loss, \$341,594; res. for depreciation, \$551,738; total, \$4,121,392.

The Marshall Brothers, the largest hat manufacturers at Fall River, have given their employes who work on government contracts a voluntary advance in wages of 25 per cent. The workmen were perfectly satisfied with their former wage scale, and this advance came as a surprise to them all. Marshall Brothers make most or the biggest

part of the government hats, and has orders for 75,000 dozen pieces on hand. The increase will effect about 300 hands, who are employed only on government work.

A largely attended special general meeting of the Weavers' Progressive Association was held Monday evening for action on the proposition to make a cash allowance from the general funds to members thrown out of work on account of the shut-down of the mills. By more than a two-thirds vote the association provided that members in full benefit, paying 15 cents a week, be allowed \$5, those paying 10 cents per week \$3, half-members \$2.50 and \$1.50 per week, respectively. This arrangement effects only those who have been out of employment two weeks, and insures the distribution of \$7000 among the idle weavers. It is operative for one week only.

The treasurer of the Osbon mills, Fall River, has filed the following statement with the commissioner of corporations: Annual meeting April 24, 1900. President, John O. Milne; treasurer, Joseph Healy; director, John H. Estes. Fixed capital, \$600,000; capital paid in, \$600,000. Assets—Real estate: Land and water power, \$28,027.75; buildings, \$245,694; machinery, \$685,528.63. Other assets, viz.: Cash and debts receivable, \$41,262.88; manufactures, merchandise, material and stock in process, \$349,278.57. Total, \$1,349,791.83. Liabilities: Capital stock, \$600,000; debts, \$318,581.01; balance profit and loss, \$431,210.82. Total, \$1,349,791.83.

A. J. Shon, of Fall River, is in receipt of a letter from a Hebrew charitable society in New York city, inquiring into the possibility of Hebrew emigrants securing employment in the Fall River mills. The reason for the inquiry is the expected arrival of over 7000 Hebrews, whose expenses were paid from the Baron Hirsch fund. A large number of these will be accommodated on the abandoned farms of New England and the Middle Atlantic States, and every effort will be made to turn their attention to agriculture, liberal offers being made in the matter of stock and seeds. Fall River's share was expected to have been about 300, but owing to the condition of affairs in that city at present, Mr. Shon did not recommend their being sent there.

The commissioner of corporations has received the following from the Potomska mills, New Bedford, Mass. Annual meeting, June 28, 1900. President, Andrew G. Pierce. Treasurer, William O. Devoll. Directors—Horatio Hathaway, Jr., D. L. Parker, John T. Bullard and Oliver Prescott, Jr. Fixed capital, \$1,200,000; capital paid in, \$1,200,000. Assets—Real estate, buildings, machinery, etc., \$1,201,221; cash and debts receivable, \$194,208.59; manufactures, merchandise and stock in process, \$540,172; miscellaneous, \$345.23; total, \$1,899,947.69. Liabilities—Capital stock, \$1,200,000; debts, \$361,955.69; balance profit and loss, \$273,441.37; profit and loss sale of real estate, \$2500; improvement account, \$44,950.43; unpaid dividend, \$18,000; total, \$1,899,947.69.

The mills at Fall River that are shut down this week are as follows: Chace, Cornell, Durfee, Laurel Lake, Sagamore, Slade, Stafford and Tecumseh. The Barnard, Davol, Granite, Mechanics, Merchants, Narragansett, Richard Borden, Robeson, Seaconnet, Troy, Wampanoag and Weetamoe resumed Monday. At the end of this week the Chace, Cornell, Durfee, Laurel Lake, Robeson, Slade and Stafford mills will have completed three out of four weeks' curtailment; the American Linen, Barnard, Davol, Fall River Manufactory, Granite, Merchants, Metacommet, Pocasset, Richard Borden, Troy, Sagamore, Seaconnet, Tecumseh, Union, Wampanoag and Weetamoe, two weeks; the Mechanics and Narragansett one week; and the Shove mill ten days. The Border City will close at the end of the week for four weeks straight.

Three thousand operatives employed in

the mills of the Iron Works Company, Fall River, controlled by Matthew C. D. Borden, are now certain that the plant will not curtail production this year. News was received Wednesday from Mr. Borden which indicates that the owner of the Iron Works mills takes a more hopeful view of the print cloth situation than do the majority of local mill men. He says that the reports that his mills in Fall River will close are without foundation, and that the situation is in nowise discouraging. "The dull season is at hand," Mr. Borden says, "and consumption has fallen behind production. In the fall I look for an increase in production and an increased demand. As to the Fall River cotton mills, the best testimonial of their prosperity and sound financial condition is the fact that in the city of Fall River at the present time it is almost impossible to purchase stock in the mills at any price. There is every evidence of a prosperous year at hand, in my opinion."

The Indian Orchard Company, of Indian Orchard, has had a most prosperous year, as is shown by the following certificate of condition, which was filed at the secretary's office August 6, 1900. The annual meeting was held May 24, 1900, with the following officers chosen: President, E. Morgan; treasurer, Henry K. Wight; directors, Edwin A. Carter, Robert W. Day, G. B. Holbrook and W. A. Lincoln. The fixed capital, \$250,000; capital paid in, \$250,000. Assets. Real estate: Land and water power, \$85,892.91; buildings, \$146,443.76. Other assets, viz.: Cash and debts receivable, \$62,817.22; Manufactures, merchandise, material and stock in process, \$23,014.40; total, \$318,168.29. Liabilities: Capital stock \$250,000.00; debts, \$50,723.60; balance profit and loss, \$42,444.69; total, \$318,168.29. Among the shareholders are: H. K. Wight, 100; Jacob Wendall, 100; United Electric Light Company, 1403; W. A. Lincoln, 25. This company is an extensive manufacturer of cotton warps and yarns, as well as colored cotton and novelty yarns. It has a very fine plant and an enviable reputation on its goods.

The visit of Cuban teachers to Lowell Monday as guests of the J. C. Ayer Company afforded them an opportunity to inspect the features of a New England manufacturing city that was well enjoyed. They numbered 125, and arrived in that city at 12.32 o'clock. A large number of people had gathered at the station when the special train came in, and the visitors at once caught the crowd by singing "America" in English. Dinner was served upon the arrival of the teachers at the Ayer laboratory, a floor of which had been turned into a dining room and decorated with flags and Cuban mottoes, while an orchestra played Cuban and American airs. At the conclusion of the dinner, the local Greek consul, Michel Latros, acted as interpreter in giving the addresses of welcome. Mayor Jeremiah Crowley offered the freedom of the city. The afternoon was spent in inspecting the Ayer laboratories and the mills of the Hamilton and Lowell manufacturing corporations, the party returning to Boston early in the evening.

Treasurer Wood of the American Woolen Company, who has been criticised lately for guaranteeing prices which are considered low, everything considered, for the balance of the year, states that the sales of the American Woolen Company on lightweight goods are progressing satisfactorily as compared with the Presidential year four years ago. The condition of the mills for orders is certainly 50 per cent. better and the prospects are that all of the mills, with one or two exceptions, will receive their full complement of orders. The policy adopted by the company of naming very low prices and guaranteeing the same for the remainder of this year, has proven a sound one, as the above results will show. Wool being held firm by the farmers in the country, a movement on the part of manu-

(Continued on Page 418.)

STEAM & ELECTRICAL ENGINEERING.

We are always glad to receive correspondence from our readers on steam engineering, and to publish the same on this page; but do not hold ourselves responsible for any views which may be expressed. If any of our readers have any questions which they may desire answered we shall be pleased to publish the question with the answer. Each correspondent must send his name and address, which, unless otherwise expressed will be held confidentially by us. We wish engineers in sending us indicator cards to analyze, which we are always glad to do for them, would send us at least four, and taken, if possible, under different loads and springs, and not to trace the lines over. All the data should be marked on the back of the card. We can then give them more satisfactory attention.

CENTRAL ELECTRIC STATIONS.

Economies in Cylinder Lubrication.

[Extracts from a Paper by W. L. ABBOTT.]

(CONCLUDED FROM PAGE 389.)

In arranging an operating force and the pay-roll of the central station, the superintendent should aim to get the maximum of results with the least expenditure of money and still to keep everything harmonious. To do this he should carefully arrange his force so that he will at all times have men enough to take care of the amount of work on hand, and at no time have a surplus of help over what is required to take care of the work to be done. His scale of wages should also be carefully graded, so that the men doing the same class of work should receive the same pay, and that the rate of pay to the different classes of workmen should be in proportion to the skill, responsibility, or manual labor required. Further than this, a considerable saving in money can be made by paying the men partially in hopes and promises. By this I mean to have a well-defined line of promotion, each man knowing his position in that line, and that his chances for promotion depend upon his ability, fidelity, and length of time in the service. Any really good, ambitious young man is ready to begin work at the bottom of the ladder, and will work contentedly along on small wages if he is assured that the promotions to come will be awarded upon the above terms and not by favoritism. The most demoralizing and disorganizing practice that can be introduced into a central station is to put a new man, the relative of some official, or the friend of some politician, into a desirable position over the heads of equally good men who have borne the drudgery and hard work of inferior positions, hoping and expecting that when there was a vacancy in a better position they would have the preference.

In many stations the force is divided into a night gang and a day gang, but I never thought this well adapted to central-station work. The hours are too long, and it does not give the best distribution of labor, the number of men in the station not varying according to the load. The practice which we instituted several years ago of bringing the men on one or more at a time, an hour or so apart, and letting them off in the same way, can be made to exactly meet the requirements of an uneven load, and enables us to rotate the different men of the same class through all the different shifts during the course of one or two months, thus making the work and the hours of all exactly alike in the cycle. At the end of each week the schedule is made up for the week to come for each of the different classes of operatives interested, and this is posted on Saturday night, so that as the men go off work on the following Sunday it is known what shift each will have during the coming week. These schedules are altered from week to week, increased or diminished as regards the number of men, and changed in form to conform to the varying conditions of the load curve.

To illustrate by a set of December schedules: The problem to be solved is to arrange the schedule so that there will be at any time enough men for the work without having too many men around at other times, and, furthermore, to arrange the shifts so that none will be obliged to go home between the hours of 1 and 6 A. M. As we are not sure what the load will be from day to day, or a week ahead, we are obliged to provide men enough to take care of what we assume will be the reasonable maximum. With a little care and study it is possible to arrange the schedule to very nearly meet the exact requirements. Take, for example, the firemen's schedule for the week commencing December 18, 1899. We start at midnight with five men. At 6 A. M. the load begins to pick up, and has nearly

reached its morning maximum by 9 A. M.

To take care of this, our force of firemen is increased by one man each at 5, 7, and 8 o'clock, there being by that time eight more men on, and the force is held at that number until 1 P. M. During this time several men come on and others leave, but the number at work remains the same. The slight drop of the load at noon is not followed by a corresponding change in the number of men, but it is taken advantage of as a slight breathing spell, and gives the men an opportunity to clean fires and eat their dinners. After the mid-day drop in the load there follows a gradual rise until 4 P. M., which we anticipate by bringing a man on at 1 and another at 2 P. M. At 4 P. M. the load rises abruptly to the maximum shortly before 5 P. M. We provide for this by bringing three men out at 3 P. M. to get their fires in good shape ready for this hard pull, and, finally, at 4 P. M. the last man comes, which brings the total number of firemen on at this time of the day up to 14 men. After 5 P. M. the load gradually declines, until at midnight it is only about one-fourth as high. Owing to the way in which the men have been brought out their shifts are finished so that the force is automatically decreased in proportion as the load decreases, and we have during the day worked 21 firemen, who have altogether burned about 200 tons of coal, and have been so distributed that we have at all times had an excess of one or more men for the work, and none have been overworked.

The greatest possibilities for saving or wasting about a steam plant are undoubtedly in the coal pile, but the subject does not receive the consideration to which it is entitled. The average ambitious engineer will spend much time and care on his engine to be sure that the indicator cards are perfectly symmetrical, that the points of cut-off are equal, that the release is in time, and that the compression rises to meet the admission in a smooth, rounded curve. This is proper and commendable; yet the same time spent in studying the conditions of combustion in his furnace might show him a way to make a saving in fuel fourfold greater than is possible in the final refinements of the indicator cards. A fireman whose wages amount to, say, 20 cents an hour, will burn during that time fuel costing ten and fifteen times as much as his wages. It would not be possible by any sort of driving to save half of the wages, but it is readily possible by properly watching and instructing the fireman to save double his wages in coal. In the first place, great care should be exercised in the selection of the coal to be used. I believe that the cheapest coal is that kind which has the greatest amount of combustible for the least amount of money, provided the furnaces are of the proper kind and ample in capacity to make the required amount of steam from them. The very cheapest kind of Illinois screenings, costing less than \$1.50 a ton, will not have less than 10,000 British thermal units a pound, and the very best of Eastern lump, costing \$4 a ton, will not have more than 14,000 British thermal units a pound. This means, then, that for equivalent heating qualities the cheapest screenings cost about half as much as the high-grade coal.

Having selected the coal, the next problem is how to burn it properly. It is commonly understood that 12 lb. of air are needed to properly burn 1 lb. of coal. It is also commonly supposed that in practice about twice this amount of air passes through the fire; but just how much actually passes and under what conditions are the best results obtained are impossible to determine without making analyses of the flue gases. Fortunately, this has now become a very simple operation, and one which can be performed by any one competent to take charge of a large boiler room. These tests often show the most surprising and disappointing results. The analyses are made to determine the percentage of carbon dioxide in the flue gases. Under perfect conditions it can run as high as 20 per cent., but it is not unusual to find samples running as low as 2 per cent. of dioxide. This brings down the economy for two reasons: (1) The gas in the firebox is diluted with an excess of cold air and cooled down; and (2) the amount of gas being increased in volume passes the boiler more rapidly and does not give up much of its heat. It is almost a paradox that within reasoning limits the more the gases are cooled down in the fur-

nace by the admission of excess of air, the hotter they will pass away from the boiler. The two causes of excess of air in the flue gases are running boilers on two light loads and careless firing.

In a station where the load is much higher for a few hours than during the rest of the day, the tendency is to have too many boilers in service during the period of light load. The natural result is that the fires are run thin, the grates get bare in places, a great volume of air is drawn in, and only a small portion of it comes in contact with the fuel. Careless firing is always a flagrant waste of fuel. An engineer may be aware that he is not getting the results which his tests lead him to believe he should have, and yet in a boiler room where several men are working it is exceedingly difficult to fasten the blame on any one of them unless one tests the flue gases.

To follow intelligently the work of the individual fireman, we have installed in our boiler room a device called the econometer, through which is induced a small current of gas from a boiler breeching. The weight of this gas, changing with its composition, moves a pointer across a dial, thereby indicating continuously the varying percentage of carbon dioxide in the flue gas. From this device are run individual pipes to the breeching of each boiler, and all is so arranged that samples may be drawn from several boilers and tested in a few minutes, or a continuous test may be made of the performance of any one boiler. Readings taken from this instrument at regular and short intervals, when plotted, form a curve which is a very comprehensive record of the conditions of combustion during the time of observation.

WATER IN STEAM PIPES.

How Best to Utilize It.

The electrical engineers of England recently held a conference at Huddersfield, at which the utilization of water in steam pipes received much attention. They visited a number of plants where there were installed plants for the purpose of using this waste water. The greatly increasing demand for steam and steam appliances has brought forward the question of economy and improvements in this direction and has recently demanded and received a large amount of attention from engineers. As the result of careful investigations and experiments in this line, an apparatus has recently been placed upon the market, which discharges some most important and hitherto unknown functions, based upon two simple laws of nature, namely, the force of gravity and the tendency of gases to flow to the point of the lowest pressure. The apparatus has been thoroughly tested for some two years, and, it is claimed, with good results.

Every engineer is aware of the inconveniences, the delays and dangers, that arise from the presence of water in steam pipes, which in many cases has resulted in loss of life, cracked cylinders and lids, straining and pounding of engines, and so forth. Again, it is also important that in remedying this evil, the water in the steam pipes, with all its valuable store of heat, should go back into the boilers, so that these should not only be able to use it over again, but also the embodied heat, which is practically boiler temperature, requiring but a very few units of additional heat to convert the water into steam again. This apparatus is said to accomplish this. Moreover, it draws away all water before reaching the engines, thereby only allowing dry steam to pass into the cylinders, while feeding the boilers with water at a high temperature. Other important points are the advantages derived from feeding boilers as near boiler temperature as possible, which consists in a direct saving of coal, this tending to prolong the life of the boiler and to obviate the danger of leakage; while by feeding the boiler with the water of condensation, which is pure, the evaporative capacity is greatly increased, as this water prevents scaling on the boiler plates. The apparatus performs these duties without the aid of any moving parts, and it is therefore almost impossible that it should get out of order.

In this invention there is a receiver which is placed below the lowest point to be drained. This receiver acts as a storage for undue amounts of water, so that the riser pipe, which draws through a special outlet,

may not get water-bound but may act at a constant rate, independent of periodical discharges, into the receiver. All flow of condensation into this receiver is through a suction tee. A pipe is tapped into the forcing end of this tee and draws one or more separators or bottles at convenient distances from the live steam main. Its object is twofold; it not only serves to maintain the receiver pressure, as near as possible to the boiler, by making good any undue drop in pressure from the secondary sources, but also helps to draw the drainage, on the ejector principle, from the drip receiver which receives the drip from all secondary sources.

From the receiver the water is swept up the riser pipe in sections or finely divided particles, into a separator. The purpose of this separator is merely to start the water easily and rapidly down the return pipe which feeds one or more boilers. The necessary drop in pressure in the separator, to guarantee the circulation up the riser pipe, is produced by a small pipe which is regulated by a reducing valve. If there is no convenient method of utilizing this small quantity of steam through the valve, a pipe is connected to the feed-pump discharge, allowing a small quantity of cold water to be injected into the top of the separator, making a slight vacuum, and producing the same circulation up the small pipe. The column of water in the return pipe, plus pressure, overcomes the boiler pressure, and so produces a continuous return. It should be noted that it is immaterial whether the points to be drained are below or above the boiler water level.

FINE ELECTRICAL EXHIBIT.

The Pan-American Exposition at Buffalo Will Show Apparatus of Interest to Textile Manufacturers.

At the coming Pan-American Exposition at Buffalo there will be an electrical display that the enterprising and up-to-date manufacturer of textiles must not neglect. Not only with regard to the best apparatus for lighting the factories and the power for driving the machinery at the least cost for the energy required, but there are groups of exhibits that touch the trade in a much more germane fashion. Electro-chemistry is being made a study in the textile trade schools in Germany, and the manufacturers here can well afford to give their earnest attention to what is a feature in the German curriculum. There are other special features that the manufacturer must see.

The construction of the Electricity Building is already well advanced. The architectural design is of the Spanish renaissance, while its size is 500 by 150 feet, covering an area of about 75,000 square feet. This building adjoins the Midway, and will be readily accessible from that interesting place. At the eastern end of the building stands the Electric Tower, 375 feet high, and which forms one of the features of the Exposition. This will be illuminated every night in beautiful and elaborate designs.

The exhibits will be divided into three classes. The first of these will comprise what will be known as the "service plant," and is a transforming station of approximately 5000-horse power. In this plant will be large static transformers for the purpose of stepping down electric power derived from Niagara Falls, from 11,000 to 18,000 volts, the larger potential being that used for distributing power around the grounds for lighting and other purposes. The service plant will be located in the northwestern side of the building, and will afford excellent opportunities for studying the latest practice in sub-station plants.

The second class will comprise what is known as the collective exhibits. These will comprise electrical apparatus of historical interest, illustrative models or practical contrasts which show important improvements in the science.

The third class is proposed to include exhibits possessing distinctive merits. This will include excellent workmanship, decided novelty, or is available for useful applications. Approximately 33 per cent. of the ground area is available for exhibit space.

One of the most important features of an exposition is the classification of exhibits. By means of this, the exhibits are arranged and the awards made. After a careful study of the various classifications adopted for

other expositions, the following arrangement has been tentatively selected for the Electricity Section of the Pan-American Exposition:

Division—Electricity and Electrical Appliances: Group 1—History and Literature of Electrical Science. Group 2—Apparatus Illustrating the Phenomena and Laws of Electricity and Magnetism. Group 3—Apparatus for Electrical Measurements, Laboratory and Commercial. Group 4—Electric Batteries. Group 5—Dynamo-Electric Machinery and Apparatus for the Transmission, Conversion, Distribution and Regulation of Electric Power. Group 6—Electric Lighting. Group 7—Electric Telegraph and Signals. Group 8—The Telephone and Its Appliances. Group 9—Electro-metallurgy and Electro-chemistry. Group 10—Electric Heating Apparatus. Group 11—Electro-therapeutics. Group 12—Miscellaneous Applications.

GAS ENGINES.

Some of the Advantages Claimed for Them.

I have been running steam engines for thirty years, recently said an experienced engineer, and gas engines for ten years, and in the light of this experience, were we installing power for any purpose, and especially in connection with a gas company, we would not for a moment think of accepting a steam engine free of cost instead of paying a fair price for a gas engine, and the larger either plant the more certain we should be of selecting the gas engine. We should do this for many reasons, the principal of which are economy and convenience.

I can see no reason for a gas company employing a steam engine; in fact, it is an admission that gas engines cannot do the work. A gas engine can do any work a steam engine can do, and do it more conveniently and more economically. We run them all over town for all purposes. We have two engines, a forty and twenty, running machine shops, and each of them have in connection an incandescent dynamo, furnishing their own light. We put them both in. They have been running two or three years, giving excellent satisfaction. Of course we had a lot of trouble early in our experience, but it was for want of knowledge; and if we had selected a man who was to run our plant, sent him to the shop where engines were being made and tested, and allowed him to remain there a month, it would have been money in our pocket.

The average gas consumer cannot be expected to give the subject of gas consumption the consideration necessary to determine the advantages of its use, and the gas company should do it and be able to demonstrate its advantages without the loss of time or expense to the consumer, and should have employes who could and would assist the consumer in understanding its uses and advantages.

NOTES.

The new French protected cruiser "Chateaubriant" is to have a speed of 23 knots an hour, with a maximum coal supply of 2100 tons.

The American merchant marine is being slowly but surely revived. Some new steamships that will soon be added, are two for the New York and Cuban Mail Company of 4000 tons each, with an initial horse power of 5000 pounds and a speed of seventeen knots an hour. The International Navigation Company is having two 12,000 ton steamers built with 10,000 I. H. P. and seventeen knots speed.

The new Hamburg-American line steamer Deutschland holds the "maiden" trip record eastward of 5 days 14 hours and 6 minutes. One day she covered 536 nautical miles. Her engines indicate a horse power of 33,000, running at seventy-six revolutions a minute. The cooling surface of the two-surface condensers is 43,630 feet. She has six cylinders; two high-pressure ones of 30.6 inches; one intermediate 73.6 inches, and another 103.9 inches; and two low-pressure ones 103.3 inches. The two low-pressure cylinders are in the centre, with the two high-pressure cylinders over them, and at the forward end is the first intermediate and at the after end is the second intermediate. The two first cranks, set opposite each other, have thus the intermediate in the one case, and a high-pressure and low-pressure cylinder in the other, and the

after pair cranks, a high pressure and low pressure in the one case, and the intermediate on the other crank. The cylinders are placed close together, the valves being on the outside, and there is a separate valve gear for each cylinder—six sets for the six cylinders of each engine. The end cylinders have their valve boxes on the outside.

While statisticians, economists and others are discussing the shortage of coal in European countries, due to this or that cause, it may be well to note that the London Daily Mail calls attention to recent discoveries of coal in various parts of Algeria. Lignite has also been discovered. The quality of the coal found in Algeria cannot be compared to the Welch product, but, says our contemporary, it is not inferior to some Scotch coals. If it can be extracted in sufficiently large quantities, there is no doubt that most of the works, etc., which at present use Scotch coal will in future exclusively patronize the Algerian mines, as it can naturally be supplied at a much lower figure. The greatest disadvantages that Algerian mine owners have to contend with is the difficulty of transport, but several lines are shortly to be commenced, which will open up the country and result in a great many mines being worked which at present are lying idle. Labor is very cheap, as hordes of Moors and Kabyles wander all over the country in search of work, and, as a rule, water is plentiful. Algeria has certainly a great future before it as a mineral-producing country, and if the colonists and capitalists would only recognize the fact that it would pay them much better to invest their capital in the country than in French securities Algeria would soon rise to the position of a paying colony, which it certainly is not at present.

RECENT PATENTS.

FOREIGN.

British patent No. 4171 relates to spindle apparatus for ring spinning and doubling frames, in which the traveler is made from wire of half-ellipse section, the rounded surface being in contact with the ring.

British patent No. 4221 relates to circular looms. In these looms the wire healds are made accessible at the outside by attaching them at their outer ends to a curved bar mounted upon a rod, which is pivoted at its inner end to a plate having two runners to work in the groove of a cam. In a modification, the reeds have on the upper side a curved extension which remains constantly between two particular threads or groups of the warp.

British patent No. 4261 relates to apparatus for unwinding the residue or excess of roving, etc., from the bobbins of spinning machines. The bobbin is placed on a skewer and supported in brackets, etc., so that it will rest against a rotating drum, and the end of the roving is passed between the drum and a presser roller. More than one set of brackets may be fitted to each drum. A number of drums may be strung on the same driving shaft.

British patent No. 4335 relates to combing machines. In this invention the usual dabbing apparatus is dispensed with and the fibres are caused to pass in a zig-zag fashion between upwardly and downwardly projecting blades, between the rows of pins in the circles. The downwardly-projecting blades have a slight lateral play or shake to enable them to accommodate themselves to inequalities in the rows of pins in the circles, and the upwardly-projecting blades are carried by a bracket on the frame so that they rest loosely on the comb circle as it travels beneath them. The fibres are forced downward into the teeth and between the blades by blasts of air from two pipes, one pipe having such a suction at its mouth that a current of air is directed across the comb circles and also by means of lateral branches downward between the rows of pins.

Robert Tournay.

Historical novels, have, during the past year, become very popular with the reading masses. A large number of such books have appeared during that time, and the popularity of this style of writing is well shown by the large sales which these books have had. Robert Tournay is one of those which has recently appeared in the market. The author of this book, William Sage, has made a welcome departure in choosing

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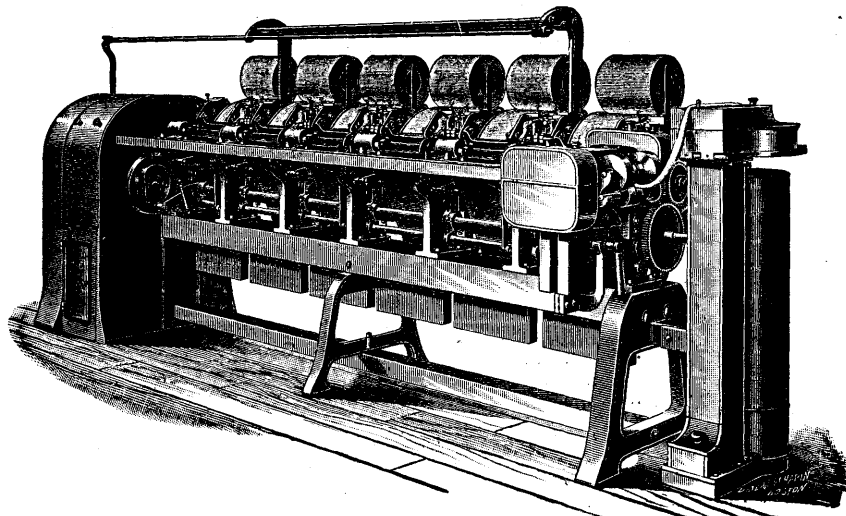
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WOOL MARKET REPORTS.

Prices quoted at the leading seaboard markets.

Table listing wool prices for various regions including Ohio, Pennsylvania and W Virginia, New York and Michigan, Kentucky, Indiana and Missouri, and Texas.

Table listing wool prices for various territories including Idaho, Dakota, Utah, Montana, Wyoming, Colorado, and California.

Table listing wool prices for various states including Oregon and California.

Table listing wool prices for various foreign countries including Australia, Port Phillip, Queensland, Sydney, English, Lincoln, and Shropshire.

Table listing wool prices for various carpet wools including Aleppo, Angora, Bagdad, Bokhara, Calcutta, Camel's Hair, China, Cordova, Crimean, Damascus, and Donakol.

BOSTON.

Market a Little Quieter—Sales Not as Large as a Week Ago—Some Companies in the Market.

The current week has been somewhat quieter as regards the local wool market. The demand in general has let up considerably, and except for the rather liberal purchases by some of the larger buyers the sales would be very small.

Most of the western wool that is now held on the local market has been consigned to local houses with the understanding that it should not be sold for current prices and much of it is to be held until after election.

at figures slightly under those it was being held for, had it not been for this understanding. The outlook for large sales in the near future is not very promising.

Territorial wools have been firm and the total sales were about 300,000 pounds above last week. The sales were fairly good and prices firmly held.

Pulled wools have been in light request, and only 85,000 lbs changed hands, which is comparatively few.

California wools report considerable more doing as regards sales, with sampling and inquiring a little better.

Unwashed wools have noted a good business, and much more wool changed hands this week. One lot of 150,000 pounds was sold at 21@24 cents a pound.

Foreign wools have been fairly active and moderate sales are reported. Some 200,000 pounds of Australian X bred changed hands at 31 cents.

PULLED—The sales include 85,000 lbs pulled, pt.

MICHIGAN—The sales include 5000 lbs X Michigan, 23c.

UNWASHED—The sales include 80,000 lbs medium unwashed, 26c; 140,000 do, 23@24c; 50,000 medium unwashed, Ohio, p t; 150,000 1/2 and 3/4 blood, unwashed, 21@24c.

SCOURED—The sales include 10,000 lbs scoured A super, 52c; 8000 do B super, 40c; 10,000 do B super, p t; 65,000 scoured, 55@57; 10,000 do, 45@50; 185,000 do, p t. Total, 288,000 lbs.

TERRITORY—The sales include 203,000 lbs Territory, 15@20c; 810,000 do, p t; 300,000 Motans, p t. Total, 1,313,000 lbs.

TEXAS—The sales include 50,000 lbs Texas, p t.

CALIFORNIA—The sales include 270,000 lbs Cali p t.

UNCLASSIFIED—The sales include 148,000 lbs p t.

FOREIGN—The sales include 80,000 lbs Australian X bred, 31c; 80,000 do, p t; 120,000 do, fine, p t; 20,000 carpet, p t. Total, 300,000 lbs.

Table showing sales figures for the week, categorized by region and type of wool.

Table showing receipts and sales figures for the week, categorized by type of wool and time period.

Sales for 1899-1900.

Table showing monthly sales figures for 1899 and 1900.

PHILADELPHIA.

Market Rather Quiet—Sales Small—Prices Rule Unchanged—Dealers In no Hurry.

The local wool market has ruled quiet during the week. The sales have been rather small and all the lots sold have been small.

Prices are ruling remarkably steady. There are very few dealers who are willing to shade quotations. The prices which have ruled during the week are but little behind quotations.

Domestic wools have continued to show fair activity during the current week. Unwashed wools have attracted considerable attention.

Territorial wools have shown but little doing. The sales have been small, with little improvement in inquiring and sampling.

Scoured and pulled wools continue to report quite a little doing. A lot of 50,000 pounds scoured fleece sold at 42 cents a pound.

Carpet wools have reported a little activity. Prices continue to hold firm. A lot of 50,000 pounds sold at 11 1/2 cents a pound.

The total sales for the week foot up 1,520,000 pounds—1,102,000 pounds domestic and 418,000 pounds foreign.

NEW YORK.

Market Continues With Few Sales, but More Buyers are Present—Prices Stand Up Well.

The current week has been a quiet one, so far as actual sales are concerned. Buyers are paying considerable attention to the condition of the market, and are watching it closely, but do not seem to care about buying at the present time.

Pulled wools have shown the greatest amount of activity of any domestic wool

during the week. Prices on them continue nominal with few concessions being noted. One lot of 50,000 pounds pulled, scoured basis, changed hands at 40 1/2 cents a pound.

California and Oregon wools have shown no attention during the week. No sales are noted in them, with prices firmly held at old figures.

Territorial wools continue quiet, with few sales noted, with prices showing material changes and practically no making concessions.

Foreign wools have been fairly active. Carpet wools have been quieter, with sales bringing good prices.

The total sales for the week foot up 896,000 pounds—512,000 pounds domestic and 384,000 pounds foreign.

American Moistening Company, Boston, have an order for a 60-inch "Fabric Dampener" from the Arlington mills, Lawrence.

COTTON DUCK.

The U. S. Government Wants Bids.

The Philadelphia depot, quartermaster's department, will receive sealed proposals in triplicate until 11 o'clock A. M., Friday, August 31, 1900, for furnishing 300,000 yards 12-ounce cotton duck, 100,000 yards 10-ounce cotton duck, 40,000 yards 8-ounce cotton duck, and 200,000 yards 33-inch cotton duck.

Early deliveries are required, and bidders must state with what rapidity they will make them. The Government reserves the right to reject or accept any or all proposals or any part thereof.

Articles of domestic production or manufacture, conditions of quality and price (including in the price of foreign productions or manufactures the duty thereon) being equal. A guarantee in 10 per cent. of the value of the articles bid for must accompany proposals.

Blankets for proposals, etc., will be furnished upon application. Envelopes containing proposals to be endorsed "Proposals for Duck, etc., and addressed to Lieut. Col. John V. Furey, deputy quartermaster-general, U. S. army.

Borden Manufacturing Company, Goldboro, S. C., has placed an order for humidifiers with the American Moistening Company, Boston, Mass.

NEW JERSEY.

The Fries-Harley Company, Gloucester City, was incorporated last week, with a capital stock of \$200,000, and will engage in the manufacture of textile fabrics, such as rugs, etc.

The Camden Lace and Embroidery Company, Camden, will soon begin the construction of another large factory, which will give employment to 1000 additional hands.

Hodgson Brothers, Camden, have placed an order for humidifiers with the American Moistening Company, Boston, Mass.

PERSONALS.

NORTHERN.

Jesse Marcroft is given up his position at the Slade Mills Fall River.

Noyes Fournier finished his labors at the Union mill, M'cup, Conn.

Patrick Higgins closed his labors at the Globe Yarn Mill, Fall River.

Thomas McCormick is the new loom fixer at Libby & Hepperson's mills, Gardiner, Me.

At the Georges River mills, Warren, Me., Cleazer Davis has succeeded John Hill as boss dyer.

E. W. Cobb, for some time boss finisher at the Pioneer Woolen Company's mills, Pittsfield, Me., has resigned.

Mitchel Cloutier, loom fixer at the Uncasville mill, Uncasville, Conn., has resigned and moved to Versailles, Co.

Richard Pirlson has accepted the position of boss dyer at the Ashland Manufacturing Company's mills, Dickeyville, Maryland.

Michael Sheehan has resigned his position at Willimantic, Conn., to accept one with the Meyer Thread Company, Springfield, Mass.

John Donhue has taken charge of the carding and spinning departments for the Ashland Manufacturing Company, Dickeyville, Md.

Joseph Beaumont, for some time employed at the Rock mill, Rockville, Conn., has resigned to accept a position in Providence, R. I., mill.

John Parabovicis, a boy employed at the Tremont and Suffolk mills, Lowell, received bad injuries last Saturday by having his foot caught in a mule.

Frank J. Crane, for some time employed in a silk mill at Mansfield, Conn., has resigned to become superintendent of a large mill in Harrisburg.

George Welch, who recently severed his connection at the Moosup mills, Moosup, Conn., has accepted a position in the Kirk mill, Central Village, Conn.

Benj. Brown, who recently resigned the superintendency of the Chas. E. Stevens Woolen Mills, Ware, has been succeeded by S. H. Walker, of Pittsfield, Me.

J. M. Shearer has resigned the position of engineer and mechanic at the Brightwood Manufacturing Company, North Andover, and is succeeded by James Pratt.

F. E. Devereaux, dyer at the Warren Woolen Mill, Stafford Springs, Conn., has resigned and is now acting in a like capacity at the Cheshire Mills, Harrisville, N. H.

A. A. Roop of the firm of J. William Lewis & Co., cotton manufacturers at Chester, Penn., has withdrawn to become general superintendent of Crozer's mill No. 2, Upland, Penn.

J. F. Scott, who recently severed his connection with the Amsterdam woolen mills, Amsterdam, N. Y., has taken the position of boss carder at Robert Mackinnon's mill at Little Falls, N. Y.

H. R. Rushing, who recently resigned the superintendency of the Endrich woolen mill, Great Barrington, commenced duties last week as superintendent of the Columbia Worsted Company's mills, Wallingford, Penn.

M. T. Connor, who for some time had been employed at the Auburn Woolen Company, Auburn, N. Y., and later at the Seneca mills, Seneca Falls, N. Y., is now boss spinner for the Melrose Woolen Company, Auburn, N. Y.

Antone Perugoso, employed at the Winthrop Mill, Taunton, had his left hand caught in a machine, which was accidentally started up by a fellow workman in the carding room, injuring that member so badly that three fingers were amputated.

Sixteen-year-old J. Sheehan met with a painful accident in the card room of the Faulkner mills, North Billerica, last Saturday. Sheehan is employed in the carding department, and while cleaning his machine accidentally caught his arm in the moving machinery, cutting a severe gash.

Charles Peters was the victim of a serious injury at the Pacific mills, Lawrence, Friday

card room, and while working at his machine his right foot became caught in the machine. When the machine was stopped by a fellow employe his foot was crushed almost to a pulp. Medical assistance was summoned and it was deemed necessary to amputate the foot.

W. G. Fraatz, who has been for the past fifteen years overseer of finishing at the Middlesex mills, Lowell, has severed his connection with that concern to accept a more lucrative position with the Kent Manufacturing Company, of Philadelphia, Penn., from which company he received a call some three weeks ago. Mr. Fraatz will, with his wife and family, move to Clifton Heights, a suburb of Philadelphia.

Charles Bottomley has been appointed superintendent of the New England mill, Rockville, Conn., succeeding B. F. Mellor, who recently took half interest in the Standish Worsted Company, Plymouth, Mass. The new superintendent has been a resident of Plymouth for several years, having been employed in the American mill and Hockanum mills in responsible positions, and a better selection for superintendent could not be made.

At Fort Atkinson, Wis., after a courtship extending over 20 years, during the last 12 of which they have exchanged letters regularly three times a week, Carrie Anderson and John Cummings, of Janesville, Wis., have been married, but without having seen each other—for they are both blind. The nuptial knot was tied by a blind minister, and the maids of honor are also sightless. The bride is a native of Fort Dodge, Ia., and the groom earns his livelihood as a carpet weaver.

Martin Folan, a former employe of the American Yarn Manufacturing Company, Pawtucket, has sued the company for damages of \$2000. The plaintiff was employed by the company in the mule room. His work was cleaning a mule spinning machine.

The two parts of the machine and was badly pushed. One cheek bone was fractured, his face was cut up, and he was otherwise hurt severely. Guards, it is claimed, should have been placed about the machine, or he should have been notified of the danger of operating it and of cleaning it while in operation.

On Wednesday evening of this week the Hon. and Mrs. William F. Draper, of Hopedale, tendered their many friends a reception which in grandeur exceeded any that had ever before been held in that place. The Drapers' elegant house was especially decorated for the occasion, and the display of flowers, lanterns and electric lights was magnificent. The general and his wife were ably assisted in receiving their friends by Mr. and Mrs. George A. Draper. During the evening the Hopedale band furnished music, and refreshments were served. There were over four hundred guests present, among them being Hon. and Mrs. Eben S. Draper, Mr. and Mrs. Eben D. Bancroft and Mr. James Northrop.

Just fifty years ago last Saturday Mr. and Mrs. Amasa Houghton, of Webster, were united in marriage. The golden anniversary of their wedding was celebrated Saturday, when several hundred guests were present. The chief event of the occasion was the remarrying of Mr. and Mrs. Houghton by the same minister who tied the knot half a century ago; and Mr. and Mrs. Merrick Houghton, of Chepachet, R. I., who acted as best man and bridesmaid so long will do the same once more. Mr. Houghton was born in Webster Jan. 27, 1829, and when graduating from the grammar school when a lad of 11 years, went to work in the old Fenner mill to learn the spinner's trade. He learned the business throughout and became an overseer. He went to Putnam, Conn., in 1854, and from there to Attawaugan, and in 1866 to Wauregan, Conn. He remained at the latter place for nineteen years. In 1886 Mr. Houghton retired from active labor. He served in Company B, 13th Connecticut volunteer infantry in the war of 1861-65, and at present is a member of Nathaniel Lyon post, G. A. R., of Webster. Mr. Houghton married Miss Emerence E. Arnold, of Danielsonville, Conn., July 28, 1850. Two children were born as a result of the union, Charles Houghton, now of Pawtucket, R. I., and Mrs. George S. Pike, of

children and one great-grandchild. Many handsome and valuable presents were received by the happy pair.

SOUTHERN.

G. A. Whitney has resigned his position at the Overland cotton mills, Denver, Col.

J. W. Shaver has accepted a position with the Phoenix cotton mills, Nashville, Tenn.

T. S. Haskell, for some time overseer of spinning at night for the Monroe Cotton Mills, Monroe, Ga., has accepted a similar position with the Erwin Cotton Mills, Durham, N. C.

J. A. Lyons has accepted a position in the Orr mills, Anderson, S. C. He recently severed his connection with the Piedmont mills, Piedmont, S. C.

J. O. Perkins, master mechanic at the Rome Cotton Mills, Rome, Ga., has accepted a similar position with the Mandeville Cotton Mills, Carrollton, Ga.

W. H. Hawkins has resigned his position at the Victor mill, Charlotte, N. C., to become overseer of spinning at the Wadesboro cotton mill, Wadesboro, N. C.

G. W. Scott has given up his position as engineer at the Pearl cotton mills, Durham, N. C., to accept a like position at the Strickland cotton mills, Valdosta, Ga.

L. A. Abercrombie has finished his labors at the Tucopan mills, Tucopan, S. C., to commence duties at the F. W. Poe Manufacturing Company, Greenville, S. C.

L. E. Anderson has become overseer of carding at the Arnold cotton mills, Birmingham, Ala. He was until recently employed at the Denison cotton mills, Denison, Texas.

A. L. Bain has commenced his new duties as superintendent of the Delgado Cotton Mills, Wilmington, N. C. He was formerly superintendent of the Elton Cotton Mills, Elon College, N. C.

S. A. Crutchfield, for some time overseer of carding and spinning for the J. M. Odell Manufacturing Company, Bynum, N. C., has given up that position to act in a similar capacity at the Pilot cotton mills, Raleigh, N. C.

A. C. Freeman, for fourteen years connected with the Boston Manufacturing Company and Waltham Bleachery and Dye Works at Waltham, Mass., has been appointed superintendent of the Clearwater Bleachery and Manufacturing Company, Clearwater, S. C., with office in Augusta, Ga.

OBITUARIES.

Edward Jones, an old-time calico printer and dyer, of Philadelphia, Penn., died in that city Thursday of last week, at the age of 81 years. His father, Edward Jones, established the first calico print works in Philadelphia.

Stephen L. Adams, treasurer of the Stafford Manufacturing Company, Central Falls, R. I., died at his home in that place, Saturday of last week. The news of his death came to his many friends as a sudden shock, as he was apparently in excellent health but a short time before his death. He was 50 years old, and had held many positions of responsibility and trust, among which was chairman of the school board of Pawtucket. His funeral was held Wednesday and was largely attended by his many friends.

John Sagar, a well-known citizen of Lawrence, dropped dead while at his work in the Pacific Mills, last week. He was about 60 years of age. Heart disease was the cause of his death. He had been in the employ of the Pacific Mills, in the engraving department, nearly 50 years. He was born in England, was a member of the Grecian Lodge of Masons, of United Brothers lodge, I. O. O. F., and of Lawrence council, Royal Arcanum. He was president of the local Odd Fellows Hall Association. He leaves a widow, a brother and three sisters.

John Anderson, employed at the American Print Works, Fall River, met with injuries, Thursday of last week, which caused

vator which was ascending, and had just passed the second story when the cable broke, precipitating the car to the bottom of the well. When the elevator reached the lower floor Anderson was thrown against the edge of a tub which was being carried on the elevator, breaking several ribs. While no autopsy had been held, the authorities are satisfied that death resulted from shock and internal hemorrhage.

James McCaffrey, an old and respected citizen of Lowell, died at his home last week after a short illness. The deceased was a native of Ireland, being born in County Tyrone over 60 years ago. In 1866 he emigrated to this country and settled in Lowell, where he secured a position as wool sorter in the Middlesex mills, remaining in the employ of that company until three years ago, when he accepted a position in Moore's mills, North Chelmsford. Mr. McCaffrey was a well-known resident, and was well liked by all who knew him. He is survived by a widow, four sons and three daughters.

William Clark, of Newark, N. J., president of the William Clark Thread Company, died suddenly at his home at Watch Hill, R. I., Tuesday morning, of heart disease, which was followed by a severe attack of indigestion. Mr. Clark was a native of Scotland, being born in Paisley 84 years ago, and came to this country when a young man, after learning the thread manufacturing business in Scotland. At one time he was manager of the George Clark Thread Works, Newark, N. J., and resigned to organize the William Clark Thread Company at Westerly, R. I., building extensive mills there. This company is now amalgamated with the American Thread Company. Mr. Clark was a stockholder in the American Thread Company, but had no official connection with that organization. Two sons, William Clark, Jr., manager of the Westerly mills, and Robert K. Clark, manager of thread mills at Fall River, Mass., survive him. Several years ago Mr. Clark retired with a comfortable fortune, and has taken no active part in business affairs since. Mr. Clark's death was a surprise to thread business men, among whom he was well known.

A SOUTHERN BLEACHERY.

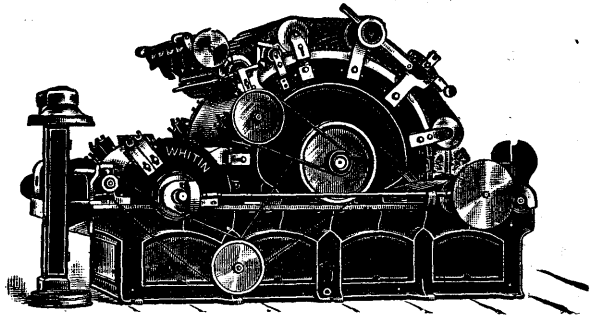
The Ide Cotton Mill, of Jacksonville, Ala., incorporated—A Large Bleachery To Be Built.

Incorporation papers have been granted the Ide cotton mills, of Jacksonville, Ala. The capital of the company is \$200,000 and the stock has all been subscribed for. At a meeting held by the stockholders August 7, the following were elected officers in the company: George P. Ide, of Jacksonville, president and treasurer; A. B. Sanford, of Boston, vice president and general manager; and George P. Ide, A. B. Sanford Gen. J. W. Burke, Jacksonville, J. F. Crow, Jacksonville, F. A. Weens, Jacksonville, H. L. Stevens, Jacksonville, and J. E. Henry, of Lincoln, N. H., directors.

The mill is to be finely situated, as it is on the line of the Southern, East and West railroads, together with being accessible to water power. Work is to be begun at once on the erection of a mill building which is to accommodate 10,000 spindles. Later the bleachery is to be built, which will be one of the largest and finest in the country. The mill has secured the Germania Springs property, which furnishes no less than 5,000,000 gallons of water in twenty-four hours, also 100 acres of land. This water was analyzed by Prof. C. F. Chandler, Ph. G., of New York, who pronounced it free from all elements that would hurt cloth or yarn, and of the finest quality for bleaching and coloring. The water was also submitted to a practical test by John Lorimer's Sons, well known dyers, of Philadelphia, who say it is of an elegant quality.

The production of the mill is to be special lines of bleached and colored yarns, such as are made by the Sanford Spinning Company of Fall River, and on which they have made a national reputation. The mill is very fortunate in having appointed Mr. Sanford to be selling agent and planning the mills, as his former experience and reputation with the Sanford Spinning Co. will prove of great benefit to this enterprise. It is expected that it will start up

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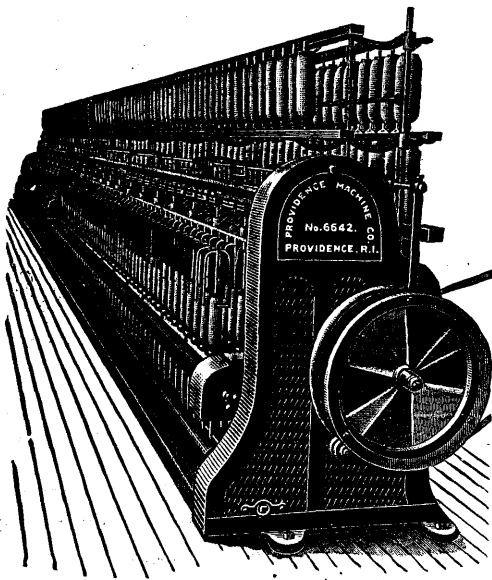


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SILK.

Degumming and Bleaching It.

These processes are to a large extent involved together, for degumming is an essential preliminary to bleaching. Scoured silk may be divided into three great classes: "Boiled-off" silk, "souple" silk, and "écru" silk. The difference between the three lies in the fact that the bleaching is accompanied by the removal of different amounts of the gum or sericin which constitutes about 30 per cent. of ordinary silk-worm silk (from Bombyx mori), but only about 20 per cent. of Tussah or wild silk (from the caterpillars of other moths not belonging to the genus Bombyx). In ordinary silk, says the Dyer and Calico Printer, the coloring matter is not in the fibre, but is combined with the gum or sericin only, while in Tussah silk it permeates the entire fibre. Thus, as will presently appear, the bleaching of Tussah silk is quite a different and a much more difficult operation, although the introduction of peroxide of hydrogen has smoothed down the special difficulties to a large extent, than that of destroying the color matter of the silk of Bombyx mori.

In boiled-off silk the whole of the sericin, or at least as much as possible of it, has been removed, but in souple and écru silks much of it is intentionally left behind. For souple silk only about one-sixteenth of the gum has been removed, and from écru only as little as possible has been washed out. As it is possible to bleach silk without giving it preliminary soap baths, and as sericin is soluble in hot water, it will be quite evident that the removal of at least some of the gum is unavoidable, and the great difference in the three methods of treatment for boiled-off, souple and écru silk respectively consists in the soap treatment. For the first, when there is no idea of leaving in any gum at all, strong and nearly boiling soap solutions are used, and repeated, while for souple silks weaker baths at lower temperatures are employed, and for écru silks, the strength, duration and temperature of the soap baths are brought down to the lowest possible point consistent with the success of the subsequent bleaching operations.

In all the following operations it is of the greatest importance that only soft water should be used. If then only hard water is naturally available, it must be first softened with carbonate of soda, or better, with ammonia, which does not give the bath a permanent alkaline reaction. It, too, the silk is to be dyed of a light shade, it is essential that the soap used for removing the gum should be of the best quality of olive or coconut oil soap, and be absolutely without color. In treating weighted silk, the metallic oxides must be first of all removed with hydrochloric acid, diluted with its own volume of water. This treatment also facilitates the subsequent soaping by removing dirt and portions of the gum.

Boiling off silk consists in giving a series of soap baths at a nearly boiling temperature, beginning with one containing about 3 lb. of soap and four gallons of water to every 10 lb. of silk. The silk is hung over wooden rods in the soap, which is heated up by a steam coil, and left in for about three-quarters of an hour. The second bath lasts about the same time, but only contains from 10 to 15 per cent. of soap, reckoned on the weight of the silk. The "boiled off liquors" are often used for making up dye-baths for the subsequent coloring of the silk, but it would be better to recover the soap by precipitating the liquors with lime water, and, having decomposed the precipitated lime soaps with sulphuric acid, to saponify the fatty acids set free with caustic soda.

For souple silk only one stripping or soap bath is used, of 10 per cent. strength, and at a temperature below 100° F. For écru no soap is used at all.

The bleaching is largely done by means of sulphurous acid. This reducing agent is applied in stoves in the form of gas produced by burning brimstone, or by immersing the silk in a bath of an alkaline solution of a sulphite or bisulphite, and then setting free the sulphur dioxide by adding a mineral acid. Sulphur bleaching is unsatisfactory on account of the tendency of the yellow color to recur when the silk is washed. Peroxide of hydrogen is much to be preferred and is perfectly simple in its action. About two gallons of the peroxide (10-volume strength) are used for every 10 lb. of silk, in 40 or 50 gallons of water made alkaline with a little ammonia or borax. The bath should be heated for

an hour or two after the first four-and-twenty. Souple silk is often bleached with aqua regia. A mixture made of nitric acid and five times its weight of hydrochloric acid. After this mixture has stood for a day or two it is brought to a strength of about 3° B. with five times its volume of water. Care must be taken that the silk does not remain too long in this bath, or it will probably turn back to yellow again, and the mischief is irremediable. As soon as the silk has a slight greenish-gray tint, it should be thoroughly rinsed. The last process with souple silk is to restore the feel, which is now hard and stiff. For this purpose a cream of tartar bath is prepared containing 3 lb. of the salt in 80 gallons, and the soap is added in it for an hour to an hour and a half, or the silk may be treated at 75° C. or one or two hours in a bath of 10 per cent. sulphuric acid of 66° B., half per cent. of aliphurous acid, and 2 per cent. of sulphate of magnesia.

Tinting (i. e., correcting the yellow) with violet is sometimes substituted for bleaching.

Tussah silks the product of caterpillars, not of the genus Bombyx, and, as already mentioned, is very difficult to bleach on account of the coloring matter being in the fibre. Besides, the lime in Tussah silk has a prejudicial effect on the boiling-off process. Two processes can be employed for degumming and bleaching—one is to first remove the lime with dilute hydrochloric acid (1 i 8), which also removes the dirt and gum in part, then to give a soap bath containing 10 to 15 per cent. of soap, and then a bath for 24 hours of the clear liquid got by mixing bleaching powder and solution of carbonate of ammonia, and decanting. This bath should be about 7° B. Then treat with hydrochloric acid of 1.5° B. for 20 or 30 minutes, rinse, and finish the bleaching with peroxide of hydrogen and 8 percent. of water-glass used cold. Koechlin gives another process which consists in boiling for a few hours in a bath composed of 100 litres of water, 10 kg. of caustic soda, 20 kg. of soap, 5 kg. of 10-volume peroxide of hydrogen, and a little ammonia.

It must always be remembered that perfect bleaching is not required for silks which are to be dyed dark shades, as the dark dyes entirely swamp any scarlet ground color which may remain.

PICKER CHECK.

Merrill Gleason of Woonsocket, R. I., has invented a picker check, the object of which is to produce a check that shall bring the shuttles to a quick and easy stop without any rebound. A shuttle can be effectually stopped by putting enough pressure on the binder; but because of the great increase of power required to overcome the friction caused by that pressure of the binder in making the next throw of the shuttle and in the extra strain put on the shuttle-throwing mechanism, which is destructive of those parts, it is very desirable to bring the shuttle to a stop without any rebound that would make it necessary to have recourse to the binder again to prevent any back motion.

In this picker check the normal position of the operating lever is vertical, and when the picker is struck by the incoming shuttle the stick falls back against the horizontal arm at the lower end of the lever, which is bent off so as to cross its path, and the friction on a ratchet wheel, which is turned by a pawl, brings the picker stick and shuttle easily to a rest without the risk of the rebound there is when the picker is stopped by an active spring.

The check can be made applicable to either a right-hand shuttle box or a left-hand one by simply reversing the ratchet wheel on its stud and depressing the other end of the pawl to engage with the reversed ratchet wheel.

By making the weight adjustable on the lever its effect in bringing the lever back to vertical position can be regulated so as to be just sufficient to do it and not make any extra weight to cause a reaction on the picker stick, and if by reason of the gumming of the oil or from dirt in the bearing it requires more effect the weight can be set nearer to the lower end of the lever.

When washing black socks or stockings rinse in warm blue water to keep them soft and a good color.

A tea made from celery roots and leaves is recommended as a cure for rheumatism. It should be taken daily.

INSURANCE.

INCENDIARISM IN LOWELL.

Textile Interests Suffer at the Hands of a Fire Bug.

But for the prompt action on the part of the night watchman the loss by fire at the Merrimack Woolen Company would have been much greater than it turned out. The circumstances attending this fire, and its connection with other similar ones in the vicinity, point with almost certainty to the work of an incendiary. The fire occurred about 2 o'clock last Sunday morning.

When the fire department arrived they found the woolen dye house, consisting of two buildings connected so as to make practically one, about one hundred feet long by from thirty to forty feet wide, in full blaze. The fire had too much headway to save the main part of the building, though the firemen worked vigorously. The roof fell in and the building is practically a wreck. The frame work of the other part only is left. The dye house had not been used for a long time, and it is understood that there was no stock in it, though there were the machinery tanks and the accidental belongings of such a place.

Investigation showed that the fire started at the rear, and there were indications that the fire was set in two places at that part of the building. Acting Chief Engineer Norton is of the opinion that the fire was set, though he has no clue to the perpetrator.

The damage is roughly estimated at between \$5,000 and \$10,000 on building, machinery, tanks, etc., partially covered by insurance in the Manufacturers Mutual.

The whole of the mill property was to be sold later on, but there had been conflicting reports as to the time the sale would take place. It was understood to have passed into the hands of the American Woolen Company.

FAVOR RAISING RATES.

The Meeting of Fire Companies at Long Branch.

The managers of fire insurance companies held a meeting at Long Branch, N. J., in response to a call from the Committee of Twenty-seven last week. The following agreement was adopted with the proviso that the committee secure a sufficient number of companies to put it into effect.

"1. The undersigned fire insurance companies doing business in the United States agree to constitute and appoint for one year from the time of the general meeting at which this agreement is adopted a Committee of Supervision, whose duties shall be to consider the conditions of the fire insurance business in the various States, the expenses of the business and the adjustment of rates.

"2. This committee shall number thirty and shall be selected by ballot at the meeting of the companies, at which this agreement is adopted, and it shall appoint its own chairman, vice-chairman, secretary and treasurer, and shall have full power to employ such assistants as may be required in the proper prosecution of the duties assigned it; expenses to be met by a pro rata assessment on the fire premiums of the subscribers derived from the territory under supervision.

"3. Such committee shall consist of officers and managers of companies fairly representative of all classes of subscribers and transacting a general agency business throughout the United States.

"4. The Committee of Supervision shall immediately endeavor, through local boards and other associations, to secure an adjustment of the rates upon such classes of hazards and for such localities as the experience of underwriters during the last five years has shown to be inequitable."

There was a strong sentiment in favor of proceeding at once, and this was urged in a strong speech by Mr. H. H. Hall. Mr. John H. Washburn, however, felt that in the absence of a number of prominent companies it would be well to consult them. Among those not represented were the Aetna, Hartford, Continental, Norwich Union, Connecticut, and others.

Novel Electrical Mishaps.

W. H. Merrill, Jr., the electrician of the National Board of Fire Underwriters, in charge of the experimental State labora-

tories, Chicago, in his quarterly report says:

"Several fires are reported as due to sparks from arc lamps not properly protected with spark arresters falling upon combustible goods. In one instance a spark fell upon and exploded a keg of powder on a platform. Numerous incipient fires and casualties due to defective transformers continued to be reported by the various departments, and a radical improvement in the insulation of these devices would seem to be imperative. A man engaged in pressing trousers with an electric iron using an alternating current made a ground contact somehow and was instantly killed. Transformer defective. A young man carried a portable incandescent lamp. He grounded the current through his body and was instantly killed. Transformer defective.

A young man standing on a register of a hot-air furnace attempted to turn on an incandescent lamp. Primary and secondary circuits of transformer were in contact. He somehow escaped death, but several toes on one foot and the thumb and forefinger on one hand were so badly burned that they had to be amputated. (Damages of \$5000 awarded by court in suit against the electric light company).

"Fire entailing losses of \$10,000 and \$73,000 to mercantile establishments, \$50,000 to a cold storage plant, \$25,000 to an electric light station, and \$20,000 to the stocks exhibited in the booths of a carnival are attributed to defective wiring, but, as fires destroyed all evidences of their origin, the exact nature of the trouble cannot be ascertained.

NOTES.

Only eight of the thirty-seven companies thus far reported show a profit on fire underwriting in Indiana for the first half of this year.

Washington, D. C., fire underwriters have established a cut of 40 per cent. on preferred risks, and have advanced commercial risks 25 per cent.

The Globe and Rutgers' Fire Insurance Company will, President E. C. Jameson states, probably increase its capital before January 1 to about \$600,000.

The business of the Cincinnati Insurance Company, one of the oldest underwriting establishments in the West, has been reinsured with the Magdeburg of Germany.

The July report of losses by the Boston Manufacturers' Mutual Fire shows an aggregate of \$1547. The August 1 dividend was 90 per cent. Sprinkler losses were only \$76.49.

The Insurance Agency Company of New York City, organized to conduct the business of general insurance on life, fire, etc., has been incorporated in New Jersey. The capital is \$1,000,000.

The line of the Massachusetts Brewing Company has been secured by the John C. Paige & Co. and the Obrien & Russell offices jointly. The exact amount is not yet known, but it will amount to several millions.

The Mutual Life of New York has settled the famous Hillmon suit by paying \$22,000 on a \$10,000 policy. The case against this and other companies has been in court about 20 years. The defence was that Hillmon was not dead.

The Southeastern Tariff Association has adopted a new schedule for rating tobacco risks which will give an increase of about 33 1/2 per cent. A percentage increase will be demanded pending the specific revision of rates. It is generally accepted that this is necessary.

Supt. Hendricks of the insurance department has declined to admit the National Life Insurance Company of America to do business in New York, on the ground that the best interests of the people of the Empire State will not be observed by its admission.

The Boston Standard's annual insurance directory of New England is issued. It contains the usual large amount of information for and about all classes of underwriters, carefully and conveniently arranged, and should have a place on the desk of every underwriter.

The American Union Life of New York which failed to effect reinsurance in Presi-

GARLAND'S MOISTENER.

There is no waste water in the operation of this system for only the water which is absorbed by the air, is used. There is practically no care required in its operation except that necessary for the regulation of the humidity, for the water which is used is filtered by the Loomis-Manning filter and is absolutely pure, regardless of its natural condition.

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Exclusive American Licensees for the PATENT FLEXIFORT CARD CLOTHS.
Special attention given to Clothing for Revolving Top Cards. Experts furnished to clothe and start the same.

dent Mabie's companies, shows a small impairment by a recent examination by the New York department, while the fund of \$631,300, contributed by the stockholders to steady the craft, has entirely disappeared.

The following Massachusetts mill mutuals have been admitted to Rhode Island: Boston Manufacturers, Arkwright, Worcester Manufacturers and the Fall River Manufacturers. The directors of the Cotton and Woolen Manufacturers, the Industrial Mu-

tual and the Rubber Manufacturers have voted to apply for admission in that State.

A few drops of alcohol mixed with a little olive oil in the proportion of two and one-half parts of oil to a half part of alcohol is a better mixture with which to rub polished tables than the plain oil. The alcohol cuts and takes off any grease, dust or trifling stain.

BOSTON JOURNAL OF COMMERCE AND TEXTILE INDUSTRIES.

SATURDAY, AUG. 18, 1900.

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W. I. HOLMES, Treasurer.

[ENTERED AS SECOND-CLASS MATTER.]

Subscribers who fail to receive their copies of the BOSTON JOURNAL OF COMMERCE and TEXTILE INDUSTRIES are requested to notify us, and duplicate copies will be promptly forwarded.

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Ostrich-Like.

There has been much said and much more written about the Chinese troubles and their effect upon our cotton manufacturing industry. It has been claimed by many who profess to know the minutest details of this great American industry and the characteristics of the Chinese trade, that the disturbance which has prevailed in that large empire of the East would seriously cripple the Southern cotton manufacturing industry. They have claimed, and many are still claiming, that the loss of that country's trade would throw our Southern mills into another period of hard times. Their idea seemed to be that China and her trade is the only thing that can save our cotton mills from poverty, and that the loss of that trade will force them out of the business.

We have always and still claim that if all of our cotton mills are to have the prosperity which they have had during the past year, they must have their share of the China trade. We would not for a minute have it thought that we belittle the import-

ance of the trade of that vast empire with its more than 400,000,000 people. We do not deny its importance, and we are heartily in favor of using our utmost endeavor in protecting our trade interests in the far east; but what we do want to do is to state that we believe that its importance has been overestimated and that even the present trouble is not such a serious menace to our cotton manufacturing as some people would have us believe.

The cotton goods trade of China which our mills have had has, in the past, amounted to some \$12,000,000, or about \$1,000,000 worth of goods a month. That this is a large sum cannot be denied, but certainly its loss for a time should not ruin the cotton manufacturing industry of this country, and those who claim that it will are showing many of the characteristics of one of the great birds of the desert who, when closely pursued, will hide itself by digging its head in the sand and kicking. When in this more or less graceful position it cannot see, as its organs of vision are necessarily covered up. Ergo, it reasons, on the absurd theory, that it cannot be seen, although the main part of its body is visible to all outsiders. The kicks, also, which would be very effective if the bird could see where he were placing them, lose their force in the position he is then in, and are merely wasted energy.

Some of our cotton goods manufacturers seem inclined to show some of this famous bird's characteristics. They feel that they will lose considerable from a Chinese war, which in truth has not yet begun and probably will not, and are now busily engaged in bemoaning the bad times which they feel are coming and kicking against present conditions. They have in truth buried their heads in the sand and, refusing to look for other outlets, have begun to kick out against present and future conditions.

We note with pleasure that but a comparatively few of our manufacturers are imitating the ostrich. Most of the leading ones have a good business and with a fair outlook ahead, and while they could hope for settled conditions in the East and a better outlook, they are disposed to accept the present and hope for the future. Such as these will not suffer from any great depression. But let these manufacturers who are kicking pull their heads out of the sand and look around themselves. If they will only do this, they will find a condition of affairs, which, if "kicked at," will give them as much profitable business as they could ask for. Instead of keeping in his strained position and wasting energy in kicking against the Administration for adopting measures that will make itself respected in the congress of nations, let them put their shoulders to the wheel and build up a business which will give them prosperity. Let them make an effort to secure the trade of other countries. There is enough trade which they can secure from other countries, by half trying, to more than twice offset the loss which they may suffer from China. The markets of South America alone are open to them and will give them a trade that will foot up many millions more than does that of China. Instead of trying for this trade, they sit back and let the foreign dealers take the cream of the business, and why is this so? Simply because they find out first what their customers want, and then sell it to them. The American way is not to find out what is wanted, but to offer for sale what we think they ought to want, and generally get left in the rear of the commercial procession. Then we, having buried our heads in the sand, kick for subsidies to enable us to meet the foreign competition which would be easily met and swept out of sight if we met the rest of the world on its own grounds.

A Plain Duty.

In the news columns of this paper, last week, there appeared an article on a new and improved style of mill lighting. The plants that have already introduced the system have found that it represents a con-

siderable saving in various ways, and is very much of an advance over the old style of window glass. This is all very well, and it is right and proper that any improvement should appeal to the mill owners on the financial side. It should not stop there, however, and even if the new system did not show a dollar's actual saving over the old one, it should be adopted. It is the plain duty of the owners to consider the operatives. Many of them do this, and the results are such that it is a wonder that this good example is not more closely followed, even from the standpoint of good policy. In these times of labor disturbances and agitation over the rights of the masses, any attempt to alleviate the condition of the workmen will be appreciated by that class. Of course there is a class in this class that will not be satisfied no matter what the owners do for it. There are born malcontents, and such are to be found in great numbers in the textile industries. On the other hand, there are thousands that are grateful for whatever is done to better their condition, and these constitute the bulk of the workingmen.

Germany is raising the status of her laboring classes by technical education. The very mental exercise of mastering the theoretical details of any trade produces a finer quality of brain tissue, and the men or women so taught are of a higher stratum than the merely apprenticed operative. England is also trying to alleviate the condition of her operatives, and is building model villages that are really co-operative in their operation. There are several large firms and corporations that have cultivated thousands of acres into many-gardened villages with their pretty streets dividing rows of comfortable cottages, each with a fair breathing space of green sward in front, with well-kept flower gardens common to all and maintained at the company's expense.

What is America doing?

There are two classes of employers in this country, one of which is happily growing less every year. Whether this diminution is due to an increasing charity, or to a knowledge that the other plan pays best, is not for us to say. This class seems to have argued that it was doing enough for the operatives when it allowed them the atmosphere to use free of expense, or the best of meats and vegetables if they had the money to pay for them, and the luxuries were they not unfortunately unable to reach them with their incomes. By this class the human side of the operative is not considered. It is a good thing for America that this class is growing less and less prominent, and the philanthropic employer is in the majority now.

It is true and cannot be denied that the laborers are much better off than they were only a few years ago. Not that the wages are much advanced, but there are a good many things besides actual money that are conducive to comfort. With the improved facilities in the corporation cottages and the many little things that have arisen out of the consideration for the comfort by the owners, the old saying that man was housed no better than the horse has lost its force if the operative would only appreciate it.

Not only with regard to life out of the mills have improvements been made, but conditions are decidedly better within the walls of those mills. Happy and contented operatives are the best workmen. Gloomy rooms affect the most sunny-tempered. When by the use of this new prismatic glass in the windows, the whole building can be diffused with God's sunlight, should any short-sighted calculations of cost be allowed to figure in the question? An ounce of prevention is worth many tons of cure, and the time is not far distant when this truism will prove itself.

The Cotton Situation.

The present and future condition of cotton is causing considerable uneasiness among those who are most interested in this staple. There is a great amount of uncertainty pervading the market just now

and the uncertainty which manifests itself is very marked. No two seem to exactly agree on the outlook. We have, during the current week, talked with a number of the leading cotton authorities of the East, and while they differ somewhat in the lesser details they all seem to agree that cotton has not yet reached the highest point, and that next year's crop is to be much smaller than was expected would be the case.

The department of agriculture recently issued the monthly crop report for July, and it is but stating the case mildly when we say that the report caused a sensation. There were very few who were expecting such an unfavorable one, and it caused much excitement and heavy buying during the last of last week. The report of the government gave the condition of cotton on August 1st as 76, as compared with 75.8 on July 1, 1900, 84 on Aug. 1, 1899, 91.2 on Aug. 1, 1898, and 85.3 the mean of August averages of the last ten years.

If this report is true, it certainly shows a state of affairs that is not at all promising of cheaper cotton next year. According to this report, the new crop will not be more than nine or nine and a half million bales, which is about the same as the last crop. This will not be sufficient to meet the demands of the coming year. The amount of cotton now carried from the last crop is but a little over 700,000 bales, and as the mills will have to have at least 11,000,000 bales to meet the needs, it will be seen that with a 10,000,000 bale crop there will not be enough cotton to go around.

Whether or not the government's report is correct seems to be an open question; but we are firm believers in the fact that the new crop will not be as heavy as was expected at first, and shall not be at all surprised to see it turn out about 10,000,000 bales, we do not look for more. This will mean higher cotton than we have seen for some days, and it will be hard for some of the mills to get supplies enough to meet their demands. If the Chinese trouble had not come at this time, we do not hesitate in saying that cotton would now be bringing over 10 cents a pound. The let up in the demand is all that has kept the price of the staple down, and with a small crop before us and the Chinese trouble over, we look for high priced cotton next year.

Stoddard, Haserick, Richards & Co.'s latest Egyptian crop report says:

ALEXANDRIA, July 27.

The spot market has remained in about the same position all the week, varying in firmness according to the course contracts have taken. There has been rather more inquiry for the better grades, where some little business has been put through. The lower grades, such as remains, hang fire, not being in demand. In regard to the new crop, speaking in a general way, the progress of the crop may be called satisfactory, and not many complaints are heard. It is, however, becoming more and more apparent that in some parts the pinch of water has been felt, and where there has been actual scarcity the plants are, without doubt, in a less vigorous state than they might be. This, fortunately, is the exception and not the rule, and we merely point it out as showing that where there has been a protracted period between the waterings the trees appear to have suffered. This is particularly noticeable in the Menufeh district, where the land remained in places twenty-six days without water. Of course it may be that there is yet time for these plants to recuperate, given a sufficiency of water and favorable weather from now onwards, but this remains to be seen. The lower branches of the plants are not so full of flowers and buds as usual, but these do not give any great proportion of the crop, though they yield the best quality. The crop would seem to be a little late—however, we confirm the crop appears to be doing well, and cultivators seem very hopeful. The weather has been very favorable of late, and no complaints are heard of damage by worms.

MARKET.

New crops are today about ½c.

easier, though prices show an advance of 1/4c. on the week. The easier market is bringing some more inquiry.

The American Cotton Yarn Exchange has issued the following August circular letter:

BOSTON, Mass., Aug. 15, 1900.

HAS THE TIME ARRIVED FOR PLACING CONTRACTS FOR COTTON YARNS?

Since our July circular everything seems at a standstill with both the buyers and spinners. The question now exercising the minds of large consumers of cotton yarns is, "Are values at the bottom." Many have been looking for a break, especially in Eastern hosiery yarns, which does not seem to materialize.

There are two very important factors dominating the situation. The first and most important one is, "the size of present cotton crop." That is what both parties are anxiously waiting for. The other depressing factor is the "Chinese problem," which has caused considerable disturbance to some of our New England and Southern mills.

Taking the present state of cotton and the selling values of yarns, on many kinds of the coarser counts the spinners cannot make a dollar, and they are not anxious for new orders at present prices when they take the following serious factors into consideration and which the buyers should also most carefully consider to govern their placing of contracts.

The world's total visible supply of American cotton August 10 is only 782,548 bales (compared with 1,899,211,823 bales on hand, thus showing a decrease of 1,355,575 bales. Consumption for the year ending August 10, was 10,856,000 bales. These figures show we required for the world's consumption 11,000,000 bales of American cotton.

Now with only 782,548 bales to face new crop with, and if we are to have another short crop, as the government and private reports indicate (not much larger than last year, 9,500,000 bales), it will surely not take much argument to convince buyers of cotton goods and yarns that we are not likely to have very low prices for cotton for this crop, and the present time may be the time to buy yarns, if manufacturers will sell.

The London Statist says: "It, as seems certain, Mr. McKinley is re-elected, the prosperity of the United States will become greater and greater, and probably there will be a greater boom than any yet witnessed."

While we share this same feeling ourselves, yet we think prosperity will come without the speculative craze in values of a few months ago, and that business will be done on more stable values. Yet it has led us to believe also, so far as the cotton industry of the country is

concerned (especially yarns), we are now probably seeing the lowest prices for many kinds.

Middling Cotton New York Spots..... 10 1/4c. Egyptian Cotton Boston Spots 13 1/4c. Print Cloths..... 2 1/4cets per yard.

Eastern Hosiery Yarns the spinners are making but very little concessions. Southern spinners say they have reached bottom prices, and decline future business on present values, and many of the mills are curtailing production until the new crop of cotton comes in.

COMBING COTTON.

A New Machine Which Cheapens the Cost of Combing.

The application of combing in the cotton mills of this country has so far been rather a limited one on account of the small and costly production; and, therefore, combers could only be used by mills spinning fine yarns and using long staple cotton. Since the latest improvements in carding by the adoption of revolving top-flat cards a sufficiently clean sliver with fairly parallel laid fibres may be produced, especially if a large production on a card is not demanded. Yet with this it is impossible to accomplish a separation of the long fibres from the short ones, as this is chiefly the work of the comber, and only through application of such a machine can a perfect yarn of cleanness, evenness, elasticity and strength be obtained.

The machine for combing cottons of which we wish to make mention is known as the Monfort Comber, which is a machine that has lately been perfected in Germany and, as we understand, is being successfully used at the present time in several large cotton mills there. The Monfort combing machine is built with two deliveries, each with a lap twelve and three-quarters inches wide and produces from one hundred to one

allows the combing of cotton successfully down to seven-eighths inch in staple. If this combing machine can be successfully used, as is claimed by the inventor, it will reduce the cost of the combing process to so low a point that our mills can afford to comb yarns from number thirteen up, should they so desire.

The Monforts Comber, we understand, occupies a floor space of 7 1/2 feet by 3 1/2, thus a full set of six combers, with one doubler and one ribbon lap machine, from which a weekly product of 500 lbs. can be obtained, would occupy a floor space of 36 1/2 feet by 16 feet. Each comber is driven by a two-inch belt, requiring one-half horse power only. It is claimed that the cost of the process of combing is reduced fully one-half on this comber. We have not as yet had the pleasure of seeing one of these machines in operation; but we understand that Mr. H. G. McKerrow, of the Worthington building, this city, has secured the agency for the United States and Canada.

A NEW MILL.

The Indian Orchard Company, at Indian Orchard, Mass., Has Completed a Handsome Addition.

The Indian Orchard Company, which has such a high reputation as a manufacturer of

cotton yarns, cotton warps, both in the grey and dyed; also the largest drier of raw cotton in the country, has just completed a new mill of the most approved style. This mill is of brick, and is 216 feet long by 75 feet wide, six stories high. It is beautifully lighted, and for convenience can hardly be excelled. The Saco and Pettee Machine Company, of Newton Upper Falls, Mass., has the contract for furnishing the cards, drawing, fly-frames, spinning, warping, twisting and reeling. The company intends to manufacture in this mill yarns in Nos. from 40 to 60, either on beams or in skeins, making a specialty of high grade yarns only. It is also increasing its dyeing department for raw cotton to quite an extent. Mr. E. A. Elsworth, of Holyoke, Mass., furnished the plans.

FINANCIAL.

The heavy gold shipments this week are the theme of much discussion in the Boston money market, and opinion as to the probable ultimate effect of the same on the market is divided. Call money ranges from 2 to 3 per cent. and still continues in very light demand. Time loans are now made at from 2 1/4 to 4 1/4, according to dates.

In New York money on call loans at from 1 to 1 1/2 per cent., and there are exceptions at 2 per cent., while time loans are quoted at from 3 to 3 1/2 per cent.

U. S. GOVERNMENT BONDS.

Table listing U.S. Government Bonds with columns for Bid, Asked, and Sale prices.

STOCKS OF NEW ENGLAND ROADS.

Table listing stocks of New England Roads with columns for Bid, Asked, and Sale prices.

FALL RIVER MILL STOCKS.

Reported by G.M. Haffards & Co., Bankers and Brokers 64 Bedford street, Fall River.

Table listing Fall River Mill Stocks with columns for Par, Bid, Asked, and Sale prices.

NEW BEDFORD MILL STOCKS.

Table listing New Bedford Mill Stocks with columns for Bid, Asked, and Sale prices.

NEW ENGLAND MILL STOCKS.

Table listing New England Mill Stocks with columns for Name, Par, and Sale prices.

SOUTHERN MILL STOCKS.

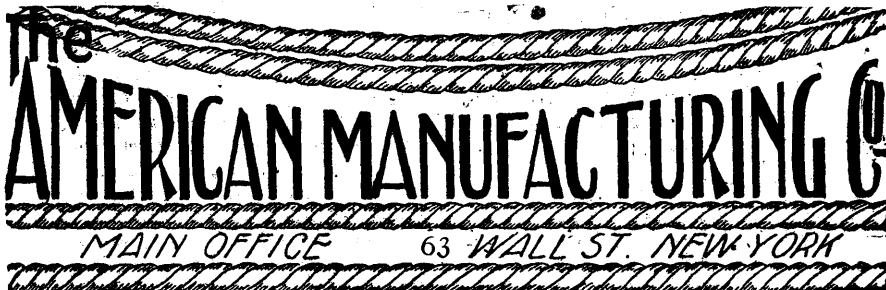
Table listing Southern Mill Stocks with columns for Factory stock, ar, Bid, Ask prices.

CANADIAN MILLS.

Table listing Canadian Mills with columns for Name, Par, and Sale prices.

CORDAGE.

MANILA-SISAL-JUTE.



TRANSMISSION ROPE MAKERS.

Send for "A LITTLE BLUE BOOK ON ROPE TRANSMISSION."

COTTON CHATS.

The name, address and "nom de plume" must appear upon each letter or "Chat" when sent to us, otherwise it will not appear. This will insure accuracy and save much time by reference. Correspondents will write with ink, and on one side of the paper only.

AMERICAN VS. ENGLISH.

"Oblivion" to "W. H. W."

Editor Cotton Chats:

In your issue of August 4, I notice another effusion from "W. H. W." by way of answer to what I had to say in a recent issue, and notice it is to "his own satisfaction." It seems to me that he must consider my remarks as hyperbolic criticism; but no matter what he thinks about it, we find the consensus of opinion of intelligent mill men consider his criticism of American mill systems, as well as mill management, to be "SUPER HYPERCRITICAL." Let me just quote a passage in his article of August 4: "Their ideas of managing a mill are not in it when compared to managing a mill in England." And yet one of the very mills he points out as being so awfully mismanaged, has increased the value of its shares from a par value of \$100 to over \$300. I am aware he said it was one of the things he could not understand. Does he understand how it is that some of the stocks quoted in your last issue have risen from \$100 to \$127.50? Does he think they are watered so much, or that they have a FIAT money machine somewhere in the mill? Or does he know how it is some have fell from \$100 to \$57.50, \$82, \$83, \$88? If he does not know, that is no reason other people, who know the value of money just as well as he, do know and are willing to pay for the higher priced stock in preference to the stock where the mills are not honestly making money. How much Acushnet (New Bedford) stock can he find flying around loose on the market? or are we to understand that this criticism of his is to be taken as an occult knowledge of how these capitalists who have invested in this stock have boosted the price so as to sell it quickly before the bottom drops out of the corporation, as there is certainly no hope for anything else of a concern so loosely managed as he stated in his first criticism.

If things are run so badly here, how is it the English capitalists are so anxious to get hold of our mills and let them run, as some of them have done and are doing, in the same old way? He says the sentences I picked out from his article are not what he wrote. I cannot entertain the idea that the managers of the Boston Journal of Commerce would in any way deteriorate an article. There are men in that office too practical for that. I feel sure they would improve it if they fixed it all; but if you tell them to "follow copy" we get it in its purity. He says he had charge of a mill in England, and in America, too, "TO A CERTAIN EXTENT." Oh, I can well understand that, and the charge you would have of a mill I had control of, after reading your effusions, would be to keep outside. He says, "I jump at conclusions." Would he have any one spend any time reasoning before he jumped? When the space, as presented in his article, was so clear of obstacles the facts stood out too plain to do anything else but jump. He says he has not heard one man say mills were run as well here as in England. My experience tells me the two cannot be weighed in the same balance, there are so many things to contend with here not to be found in England. One great difference is the extremes of temperature and humidity; another is, the help have not yet got completely severed from the old idea which lies hid in the very word "Overseer." I do not mean there is any wrong in the name, for it is just the same as the English—"Overlooker"—both synonymous; but after reading "Uncle Tom's Cabin" we perceive a certain dread of the "Overseer," as he is pictured standing over the help with a whip—many, not all, of them having to be touched up by the whip occasionally before they will go on with their work, or, like some of our horses, have to be continually KEPT at it. Now do not think I am holding the American help up to ridicule, or in any sense of the word comparing them to horses or negroes; but we do find that it is as much of a second hand's work in most of the mills to KEEP them (the younger and some of the older ones) at their work. The same principle crops out when you see in the advertising

columns overseers stating their qualifications—among which you will notice frequently, "Good manager of help." Now this I admit does not prevail so much in English mills. Bosses manage the work, and if the help does not do what they are hired for they are discharged; but the system of LEARNING under expert hands obviates almost if not all of this. But we must bear in mind that in English mills there are other things that counterbalance this, so that on the whole things are pretty nearly equal for the management of a mill. I will mention some later.

Now, "W. H. W.," you say—or the article does—you never heard one man say that mills are run as well here as in England—then you say the majority of such men—what men? for you say you never heard one—yet you go on to describe a superintendent you know. Of course we must conclude he is one of the majority of those who do say this; but, say, never mind about the fads of these superintendents you know. You do not know me, and I doubt if an agent or mill owner in the United States knows me, personally or as a writer, only as "Oblivion." I have no fad; but I have had many years practical experience in mills as operative, overlooker, overseer and manager, both in England and in the United States; and, as you ask me what I call it when men talk in a certain way about themselves or the mill, I feel I must give you an English "straight tip," that your talk about yourself, mill managers and mill work is the biggest piece of "bluff" I have heard for a great number of years. You say you have not seen an American loom running at 250 picks per minute in England; do you consider that proof that there are not over 100,000 looms running at that speed in England, though they may not be American looms; but I saw thousands of them running that speed thirty years ago on many different kinds of work; but they were all over-pick looms; and I want to say if you could not make it do to run them that speed in England on the goods you mentioned, you would be left. Don't think that because we are 3000 miles away we have to send to some fellow over there that once saw a mill to get information,—guess not.

Now, in regard to me mentioning "Greenhorn"—yes, I told you I was English, and say, if an American went over there and gave such bluff, say in the "Cotton Factory Times," as you have done here, it is my opinion he would soon feel the effects of some Lancashire clogs, and his brother Americans over here would justly say, "Serve him right." You seem to be suffering from disappointment. Well, if you have gone to some mill agent or superintendent and given them an earfull, such as you have given the readers of this journal, no matter how grandly you may have been recommended, when they heard you, that would be all they would want with you. Your experience and mine have been quite opposite, for, as a rule, I have found our mill agents to be as truthful, as kind and gentlemanly as ever I found them in England. But when you come before these men and represent that you understand things pertaining to mill affairs which your conversation with them does not seem to verify, do not be alarmed and cry these men down through the press, but rather turn your eye inward and try and find out what is the matter with you. Get cured, then you will find the men are real gentlemen. I have had men come to me for a job, sometimes with a minister or a priest to vouch for their character and ability. Now, as a rule, what does a minister or a priest know about either their private character or their ability? Ask them what they can do and they would say, Oh, almost anything. Then I would ask them how many looms they could run. Never wove. Could they run a slasher? No. How many sides of ring spinning? None. Ever mule spin? No. Run a napper? No. Strip or grind cards? No. Run drawing, speeders or the like? No. So I had no use for him. No fault of mine, yet I am aware I was a bad man because I did not hire him. You must understand that men cannot come over here and dictate to our agents how they had better run their mills, no more than an English firm would let an American go over there and change over their plans. The American mill manager makes it pay just as well as the English manager, all things considered; but some Englishmen need the lesson given by the young wife to her young

husband when he was all the time telling her, "My mother never did so." But her cooking and general housekeeping was far ahead of his mother's, if he could only see it; but one day while she was wiping dishes he had to tell her again, "My mother never did so." Giving him a slash across the face with the wet dish cloth, she asked him, "Did your mother ever do so?" with a few words that brought him to his senses.

Now, "W. H. W.," don't you see how you are crying out just the same—"My mother never did so?" If you have espoused this country as your own, like the man married his wife, do not try to bring your mother's ways to boss your new home. These ways may not be just what you have been used to, but remember your new wife can cook and keep house just as good, if not a little better, than your mother, being able to stand, as it were, on your mother's shoulders, see further ahead, and avoid many of her mistakes; but if you feel you cannot do this, your best plan would be to go back to your mother and learn you had made a mistake—that you should have learned from Burns' Poems, "I'm ow'er young to marry yet. I'm ow'er young, it is too soon, for me to leave my mammy yet." I am always glad to know of good wages being earned either here or in England; but would "W. H. W." please tell us in what town, city, district or locality, where weavers, especially women, earn on an average \$10 per week, or, as he says, "the year round." Or, while he is at it, tell us where in England weavers run eight looms alone, as he tells "Beginner." I hold with "Beginner" that the length of cut does not matter in one sense. What would it matter to that weaver who got 30 cents for a hundred yards on the cloth roll whether in the hundred yards there were one, two, or five cuts. Oh, these bad Americans! But say, Mister, just turn your eye to YOUR OWN MOTHER'S HOUSE, "Bonny England." Cast your eye over the newspapers and see how your own "kit and kin" are charged at the courts for "time cribbing." Seethe trouble your weavers' union officials have on account of all manner of cheating the weavers. Let Burns give you another lesson: "O wad some power the giftie gie us, to see ourselves as ithers see us." The trouble is with human nature, not the nationality. Though provincial traits may follow, don't forget it, my man, the different price lists in the various localities and the speed of their looms, along with the "particulars," are often printed in American trade papers, and we are regularly getting all the facts from the English trade papers in exchange. You remind me of an old man who lived in Lowell, Mass., some twenty years ago, who came from a country hillside in England—THAT was England to him. He never went away till he went to Liverpool to sail for America. When first he saw a watermelon, taking it in his arms, he said to another Englishman: "Eh, lad! nowt loike this 'ith owd counthry," when the other man had seen thousands in Manchester and most large towns and cities. But, above all, "W. H. W.," tell us the locality where women run eight looms and earn the year round £2 1s. 8d. per week = \$10, and oblige "OBLIVION."

"J. R." TO "W. H. W."

Editor Cotton Chats:

It seems to me that "W. H. W." thinks that there were no Englishmen in this country before he came. But in this he makes a great mistake, for the truth is there are a great many English people in our cotton mills and quite a number of them holding high positions. Judging by the tenor of his letters, he must be highly offended because we do not acknowledge him as greatly our superior in his knowledge of cotton manufacturing. It is useless for me to argue with "W. H. W.," as he considers me too much his inferior; besides, he politely and plainly hints that I am nothing but an old fool.

I will now give facts which I hope will be of interest to some of your readers in England.

Compared with England, cotton manufacturing in this country is in its infancy. A large proportion of the help who work in the cotton mills here are drawn from the farms of Canada, Ireland, Sweden, Denmark and Germany. A weaver here does not trim his cloth so much as a weaver does in

England. When a cut is finished it is slipped off the cloth roll, not rolled off and folded as is done in England, and is thus sent to the cloth room. A good many bad places are fixed in the cloth room, and yet the cloth room, in proportion to production of cloth, is run cheaper here than in England. Mills pay better dividends here than in England. English weavers prefer being here to being in England. Cuts from 30 yards long to 100 yards long or more sell alike here. Except in rare cases, no headings are put in here. So seldom are cuts headed that most weavers have never seen a heading. On a making-up day cuts are sometimes taken off when the mark is one or two times around the beam. This is done sometimes to oblige the weaver, but oftener to drive him. Weavers make more waste here than weavers do in England, but then what is the use of spending ten cents' worth of labor to save five cents' worth of material? Weavers here do not work in the continual dread that weavers do in England. English manufacturers strain hard to save material. American manufacturers strain hard to save labor. While English manufacturers stick closely to old methods, the American will change his method to make money. "J. R."

QUESTIONS AND ANSWERS.

By "F. W. H." in City and Guilds of London Institute.

[From the Cotton Factory Times.]

[Continued from Page 396.]

HONORS GRADE, THIRD YEAR'S COURSE
GENERAL PAPER.

(1.) In the case of a manufacturer of colored cotton goods, compare the relative advantages and disadvantages of purchasing yarn in hank form and preparing warps by sectional warping, or purchasing in warp form and Yorkshire dressing. (30.)

The first method is generally preferred in Lancashire colored weaving sheds, for one reason that the cheeses can be easily arranged in any desired order. The Yorkshire dressing system is comparatively slow, though it gives better results generally, as the yarn of the cheeses is sometimes apt to slip off. The sectional warping system is also more economical.

(2.) Describe minutely the principal parts of any frame used for placing colored weft upon pirns or tubes for the shuttle. What may be said in favor of the American method recently introduced, viz., winding on to about 500 tubes from a long warp chain containing a corresponding number of ends? (30.)

The pirn winding frame is used almost exclusively for colored weft, and takes the yarn from the hanks upon the ryses placed in front of the machine. The weft passes over a rising and falling guide rod, and is wound upon the pirn, which is placed in a conical cup, the pirn having a spindle with a weight at the upper end, and a flattened point at the lower end, passing through it. The flattened point of the spindle is placed in a slot in a wharf driven from a drum or cylinder of the frame. The motion of the guide rod is determined by a heart-shaped cam at the end of the frame, which presses a long lever connected with the guide rod in and out alternately. There are various improvements and modifications in connection with the pirn winding frame.

3. Mark out peg plan and drafts to produce Bedford cords 1-16, 1-8, and 1-4 inch wide, woven 90 ends per inch in reed; or instead, give same width of cords in fast black pique, woven 100 picks per inch. (30.)

In the above the examiner has given the student the choice of two classes of fabrics, the chief peculiarity of the first being its prominent warp stripes or cords, whilst the second is distinguished by its cords woven weft-ways.

4. Give peg plan and draft for a gauge design of your own formation, employing three doup heads. Sketch the effect you intend to produce. (30.)

There is evidently a misprint in the above problem. Instead of "gauge" the examiner intended "gauze." The production of a peg plan and draft from a piece of gauze cloth, or, what is easier, from a sketch, is perhaps one of the most interesting features in designing, and requires very careful attention and consideration on the part of the student. In the above case the peg plan and draft must be arranged for three different orders of crossing, and therefore provision must be made for the necessary standard heads and vibrating rods. Care must be taken that when a crossed shed is made the vibrating rod for that crossing yarn is depressed.

WOOLEN CHATS.

Contributions for this department are solicited from practical men, on wool, its use in manufacturing; on woolen machinery, its use and improvement; on the management of help in and pertaining to mills, or any observation or experience that will benefit the woolen manufacturer or the help employed in the production of woolen goods.

TWIST AND CLOTH.

The Importance of Good Twist in Warp and Filling.

Editor Woolen Chats:

The appearance, handle and finish of every textile fabric depends to a much larger degree on the matter of yarn twist than most people would be inclined to believe. In many of the processes of manufacture the whole process is completely changed by changed conditions in the mere matter of the amount and kind of twist that the yarns in the construction of the cloth receive. It is a matter of very great interest to trace in all its aspects this whole question of yarn twist, in its relationship to woven fabrics and every condition that makes a woven fabric a thing of value and usefulness. A twist that is all right for one class of goods, or for one particular process of manufacture, may be all wrong in a different class of fabrics under different conditions of treatment.

There are two ways in which the twist of yarns may be altered; it may vary in its direction and also in its amount or tension, and both of these conditions will not only affect the yarn, but also the appearance of the cloth. Yarns are very frequently described as hard or as soft, but the fact of the case is that these descriptions are entirely dependent upon the quality of the yarn itself and the purposes for which the yarn is to be employed. A yarn is twisted similarly to another yarn when the fibres are all laid in the same angle to the direction of the axis of the yarn. If the twist is increased or if the angle of the fibre to the axis is made greater, the result is that there is a heavier strain upon the wool fibres and the yarn necessarily becomes a harder yarn and one that will make up into a stiffer, heavier cloth.

A cloth that is made up in the weaving rather than in felting will naturally be a stronger and firmer fabric, because the process of twisting the fibres in the spinning binds them more securely together than they will ever be placed by any of the felting operations that are known. The hard yarns, that is, the yarns that are twisted with the angle of the fibre to the axis of any considerable size, will always make up into a harder, harsher cloth, because each thread will tend to maintain its form and its peculiarity all through every process of manufacture. The cloth thus constructed will also be more open and more thready in its facial appearance.

It is evident from these considerations that since the strength of the fabric depends more especially upon the warp, that the warp threads ought under most conditions to be harder twisted than the filling. On the other hand, it is also true that since the filling threads are generally expected to take and disclose the finish of the cloth the twist of the filling will have to be such that the yarn can be acted on by the felting and other finishing processes. A soft filling always gives a well covered finish, for the simple reason that it enables the fibres of the face to spread out and completely fill up all the small openings that might exist between the threads of a hard-twisted yarn in the warp.

On all goods in which felting or fulling is an essential quality, it is absolutely necessary that soft twisted yarns be employed. The fibres of a hard twisted yarn simply cannot felt and intertwine, as these cases always require. In all pile finished fabrics, it is of course necessary that soft-twisted yarns should be employed, and where this is the case there is less wear and tear upon yarns and fibres than when we mistakenly try to produce a good cover or a soft finish on hard twisted yarns. The matter of the direction of the twist always has had an effect on the fabric and on its appearance of two different sorts. In the first place, the twill will look differently; in one instance it will show up round and clear, while in the other it will be smooth and more or less indistinct. Then, the other way in which the difference of the direction of the twist will manifest itself is in the reflection of the

light as it falls upon the fabric. So true are these facts that if yarns of different directions of twist are employed in the same fabrics, they will produce the effect of stripes or of a check, simply by reason of the different ways in which the light is reflected or on account of the difference in position and angle which the various fibres in the different yarns assume. It sometimes happens that yarns that are twisted in different directions get mixed up in the process of manufacture by mistake, and the result will be a piece of goods that is absolutely damaged in its condition, because of the production of a streakiness or irregularity in shade. In a later paper we will discuss the effects of the various finishing processes on differently twisted yarns.

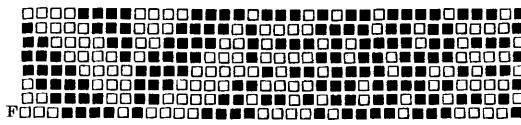
RANDOLPH.

WOOLEN AND WORSTED GOODS.

Some Popular English Designs.

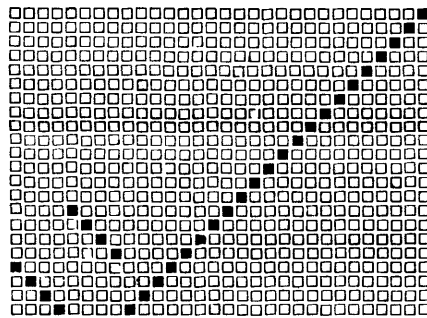
"Textor" gives the following designs, in the Textile Record, for woolen and worsted goods:

Design No. 1 is a worsted trousering, for piece dyeing in solid colors. This design comes out well in fancy colors also, when nicely arranged.



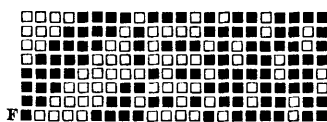
DESIGN 1.

Warp: 2-48's.
6600 threads, 66" wide in loom.
22 healds, cross-drafted.
Reed, 4-25's.



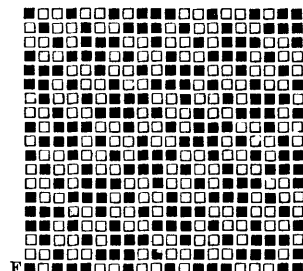
DRAFT.

Warp: 1-22's.
96 picks per inch.
Fulling shrinkage, 10 per cent.
Clear finish 56" wide.
Weight, 17 oz. per yard.



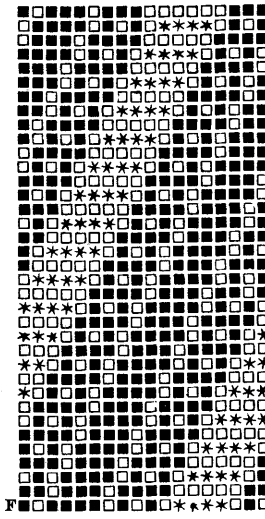
PLAN.

Design No. 2 is a summer cloth in light shades, showing a neat broken effect. A good variation may be made by introducing a colored thread as an over check, about two inches square.



DESIGN 2.

Warp A: 2-52's white worsted.
Warp B: 2-52's olive.
4,406 threads, 64 inches wide in loom.
10 or 20 healds, straight draft.
Reed: 4-16's.
Warp: 54 picks per inch.
Shrinkage: 5 per cent.
Clear finish, 56 inches wide.
Weight: 10 oz. per yard.
Warping and weaving, 2 A, 2 B, repeated.
Design No. 3 is a fancy diagonal dust coating, for mixture shades or piece dyeing. Fine qualities drape the best, and low qualities seldom look attractive in these styles. The warp being of finer count than the warp, gives prominence to the warp twills, and forms a good system of building these cloths, especially in light weights.



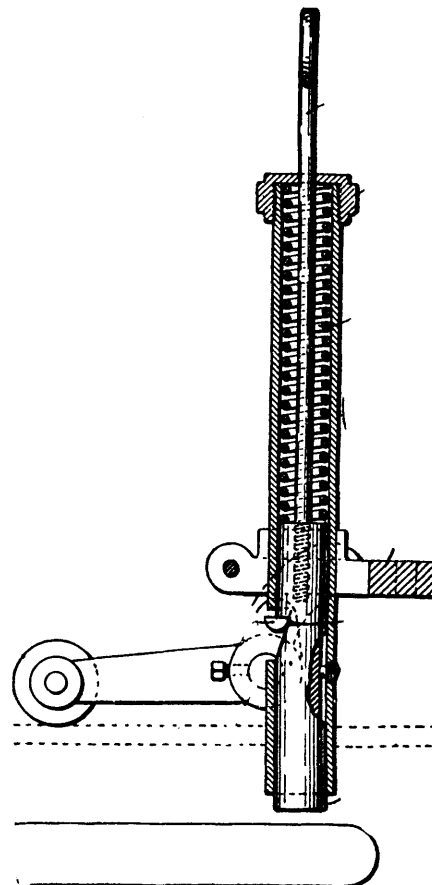
DESIGN 3.

Warp: 2-50's.
6144 threads 64" wide in loom.
18 healds straight draft.
Reed: 4-24's.
Warp: 1-30's.
96 picks per inch.
Shrinkage in fulling 5 per cent.
Clear finish 58 inches wide.

STOP MOTION FOR SPINNING MULES.

How to Stop a Mule Automatically When The Quadrant Band Breaks.

In mule-spinning, a quadrant is operated by a pinion driven by a band known as the "quadrant band," extending from a drum at the driving end of the mule head to a drum connected with the shaft of the pinion operating the quadrant. This quadrant band requires the constant care and vigilant supervision of the attendant, because the breakage of this band is liable to cause the destruction of a part of the complicated driving mechanism of the machine before it can be stopped. In the present practice when this quadrant band shows signs of wear and weakening it is usually removed and a new one is substituted.



It is for this reason that William H Goldsmith, of Central Falls, R. I., has patented a stop-motion that works automatically while resting on the quadrant band. It will be seen from the accompanying drawing that where the quadrant band breaks, the roller, which is supported by the quadrant band, descends, and in rock-

ing its rock-shaft moves a stop out of a notch. The plunger, by gravity and by the force of a spiral spring, descends and encounters the change lever, and either holds it in the depressed position or depresses it. In this position the carriage driving-out clutch is disconnected, the driving-in clutch is connected, and the mule is automatically stopped. If the carriage is running out, the stop-motion acts on the driving-out clutch, so that it is disconnected and the mule is stopped.

IMPROVEMENT IN SPRING JACKS.

How Twenty-four Harness Work is Operated.

In certain classes of shedding motions for looms the harnesses are moved positively in one direction to separate the warp-threads in opening the sheds. Various devices have been contrived for the purpose effecting this return movement of the harness, and they are generally called "spring jacks."

It is of this class that the invention of George W. Stafford of Providence relates. It has been ascertained in practice that in looms employing a considerable number of harnesses (for instance, twenty, twenty-four, or twenty-six), and particularly where more warp threads are drawn into the front harnesses than into those at the rear, improved results are attained by varying the tension of the depressing-springs of the successive harnesses progressively from one side of the series of harnesses to the other. This progressive difference of tension compensates for the fact that the rear harnesses progressively have to be raised higher than the front ones in order to produce a uniform shed, therefore more resistance has to be overcome in actuating the rear harnesses. It compensates also for the increased tendency on the part of the front harnesses, with their proportionately greater number of warp threads, to lift adjoining harnesses in consequence of the friction of the warp threads on one another. The greater the number of warp threads that is drawn into a given harness the greater is the tendency, when such harness is raised, for its warp threads, by engagement with adjoining warp threads, to raise one or more of the other harnesses sufficiently to disturb the level or uniformity of the lower plane of the shed.

In accordance with this invention, there is given an inclined position to the girths, causing them to stand farther apart at their front ends than at their rear ends. Means for adjustment is found important in practice, hence the opposite ends of each girth are provided with adjusting or set screws, by means of which the position of the respective girths may be raised as required, and the tension of the springs adjusted. In consequence of employing a separate screw at each end of each girth, the inclination or angularity of the bar may be varied to any required extent as may be desirable in varying the relative tension of the respective springs. By this means the difference of tension from front to rear in the set of springs may be made as great as desired and the girths even may be so positioned as to secure uniformity of tension if that be wished.

TO KEEP PRICES UP.

Foreign Worsted Manufacturers Resolve to Curtail Production.

It is reported that at a recent meeting of the United German Manufacturers of Worsted Goods at Leipzig, at which 1,500,000 spindles were represented, according to Constable Wurman at Munich, in a communication to the State department, it was resolved to reduce production from June 1 to December 31, 1900, by 20 per cent. It is understood that the manufacturers of Switzerland, Austria and Russia have agreed to adopt the same course in order to put a stop to further decline in prices.

England is to have some new technical schools. The schools are at Leek and were built at a cost of \$65,000. It is intended to give general instruction in science and art subjects and to specially teach the science of silk manufacture and silk dyeing. One large hall is fitted as a weaving shed, with power looms, hand looms and a variety of machinery employed in silk working.

SOUTHERN INDUSTRIAL NEWS.

NORTH CAROLINA.

A cotton underwear knitting mill is being installed at Morven by Gardner, Siles & Company.

The Elizabeth City cotton mills, Elizabeth City, are installing \$40,000 worth of new machinery.

The American Moistening Company, Boston, Mass., is making a large installation of its system of humidifiers for the Erwin cotton mills, West Durham.

The new Shelby cotton mills, Shelby, have been completed, and the machinery has been started. The equipment includes 6000 spindles and 300 looms, and the entire plant represents an investment of \$125,000. J. F. Williams is secretary and M. M. Mauney is superintendent.

R. M. Oates, Jr., D. W. Oates and James M. Oates, of Charlotte, have purchased the Green River Falls in Henderson county, which is located one-half mile from Jirconia and between Saluda and Flat Rock. Their purchase includes 150 acres. The falls will be developed as power for cotton manufacturing, and will generate from 800 to 1000-horse power. Alexander Baring sold all the property to the Oates. It is reported that the Charlotte cotton mill and the Oates hosiery mill, both owned and managed by the Messrs. Oates, will be moved to the new site. Whether this is done or not, several large mills will be built at an early date at the Green River Falls. The Oates family has been in the cotton mill business at Charlotte for twenty years.

At Durham, where several large cotton mills are located, trouble has been brewing for some weeks past between the mill owners and the operators, and the trouble has not yet reached a climax. The trouble was caused by a labor union organizing in Durham by a man named Davis. Upon his arrival the mill management called together the operatives and addressed them, saying that no good and only harm could come of their forming labor unions. The management has also announced that all who connect themselves with the labor organizations will be discharged from the employ of the company. Now the unions have been formed, notwithstanding the statement of the mill owners, and a committee of mill employes recently waited upon Mr. Erwin, who is interested in all the Durham mills, and manager of the Erwin cotton mills, to inform him of the action of the employes in forming unions. Mr. Erwin refused to recognize the newly-formed unions, and the committee was turned aside. Notices have been posted for some time past to the effect that all employes of the company who joined the union would be discharged, and as none cared to leave the union nearly one-third of the 1000 hands of the factory were discharged, and there is a possibility of the whole plant shutting down.

SOUTH CAROLINA.

A company is forming at Newberry to organize a knitting mill.

The Newberry cotton mill, Newberry, is shut down this week to give the employes a vacation.

A large addition is being built to the Middleburg Mills, Batesburg, which will double its capacity.

The American Moistening Company, Boston, Mass., has an order for humidifiers from the Darlington cotton mills, Darlington.

George A. Wagener, with associates, contemplates the organization of a \$150,000 seamless bag factory at Charleston. The interested parties are also stockholders in the Royal Bag Company, Charlestown.

The Sutro cotton mill, Yorkville, which recently failed, is to be reorganized by a new company under the same name. The capital stock will be \$50,000, and the incorporators: T. B. McClain and J. S. Brice, of Yorkville, and W. H. Lyles, of Columbia.

The Clearwater Bleachery and Manufacturing Company, Clearwater, which was chartered several weeks ago, has awarded contracts for the erection of necessary buildings, to cost \$50,000. The company, as before stated, is capitalized at \$300,000, and has the following directors; Charles Estes,

Norman Schultz, H. B. Vaughn, J. B. Rope, J. F. McGowan, W. J. Craig, and Thomas Barrett, Jr., all of Augusta, Ga. Mr. Barrett is president.

Several minority stockholders, including Frank Pelzer and others in the Pacolet Manufacturing Company, Pacolet, representing \$50,000 of stock, have secured a temporary injunction restraining the management of the company from investing the surplus of the company, about \$600,000, in a cotton mill at New Holland, Ga., which is to have a capital of \$1,000,000. Exhaustive arguments have been made before Judge Aldrich by able attorneys for both sides. The minority stockholders object to this money being invested out of South Carolina, and contend that while the charter gives the company power to build mills, this latitude was not contemplated.

GEORGIA.

The Gwinnett cotton mills, Lawrenceville, have placed an order for humidifiers with the American Moistening Company, Boston, Mass.

Waycross capitalists, with the aid of outside parties, are endeavoring to form a company to establish a knitting mill there. The outside parties made a proposition to put up \$10,000 if the local capitalists would take \$30,000, which, no doubt, will be secured readily.

The Josephine mills, Cedartown, have been incorporated with a capital stock of \$100,000 by Paul D. Baugh, George H. Wade, L. D. Wade, of Cedartown, and Daniel Baugh and E. J. Baugh, Jr., of Philadelphia, Penn. A suitable site has been selected and contracts for the erection of the buildings will be awarded within thirty days. The equipment will include machinery for the manufacture of yarns and fine underwear, with a daily capacity of 400 dozen pieces. Paul D. Baugh will be manager of the enterprise.

Ground was broken recently for the erection of the necessary buildings for the Clearwater Bleachery and Manufacturing Company at Clearwater, about 4½ miles from Augusta. This company which was organized some weeks ago with a capital stock of \$300,000 has met with success since its forming, and has the following directors: Charles Estes, Norman Schultz, H. B. Vaughn, F. B. Pope, J. F. McGowan, W. J. Craig and Thomas Barrett, Jr. Mr. Barrett is president and treasurer. The bleachery is located where an ample supply of water suitable for bleaching purposes can be obtained and within a radius of 135 miles of Augusta. More than 200 tons of cotton goods are produced daily.

TEXAS.

The Gate City hosiery mills, Denison, have been incorporated with a capital stock of \$25,000 for the manufacture of hosiery. W. A. Tibbs, J. T. Munson, H. Brooks and Franz Kohfeldt, all of Denison, are the incorporators.

The Indian Territory Oil and Cotton Company, Sherman, has been incorporated with a capital stock of \$175,000, and will manufacture cottonseed oil. The following are incorporators: N. B. Birge, S. A. Sternfield, and John Grant, all of Sherman.

The Galveston cotton mill, Galveston, last week sold to an exporter the 300 bales of cotton it had in stock, and the announcement was made that the property would close as soon as the work now in hands was finished. This will throw nearly 500 employes out of work. Demoralization of the dry goods market, by reason of overproduction and the Chinese trouble, are given as the cause.

MISSISSIPPI.

The Southern Railroad Company has just issued a circular, which will go into effect September 1, announcing a reduction of about sixty cents a bale on cotton from Columbus and West Point to the cotton mills of North and South Carolina. The special committee sent to Jackson to confer with the State Railroad Commission in regard to the reduction in freight rates between Columbus and Greenville, have made their report to the Columbus Board of Trade. It has been the idea of the board

that, if this reduction can be secured, cotton can be shipped from Columbus to Greenville, and thence to New York, Boston, and other Eastern cities, at a much lower rate than at present. The commission refused to take any immediate action on the subject, but took the matter under advisement, promising to make final disposition by the middle of September.

ALABAMA.

Extensive improvements are in progress at the Anniston Manufacturing Company's mill, Anniston, among which is the installation of a 450-light electric plant.

A mill for the manufacture of cotton underwear is being established at Birmingham by L. H. Mason and other capitalists. It is proposed to erect a plant with spinning, dyeing and knitting departments, with a capacity of 300 dozen garments daily, at a cost of about \$75,000.

FLORIDA.

R. W. Williams & Son have recently purchased the old ginning plant of Lowe & Worrell, at Wellborn. Mr. Williams has a number of hands at work clearing out the old machinery and repairing the buildings, which will be equipped with new machines of the latest and most improved type. The plant will also be greatly increased.

VIRGINIA.

A. H. Cobb, who operates a knitting mill in Suffolk, has decided to build a larger mill at Newport News.

The extensive improvements which are going on at the Washington woolen mills, Fredericksburg, will greatly increase the capacity of the plant.

TENNESSEE.

The Riverside woolen mills, Knoxville, are having much new machinery placed in position which will greatly increase the output.

MASSACHUSETTS.

facturers toward buying would result in higher values. There is, therefore, very little reason to look for any lower range of prices in the woolen goods market. Four years ago the woolen mills were obliged to close down six weeks, while this year the suspension lasted but three weeks. It is against the policy of the company to accumulate stocks. Mr. Wood states that all but two of the mills are now running.

RHODE ISLAND.

Business at the Parker mill, Warren, is very good, a force of hands being employed at the mills until late each evening.

The American Woolen Company's mill, at Harrisville, started up Monday morning after a three weeks' shut-down.

The big Bernon mill, Georgiaville, started Monday, after a shut-down of a week or so, and has a large file of orders to fill. Rumors were circulated last week that the plant would not resume Monday.

It has been announced that, beginning with the month of September, the Centredale Worsted Company's mill at Stillwater will run evenings until 9 o'clock until further notice. Four hundred hands will be benefited.

The looms in the fancy weave department of the Harris mills, Phenix, have been removed to the old foundry temporarily. Work on the new weave shed is being pushed to completion.

The Lymanville Worsted Mill, Lymanville, closed last Saturday for one week business being dull at present. Operations will be resumed next Monday morning. Three hundred hands are affected.

The Westerly Woolen Company's mill, Westerly, which has been shut down for some weeks, and was to resume a week ago Monday, has not yet re-opened for work, and will probably remain closed for a week or two more.

The syndicate headed by James H. Hooper which is converting the Slatersville Mills, Slatersville, into a bleaching and dyeing

plant, has decided upon a name. The concern will be incorporated as the Slatersville Finishing Company.

Work was resumed at the Ashland mill, Ashland, Monday, after a short shut down. Indications are that if business continues as at present the mill will run indefinitely. During the shut down a large new engine was placed in position and some new machinery was installed.

The Riverside Mills, Olneyville, were closed Monday, and it is understood that the plant will run but five days a week. These mills have been idle in all departments for about five or six weeks, and the help is glad to work at least a part of the time.

Commencing Monday, the fancy goods department of the Saylesville bleachery, Saylesville, will be shut down for the week and the finishing departments for the next week. The plain shirting and sheeting bleacheries will continue to run as usual.

The Moswonscutt Manufacturing Company's mill, North Scituate, is temporarily shut down, as a result of an accident which occurred last week. A shaft to which the main part of the machinery was attached collapsed, stopping work in the entire establishment almost immediately, and causing much confusion among the operators.

The Rockland mill, Rockland, remains closed this week and there is no encouragement given by its owners as to an early opening. There is no indication of work being resumed this month, and some persons believe that work will not be started until after the Presidential election. Two hundred hands are idle.

Notices were posted in the Nanoquit mill, Bristol, Monday, to the effect that the entire plant would shut down next Saturday for a period of three weeks. This action is taken on account of the condition of the market, which is not very lively at present. The mill makes print cloths and employs 200 hands.

The scarcity of work at the Weybosset Mills, Olneyville, has been apparent for some time past, and a number of the operatives work but half the day. How long this is to continue is puzzling the operatives, but there are none who can give any information on the subject. In all, the mill situation, while greatly improved over that of a few weeks ago, is far from being as bright as wished for.

Rumors in regard to the Greystone mill, owned by James Campbell, at Greystone, are being circulated to the effect that the entire establishment has been purchased by a New York concern. This is, however, emphatically denied, and it is stated now that the Centredale Worsted Company is said to be anxious to secure the property. So many rumors have been in effect in regard to the mill that these latest are hardly noticed.

Several girls employed in the twisting department of the Riverside mills, Olneyville, some of whom went there from the Weybosset in connection with the transfer of worsted yarn making from one to the other of the concerns, have rebelled against the arrangements under which they are employed. They claim they are required to care for an extra side in twisting without extra compensation. The matter has been discussed by them for the past few days and Tuesday they decided to strike. The management of the mill declare that it is but an insignificant flurry and it is claimed that the strikers do not know what they want. The management also states that the strikers have been discharged and will not be accepted as employes.

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climbing is a chief feature in White Mountain life, nearly every mountain having its paths; but to Mount Washington the climbers look for the greatest sport, for there is a variety of ways of ascending the great mountain, and the number of incidents which the trip affords are often of a most exciting and thrilling nature.

To get to the mountains there are several routes, either of which lies through interesting country, and the scenes one finds at every turn are wondrous and magnificent workings of nature.

The White Mountain villages are every one of them pleasant places, and each has its own attractive and are oftentimes picturesque, and have made their locations famed.

In North Conway there are many places of interest, White Horse Ledge being one of the first to attract one's attention. Thompson's Falls, hidden away in the great forests, is a most beautiful waterfall, and, like Artist's Brook and Artist's Falls, is delightfully picturesque.

Echo Lake is included in North Conway's environs; likewise The Cathedral; also Diana's Baths, either of which is well worth visiting.

Conway's sunsets are as famed as the Mount Washington sunrise, and the charming effects which they bring are a charm and delight to all who view them.

Intervale has many noted attractions, and perhaps the most notable of them is the Great Cathedral Woods.

Glen Ellis Falls, up in the Glen Region, is by no means a rushing torrent, but instead is a crystal-like stream pouring in a solid column over a seventy-foot precipice, the sides of which cliff are rough and jagged, and the mountain stream as it hurles downward is deflected from side to side, and the mists rising therefrom are of the most delicate and finely-hued colors.

Silver Cascade, in the Crawford Notch, is one of the sights of the mountains. This waterfall is seen from the train in passing through the Notch.

The water descends almost perpendicularly for a distance of nearly four hundred feet and glides over the face of the ledge a clear, silver like unbroken sheet.

Jefferson lies on the slope of Starr King, and the broad expanse of mountain scenery which unfolds itself to the vision of the tourist is one of magnificent splendor.

The Presidential Range from Jefferson is a delightful vista, and the drives and walks which may be taken from here are among the best and most widely known in the mountains.

Perhaps the one object above all others which impresses the White Mountain tourist is "The Old Man of the Mountain."

Twelve hundred feet above Profile Lake, in Franconia Notch, is this "Great Stone Face." It does everything but speak, and the great solemn features are so exceedingly fascinating that one never tires of gazing in awe and wonderment at this gigantic super-human face.

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\$3 for six samples, drafted, latest novelties on worsted and woolens. Samples picked out by mail; calculations and all work pertaining to the designing room at lowest rates; twenty years' experience. Address P. O. Box 148 Auburn, R. I.

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Charles G. Petzold, 37 Whitman St., Lawrence Mass.

WANTED—Overseer spooling, warping, long-chain beaming, slashing and weaving would like a situation; best of references. Address A. H. E., Boston Journal of Commerce, Boston, Mass. 55-23

HELP WANTED.

WANTED—A napper acquainted with the napping of cotton, wools and other kinds of unspun goods. Address "979," Boston Journal of Commerce, Boston, Mass. 55-23

Franconia Notch has an Echo Lake over which a sound reflects several times with ever-increasing clearness.

Cannon Mountain, Eagle Cliff, and the Flume and the Pool and Basin are other natural curiosities which have made not only their own locality but the whole mountain region famous.

Of Mount Washington much might be said. 6,293 feet above the sea level, the view from its summit extends over a radius of more than a hundred miles, including lake, mountain, shore and river scenery. The ride up the mountain side on the cog railway is not only delightful but thrilling.

There are many objects of interest to be seen on Mount Washington, chief among them being Tuckerman's Ravine, Great Gulf and Lake of the Clouds. The geologist and botanist are in clover when on Mt. Washington, for many rare and choice specimens in their lines are found there.

Bethlehem, Littleton, Fabyan, Colebrook, Lancaster, Sugar Hill, and two score of other mountain resorts will be found to be fully as interesting, and of them an extended description is given in the delineation published by the Boston and Maine Railroad known as "The Book of the Mountains," and which is sent for a two-cent stamp to any address by the Gen'l Pass'r Dept. B. & M. R. R., Union Station, Boston, Mass.

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WANTED—Position as boss grinder on revolving flat cards; is a good cloth and fixer; at present employed on 180 cards ten years; boss grinder with this company. Address "973," Boston Journal of Commerce, Boston, Mass. 35-16

WANTED—A situation as overseer of mule and frame spinning, spooling, warping and twisting; have had a large experience filling frame spinning; both yarn and cloth mills; married; American; age 38 years. Address "942," Boston Journal of Commerce, Boston, Mass. 55-0

WANTED—A position as overseer of weaving, drawing-in and slashing; 14 years' experience on colored work in Manchester, Eng., and two years' at the Acushnet mill, New Bedford; best of references. Address "945," Boston Journal of Commerce, Boston, Mass. 55-0

WANTED—An experienced mule and frame overseer is open for an engagement; age 45 and married; the best of references can be given. Address "963," Boston Journal of Commerce, Boston, Mass. 55-0

WANTED—Superintendent's position in hosiery or fine spinning mill; age 34; have had 25 years' experience; can give the very best references, both from former and present employers. Address "975," Boston Journal of Commerce, Boston, Mass. 57-1

WANTED—Position as overseer of carding; good references. Address "967," Boston Journal of Commerce, Boston, Mass. 55-25

WANTED—Position as second hand of carding; good references. Address "970," Boston Journal of Commerce, Boston, Mass. 55-25

WANTED—Position by a cotton bleacher; temperate; steady; reliable; 23 years in one place; now disengaged; communication strictly confidential. Address G. H. L. 83 Garfield place, Brooklyn, N. Y. 55-22

WANTED—Position as manager of fancy goods mill; have had wide experience in England and America in designing, draughting and weaving plain and fancy pieces, velvets, corduroys, cotton and linen towelling and other specialties. Address P. O. Box 578, Providence, R. I. 55-21

WANTED—An engineer holding a first-class unlimited license desires to make a change in position. Address "969," Boston Journal of Commerce, Boston, Mass. 55-21

WANTED—Position as weaving overseer by young man; at present engaged; had experience on plain and all kinds of fancy goods, lenos, jacquards, etc.; good references. Address "975," Boston Journal of Commerce, Boston, Mass.

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A GROWING COMPANY

The Cedartown Cotton Company and the Remarkable Success Attained by it.

In 1890 Charles Adamson, of Philadelphia, organized the Cedartown Land Improvement Company. The object of this company was the development and improvement of Cedartown, Ga. In 1892 the Cedartown Company purchased all of the interests of the former and Daniel Baugh, of Philadelphia, assumed the presidency of the new company, the other officers being: Thomas Adamson, 1st vice president; Charles Adamson, 2nd vice president and general manager; and J. Wright Adamson, secretary and treasurer. These officers have continued to hold their positions ever since, and the marvelous growth of the company is a handsome testimonial of their efficient management.

At the start the Cedartown Company was

ginning was added to the plant of the new company.

From the small beginning in '96 the Cedartown Cotton Company has grown until now it has two large mills known as Cedartown (No. 1) Ring Spinning, with 11,000 spindles, and No. 2 (Paragon), 12,500 spindles (mule), running night and day and turning out about 130,000 pounds of the finest hosiery yarn (of the numbers spun) in the country. Operatives' houses have been built and a mill settlement laid out on wisdom lines.

Wages are paid in cash, weekly, circulating money in the town and bringing about a condition of permanent prosperity.

The Cedartown Cotton Company had one of the handsomest textile exhibits at the National Export Exposition held this year



PRESIDENT DANIEL BAUGH.

merely a land company; but it was a short time before the company resolved to work on lines radically different from those usually employed by such companies. It constituted itself into a Promotion and Investment Company. By developing industries it planned to convert an agricultural section into a manufacturing district.

Following this plan, the Cedartown Cotton Manufacturing Company was organized in 1896 and built cotton mill No. 1. This was a small, but finely equipped mill. It was opened by the same men who had successfully conducted the operations of the land company and was fitted out for the production of a high grade of hosiery yarn.

Eighteen months after it was started the Land Company organized the Southern Extension Cotton Mill and leased it to the Cedartown Cotton Manufacturing Company. This mill had 7000 spindles in it. At this point an innovation was made in the winding department by putting in 400 spindles of the improved "Universal" wind. This company was the first one in the South to buy this wind on hosiery yarns.

In 1899 outside parties built the Paragon mill. The building was erected to hold 12,500 spindles and equipped with 5,000 spindles of mule spinning. Before this mill was finished the promoters offered it to the Cedartown Company, who purchased it and immediately ordered the 7500 spindles to fill it. Steps were taken to consolidate those three mills, and the Cedartown Cotton Company was organized to take over three separate mills.

A large warehousing company was organized by the Cedartown Company to take care of the cotton side of the business, and

in Philadelphia. This exhibit attracted a great deal of attention on account of the quality of the yarn.

We present with this article pictures of Daniel Baugh and Charles Adamson, President and 1st Vice President, General Manager, respectively. Mr. Baugh is one of the representative men of Philadelphia. Baugh & Sons Co., of which he is owner and President, owns and operates the Delaware River Chemical Works. He also holds many positions of trust and honor, among them, being president of the Sanitarium Association; director in the Girard National Bank the Delaware Insurance Company and the Philadelphia Bourse; trustee of the Jefferson Medical College; President of the Department of Archaeology and Palaeontology of the University of Pennsylvania; President of the Art Club; trustee of the Rush Hospital; manager of the Howard Hospital; member of the Union League, Penn Club, and Philadelphia County Club and Markham Club.

Mr. Adamson has been very successful in business matters. He was educated abroad, but returned to the United States and entered the University of Pennsylvania, taking the course of mining engineering and graduating as a bachelor of science in the class of 1880. He entered the University Law school and received the degree of L. L. B. in 1882, and was admitted to the Philadelphia bar, where he practiced law until 1890. In 1890 he determined to remove to the south to promote the industrial development of that section. Locating at Cedartown, Ga., he organized the Cedartown Land and Improvement Company, of which he was general manager. In 1892 he organized the Cedartown Company, in connection with

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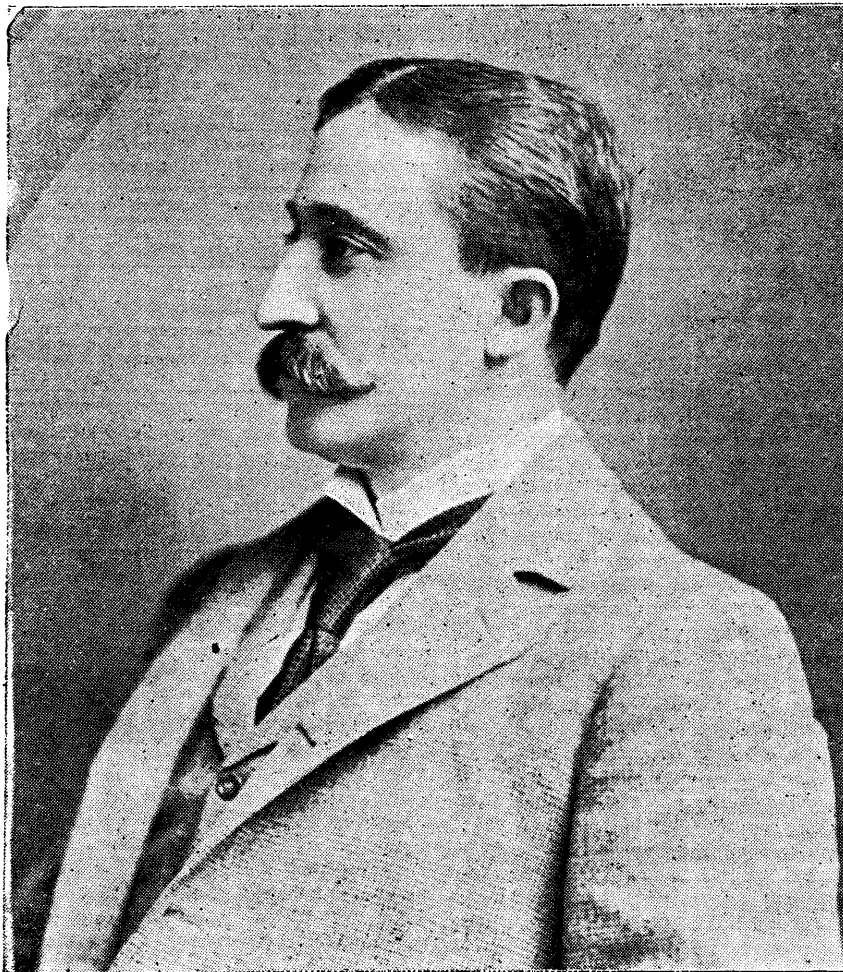
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Daniel Baugh, of Philadelphia. In 1896 he organized a company at Cedartown, to make fine hosiery yarns, starting with a mill of 3500 spindles; in 1898 he added the Southern Extension Cotton Mill Company, with 7500 spindles, and 1899 the Paragon mills with ~~over 12,000 spindles~~. In each of these Mr. Adamson was either president or manager, and in 1899 he effected their consolidation in the Cedartown Cotton Company, aggregating

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FIRST VICE-PRESIDENT AND GENERAL MANAGER CHARLES ADAMSON.

gating 23,000 spindles, in which he holds the office of vice-president. In connection with this, he also established the Cedartown Warehousing Company. He is also president of the Southern Association of Yarn Spinners, and is a member of the Cherokee Club, of Cedartown, and of the Philadelphia Art Club.

The rapid growth of this company has placed Cedartown in the front ranks as a cotton manufacturing town. There are very few towns in this country that offer so many advantages to cotton mills as does this one. Parties who are looking for mill sites should investigate the merits of this place.

DRY GOODS.

**Business Rather Quiet—Sales Smaller—
Prices Adjusting Themselves—China
Outlook Better—Woolens Dull.**

The spot business which has been noted in this market during the current week has fallen somewhat behind that which was reported a week ago. All lines have noted a somewhat quieter trade, but the outlook is very good. It is not believed that the present trade is behind that of the corresponding time a year ago, and it will take but very little to make the demand much heavier. At the present time buyers are holding off with a view to obtaining lower prices in the near future. It is hardly fair to judge the tone of the market from the reported sales, as many buyers are not filling their wants at the present time, but are holding back in the hope of still further declines in quotations. We believe they are making a mistake. The raw material is scarce and with an advancing price, and under such conditions there is little if any prospect of lower figures for the manufactured article. The reports in regard to the new crop are also very discouraging, and in the face of these conditions it is hard to see how the mills can take lower figures and come out whole.

The outlook for the Chinese trade is much brighter than was the case with them some weeks ago. It now looks as if there would not be any actual war, and that all the powers would soon be at peace with China. As it is, the demand for cotton goods in China shipped from this country has not dropped so very heavily, and the mills still have many orders on hand which they are going to fill. Peace is looked for by the first of the year, if not before, and that will mean a resumption of trade, and it is freely predicted that the volume of the trade will be heavier than ever before. We would advise the mills not to feel too depressed over the outlook for the China trade, as we believe that it will be very good, and that the mills working on these goods will have a good business.

Jabbers are noting a very good business doing, with a steady improvement. Retail houses are making good sales and are having to restock quite freely. The hot weather has kept up the demand for light summer fabrics and retailers are selling summer fabrics freely and have been laying in good stocks of fall and winter goods. Jobbing houses note very good orders for printed goods as well as for dress goods. Limited amounts of a good many different fabrics are wanted. The retailers are not buying this year because they fear a great enhancement of prices, as was the case a year ago, but they are buying what they actually want in their stores, and buying only because they want the goods.

Staple Cottons.

The condition of this branch of the market is unchanged. The demand for heavy brown cottons continues on a limited scale, with buyers doing little outside of goods in stock, and these in all weights are irregular in price. Sellers of leading brands are not making any large concessions and many are not accepting business for forward delivery at present prices. Business in fine browns is quiet and the market without feature. Bleached cottons report a quiet trade. The tone of the market is steady, and in some prominent tickets a little fuller buying would probably result in a stiffer market. Wide sheetings are unchanged in tone. Cotton flannels and blankets continue as last noted. Prices are still irregular.

Print Cloths.

A fair business in narrow odds in the Fall River printing cloth market, with few sales of regulars, has been reported for the week. The price is reported firm, at 27c. In wide odds there is some business reported, with sellers at 4 3-13c for 38 1/2-inch 64 squares, and 4 1/2c for 39-inch 68x72's. The mills are still curtailing the production of these goods with gratifying results.

Prints and Gingham.

The general tone of this branch of the market is very good. Indigo blue prints are noting good sales. Prices are reported very steady, with stocks in good shape. Shirting prints are also in fair demand, with no changes in prices. Wide prints are in fair demand, with some irregularity still noted in percales. Gingham note a good business, largely in staple lines. Fancy and the finer grades of gingham are still rather quiet, with no changes in prices noted. Printed flannels are in seasonable demand, with the principal makes selling freely.

Woolens and Worsteds.

Men's woolen goods continue to note a quiet trade. Orders, so far as placed on light weights, are unsatisfactory. Clothiers continue to buy goods in very small lots. They say that there is very little reason for buying goods in advance of their wants this year. They have very little fear that prices are going to advance, and while they do not believe that prices are going to be lower, they are willing that the manufacturers should carry the goods till they are wanted. Dress goods are noting a fair business, with the outlook good. Blacks continue to predominate. Flannels and blankets are in seasonable demand at old prices. Mr. Wm. Wood, treasurer of the American Woolen Company, recently said in regard to the situation:

It may be of interest to the woolen trade to learn that the sales of the American Woolen Company in light-weight goods are progressing to the satisfaction of the company. As compared with the Presidential year of four years ago the condition of the mills for orders is 50 per cent. better, and the prospects are that all of the company's mills, with one or two exceptions, will receive their full complement of orders.

The policy adopted by the company of naming very low prices and guaranteeing the same for the remainder of the year has proven a sound one, as the above results will show.

Wool is being held so firmly by the farmers of this country that any movement on the part of the mills toward purchasing would only result in higher values. There is, therefore, very little reason to look for any lower range of prices in the woolen goods market.

Export Goods.

This branch of the market has been rather better than was expected would be the case. The China trade is being filled by most of the mills, and the outlook for new business from that country by the first of the year is now very promising. Export goods to other countries has continued very good. Many of the mills that work on China goods have shut down. Some still have good-sized orders to fill and will continue until they are filled. On the whole, the outlook is fairly good.

British patent No. 4773 relates to the mercerizing of cotton or other fabrics. The fabric is stretched, to prevent shrinkage during the process, by discs which carry on their surfaces pins or clips to hold the fabric, and which are mounted loosely on nuts engaging with right and left-hand threads on the shaft, by the rotation of which the nuts and discs are moved toward one another or apart. The shaft is rotated by gearing, and the discs by means of a projection on a pulley.

British patent No. 4631 relates to a stiff or resilient moisture-proof lining for garments. It consists of a woven fabric which is provided with a number of perforations and is coated on one or both sides with a solution of celluloid, rubber, or the like, or is impregnated with the same material, or the fabric is made from yarn which has been so impregnated. The waterproof solution may be laid on in a plaid-like pattern so as to leave some parts of the fabric uncoated. The material may be employed in the manufacture of hats, as a substitute for straw hats and ladies' hat shapels.

British patent No. 2707 relates to jigging machines for dyeing piece-goods. The pieces are wound upon beams or rollers, supported in brackets above the dyeing vessel, and are passed round rollers situated in the dyeing vessel. They are then passed over a guide roller and between a pair of nipping or squeezing rollers to an ordinary cutting apparatus, which is combined with the machine. The superfluous liquor is received in a trough, from which it is returned to the dyeing vessel by a pipe. In a modified arrangement, the dyed pieces are not cuttled, but are beamed or wound upon a roller, the axle of which rides upon an inclined plane so as to render it self-adjusting.

A saucepan in which oatmeal has been cooked may be easily cleaned by putting a cupful of ashes into it and filling up with water a few minutes before washing.

A spoonful of chloride of lime in a quart of water will remove mildew from linen. Strain the solution after it has stood long enough to dissolve thoroughly, and dip the cloth into it.

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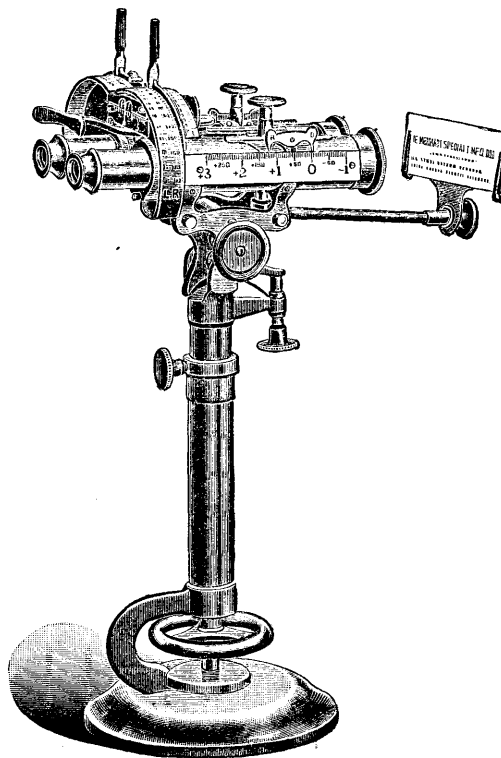
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It does not matter how astigmatic the eyes may be, or how far Myopia or Hypermetropia may enter into the makeup of the eye as the instrument is adjustable in its refractive power in all meridians and easily gives a clean even field of sight for the most complexed vision.

Oculists and opticians will be pleased to learn that with this instrument it will not require one-half the amount of over correction to indicate when a test has been over corrected, that is required when the trial set is used, and far less than any instrument that can ever be made on the magnifying principle. In fact all objects recede when the refractive power of the instrument is increased, thus tending to relax the accommodation, instead of exciting it into action as must be the case where the trial set is used, and also, only to a greater extent, where instruments built on the opera glass principle are used.

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Of Open Hearth or McHaffie Steel. True to Pattern. — Sound. — Solid. Gearing of All Kinds, Crank Shafts, Knuckles for Car Couplers.

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Newton Upper Falls, Mass.

COTTON MACHINERY
Of the Most Improved Patterns.

Southern Office: Charlotte, N. C.

Works at { Biddeford, Me. AND Newton Upper Falls.

DYES AND CHEMICALS.

The market still continues quiet and unchanged with new features scarce. There is a very satisfactory jobbery business going forward but large orders are extremely few.

We quote as follows:

Dyes.	
Albumen.	
Blood.....15 @20	Egg.....55 @63
Aniline.	
Salt.....8½@ 8½	Oil.....8½@ 9
Bichromate Potash.	
American.....8½@ 8½	Scotch.....8½@ 8½
Barwood. Camwood.	
Per pound.....2 @ 2¼	Per pound.....6 @ 8
Cochineal.	
Honduras: Teneriffe.. 28 @ 31	Silver.....30 @ 33 Black.....23 @ 31½
Cutch.	
Bale.....5 @ 6	Refined.....6 @ 10
Fustic.	
Jamaica.....1¼@ 1¼	Cuban.....1¼@ 2
Gambler.	
Cube 1.....6½@ 7	Cube 2.....5½@ 6½
Indigo.	
Madras.....20 @ 25	Bengal: Low.....65 @ 70 Medium.....75 @ 90 Good.....100 @ 130
Logwood. Red Sanders.	
Per pound.....1¼@ 1¼	Per pound.....2¼@ 3
Sumac.	
Sicily ½ ton; No. 1.....56 00 @ 58 00	American.....40 00 @ 45 00
No. 2.....54 00 @ 56 00	
Turmeric.	
Whole.....4½@ 6	
Chemicals.	
Acids.	
Acetate.....110 @ 115	Oxalic.....5½@ 6
Acetic ½ lb.....175 @ 225	Sulphuric.....120 @ 175
Citric.....40 @ 40½	Tartaric, Muriatic.....110 @ 120
Crystals.....31½@ 32½	Boric.....1¼@ 1¼
Powdered.....32 @ 32½	Nitric.....4¼@ 4¼
Alliarine.	
Extract.....13 @ 15	Mordant.....6½@ 14
Alum.	
Lump.....175@ 185	Ground.....185@ 195
Aloes.	
Cape.....8 @ 9	Curacao.....8½@ 4¼
Arsenic.	
Red Saxon.....7¼@ 7¼	White.....4¼@ 4¼
Red Silesian.....7¼@ 7¼	
Bleaching Powders.	
American.....@	English.....175 @ 200
Continental.....165 @ 190	German.....175 @ 200
Borax.	
Crystals.....7¼@ 7¼	Powdered.....7¼ @ 7¼
Brimstone.	
Crude 2nd.....22 00 @ 22 50	Crude 3ds.....19 00 @ 20 00
Chrome.	
Acetate.....5 @ 7	Oxide.....8 @ 9
Coppers.	
Large lots.....72½@	100 lbs.....80 @ 90
Cream Tartar.	
Crystals.....23 @ 23½	Powdered.....23½@ 24
Fuller's Earth.	
Powdered.....22 00@ 22 50	Lump.....24 50@ 44 00
Gums.	
Arabic, pk'd.....53 @ 55	Garnet.....16 @ 17
Arabic, sorts.....16 @ 17	V. S. O.....22½@ 23
Camphor.....11 @ 10	Tn.....14½@ 15
Shellac, D. C.....27 @ 28	Bleached.....17 @ 18
Iron.	
Nitrate.....3¼@ 4	Extract.....7 @ 11½
Isinglass.	
American, lb.....55 @ 70	Russian.....39½ @ 445
Lead.	
White Sugar.....7¼@ 8½	Brown Sugar.....5¼@ 6
Mercurials.	
Blue pill.....38 @	Ointment.....33 @ 46
Calomel.....83 @	Red precip.....83 @
Cor. sub.....@ 74	Bisulphate.....54 @
Potash.	
Prussiate:	
Chlorate.....9 @ 9¼	Red.....37 @ 38
Bromide.....46 @ 47	Yellow.....@ 20
	German.....19 @ 19½
	American.....18½@ 19½
Soda.	
Sal. (Am.).....75 @ 85	Potash: Carbonate.....5 @ 6½
Sal. (Eng.).....70 @ 80	Caustic.....5½@ 6
Caustic.....220 @ 230	Bromide.....46 @ 47
Bicarb.....1.87 @ 1.75	Prussate.....19 @ 20
Nitrate.....1.77@ 1.50	
Tin.	
Muriatic.....13 @ 17	Bichloride.. 9½@ 12
Crystals.....20½@ 22	
Miscellaneous.	
Blue Vitriol.....5 @ 5½	Zinc.....7½@ 8¼

PAPER STOCK.

The business doing in these goods continues very limited and the outlook is not bright. Prices remain much as last quoted with some few reductions. More mills have closed and the outlook is not very good.

We quote as follows:

Paper Stock.	
Bagging.	
No. 1.....85 @ 95	Burlaps.....@ 1.00
No. 2.....40 @ 50	Mixed.....55 @ 75
Rags.	
No. 1.....2 @ 8	2nds.....1 @ 1¼
No. 2.....1¼@ 2	South mixed.. ¼@ ½
Shoe unb.....2 @ 8	
Papers.	
Books.....88 @ 95	News, prints...31 @ 35
Manila.....70 @ 85	Waste.....80 @ 84
News, folded...33 @ 35	Shavings.....1 @ 1¼
	Straw.....45 @ 50
Rope, Etc.	
Hemp.....@ 2¼	Shaking light.. ¼@ ¼
Manilla.....2 @ 2¼	Burlap.....1 00@ 1.15
Rigging.....2 @ 3	Canvas 1 cot.....2¼@
Tared hemp 1 @ 1¼	Canvas 2 cot.....1 @ 1¼
Bolt.....@ 2¼	Canvas 1 linen.. 1 @ 1¼
Wool.....90 @	Flax.....1¼@ 1¼
Sisal.....60 @ 66	

Cotton Waste.

There is very little doing in this market. Prices are holding up well and dealers are not trying to force matters in the least.

We quote as follows:

Cops.	
Mac'ne No 1 5¼ @ 6	Colored.....5 @ 5¼
No. 2.....4 @	
Cards.	
No. 1.....7 @ 7¼	No. 1. (olly) .. 8¼ @ 4
No. 2.....6¼ @	No. 2. (olly)... 2¼@
Clips.	
Bluff.....3 @ 3½	White.....4 @ 4¼
Colored.....1¼@ 2	
Combing.	
Perler.....7¼ @ 8	Egyptian.....8¼ @ 9¼
Linters.	
No. 1.....4¼@ 5	No. 3.....8¼ @ 4¼
No. 2.....4 @ 5	
Thread.	
Colored.....3 @ 3¼	Ends soiled.. 1 @ 1¼
No. 1.....5¼ @ 5½	Cut.....4 @ 4¼
No. 2.....4 @ 4¼	Soft.....4 @ 5

WOOLEN RAGS.

The demand for these goods continues about as last noted. Buyers' interest in the market continues to improve and the outlook for better sales very soon is promising. Prices are practically as last quoted.

We quote dealers' prices as follows:

Carpets.	
All wool.....3 @ 3¼	Soft back.....1 @ 1¼
Linsey.....½@ 1	Hard back.....¼@ ½
Clips.	
fine blue.....8¼@ 9¼	cloakings.....3¼@ 4
ordinary black.....9 @ 10	fine dark.....10 @ 11¼
fine light.....14 @ 15	coarse dark.....9 @ 10
good light.....8¼@ 9¼	black worsted...18 @ 21½
	blue worsted.....14¼@ 15
Cloth.	
seamed, dark.....¼@ 1	worsted.....8 @ 9¼
seamed, blue.....1 @ 1¼	skirted.....3 @ 6
seamed, light.....1 @ 2	unskirted.....1¼@ 2
seamed, mixed.....¼@ ½	
Delaine.	
unskirted.....1 @ 1¼	skirted.....1¼@ 1¼
Linseys and Merino.	
gray.....½@ ¾	light.....15 @ 16
white.....2 @ 2¼	dark.....9 @ 11¼
brown.....1¼@ 2	black.....10¼@
blue.....@ 2	seamed back.....13 @ 14
Seams and Stockings.	
red flannel.....3¼@ 10	blue.....10 @ 11½
blue flannel.....9 @ 9¼	red.....@ 11
knit jackets.....10 @ 10¼	gray.....10¼@ 10¼
	mixed common... 8 @
	white and knit... 23 @
Miscellaneous.	
Hats—Old felt.....1 @ 1¼	Satinets, old.....38 @ 48
Mixed woolen rags ¾@ 1¼	Reps and bunting 6 @
	Soft woolens.....5 @

A little salt sprinkled on the fire when the chimney is alight will soon put it out.

When buying new lamp glasses, if put in water and allowed to boil first they will last longer.

When windows are difficult to open or close rub the cords with soft soap, when they will run smoothly.

When putting away a metal teapot, to prevent any rusty flavor, put a lump of soap inside it.

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COTTON WARPS and YARNS, in Gray and all Colors, Single or in any Twist. COLORED COTTON, Machined, Carded, or in the Roving. NOVELTY YARNS, in Cotton, Mercerized Cotton, Silk and Worsted, in various Patterns, Colors and Twists.

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PRACTICAL FINISHER.

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1890.

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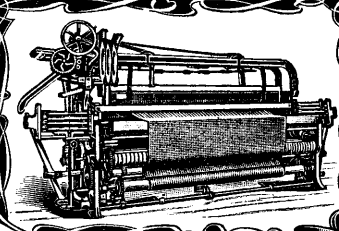
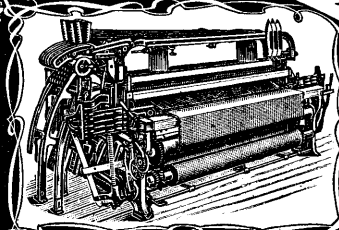
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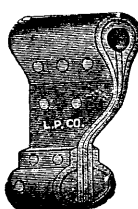
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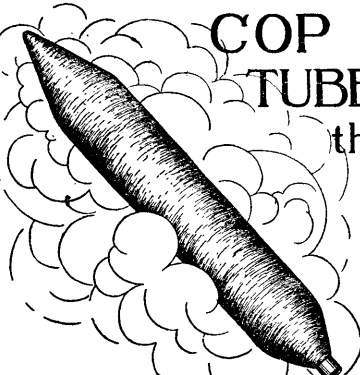
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