

The Irish Textile Journal,

WITH WHICH IS INCORPORATED

The Belfast Linen Trade Circular.

[REGISTERED.]

ESTABLISHED 1852.

NEW SERIES, 1886.

Vol. VIII.

Belfast, May 15th, 1893.

No. 89.

Contents.

	Page		Page
Primary Education in Ireland ..	53	The Belfast Linen Trade Report ..	58
Electricity	53	Board of Trade Returns	59
Defective Sewing	53	The Making-up Trades	60
Inspector of Factories' Report ..	53	The Irish Cotton Trade	60
Decline of Flax Cultivation in Ireland ..	54	Monthly Reports—	
When Business is brisk, push all the		Irish	60
harder	54	English	61
A Budget Reflection	54	United States Market	62
Flax Cultivation in Ireland	55	Flax Supply Association	62
A Mayo Industry	55	Factory Inspector's Report	63
Dyeing Recipe for Light Blue	56	Edison & Swan United Electric Light	
Practical Instructions in Linen Weaving—		Company, Limited,	64
VI	56	Chicago Exhibition—British Section	
Special Reports—		Catalogue	64
Irish Woollen Trade	57	Chemicals and Dyes,	64

Notices.

Correspondence and items of interest bearing upon the Textile Industries, Technical Education, or other questions treated in this Journal, are solicited. Market reports, or notes respecting the position and prospects of our Irish industries, will be specially acceptable. Correspondents should write briefly and on one side of the paper. Foreign readers are invited to send reports, and to point out any facilities which may exist for promoting the interests of Irish manufacturers.

The *Irish Textile Journal* is published on the 15th of each month. Yearly subscription, including postage, 11/6. Subscriptions payable in advance. Free sample copy sent to any address. Advertisers will find the Journal an excellent medium for announcements suitable to its pages. Terms may be known on application.

All remittances to be made payable to the Proprietor, F. W. SMITH, 7, Donegall Square East, Belfast.

The *Linen Market*, published every Saturday, at the above address, deals exclusively with the Irish linen trade in all its branches. Annual subscription, £1 1s. The *Irish Textile Journal* and *The Linen Market*, if ordered at the same time, will be supplied by post for £1 4s., or if within the City delivery for £1 2s. 6d., per annum.

The *Home and Foreign Linen Trade Directory*. Price, Limp cloth, 2s. 6d.; boards, 3s.

A *Souvenir of the Irish Linen Trade*, being a series of 12 Views, illustrating the Cultivation of Flax, the steeping, drying, scutching (by hand and power), and preparation of it for market. The Spinning of Flax by hand on the old spinning-wheel, the reeling, winding, and warping of the Yarn. Weaving of Linen by hand, the bleaching and finishing of the Cloth, and the subsequent examination, lapping, and making up of the goods in the Warehouse, together with a view of the old Irish Linen Hall or Market in Dublin for the sale of the Linens. From original engravings in the possession of Messrs. J. N. Richardson, Sons & Owden, Ltd., Belfast—dated 1791.

Carefully printed Bromide Photographs (7½ × 6), on India-tinted card mounts 10½ × 14, £1 5s. per set, or unmounted, £1 for the set of 12. Published at the office of this Journal.



Primary Education in Ireland.

IN the last session of Parliament an Act was passed "to improve National Education in Ireland." Under its provisions education will, in the main, be free and compulsory, and will be operative from the 1st January next. In the meantime the Commissioners of Education have power to make preliminary arrangements in regard to forming local committees, which will co-operate with the central body in Dublin in administering the Act.

The first section states:—

In every place to which this section applies, the parent of every child not less than six nor more than fourteen years of age shall cause the child to attend school during such number of days in the year, and for such time on each day of attendance, as are prescribed in the first Schedule to this Act (150 times in the year), unless there is a reasonable excuse for non-attendance. A child over eleven years of age, holding a fourth class certificate, will be exempt from compulsory attendance. The reasonable excuses for non-attendance are:—That the school is more than two miles distant; or that the parent objects on religious grounds to a particular school; or in the event of sickness, domestic necessity; or being engaged in the field, at fisheries, or other work requiring to be done at a particular time; or other unavoidable or reasonable cause.

The limit of two miles to be further reduced in the case of a child under seven years.

2.—Except for planting potatoes, hay-making, or harvesting, no one shall employ a child under fourteen years of age who has not obtained a fourth class certificate. Penalty 40/-.

3.—A School Attendance Committee to consist of six, eight, or ten persons, as the local authority—one half to be appointed locally, and the other half by the Commissioners.

4.—The Committee to see that the children attend school, and to warn parents, who may be brought before a court of summary jurisdiction, and fined not over five shillings, for neglecting the provisions of the Act.

These are the main features of the Act. Under section 18 a parliamentary grant of £210,000 a-year is contemplated to provide free education where the average school fees in 1891 did not exceed six shillings a-year for each child; and where the fees exceed six shillings, the fees to be charged in future shall be reduced by the school grant.

Electricity.

The application of electrical power is making steady progress, and in the near future there seems every prospect that as an illuminant the electric light will successfully compete with gas, at the rate which the latter costs in Belfast, viz., 2/9 per 1,000 feet. It is stated that at Bradford the average cost of supplying the current is 9/7 per annum for public lamps, and at Newcastle as low as 6/3. In a short time Belfast will have a limited area supplied with the electric light, but our authorities do not anticipate that it will be at all as cheap as gas of equal candle power. The results of the experiment will be watched with great interest. A patent has been recently granted for an electric loom, which, it is stated, will be a great improvement on the steam loom, and will be capable of weaving from the coarsest to the finest fabrics, running with comparatively little noise, and at a speed of from 250 to 300 picks per minute.

Defective Sewing.

All who knew the late Mr. Ben. Lindsey, of Dublin, are aware of what a pertinacious stickler he was as to the necessity of inculcating the use of the needle as the first step towards the proper education of girls. In this direction it is interesting to note what Miss Prendergast, the Directress of Needlework under the Board of National Education, has to say on the subject of defective sewing, in her last report. "I should be glad to think," she writes, "that the industrial education of monitresses was advancing as steadily as that of ordinary school pupils, but I fear that this is by no means the case. I have not yet had time to complete the examination of the needlework specimens; but, so far, I have noted few districts as surpassing their record of merit for previous years, and, unfortunately, have some reason to chronicle in a good number a decided deterioration. This retrogression is chiefly noticeable in sewing; in cutting out, on the contrary, some improvement is visible." No one will quarrel with Miss Prendergast's description of this condition of things as being "defective." Girls who can cut out garments, but cannot put them together properly, are certainly in a state of deficiency; and if, as Miss Prendergast thinks, the monitresses of the schools throughout the country are more backward in making any advance than the pupils, we are afraid that no general or rapid change for the better can be expected.

Inspector of Factories' Report.

In the report for last year, which has just been issued, Mr. Woodgate, Inspector for the Southern District, states that, notwithstanding the general depression in trade, the industries throughout his district have not suffered in any material way. This district comprises all Ireland, except the County Derry, and parts of Antrim, Down, and Donegal. He mentions that there has been a considerable falling off in the number of accidents in the various factories, as machinery is now so much better protected. Referring to that portion of the North of Ireland comprised in his district, he mentions a rather curious circumstance which throws light on the difference in the habits and tastes of the people of the South of Ireland as compared with those of the busy North. "In the north part of this district (he says) I find a great scarcity of workers exists. It would seem as if the large amount of emigration from Ireland each year is making itself felt in the diminished number of able workers. In the South and South-West of Ireland, the industries are comparatively small and isolated, as compared with those in Ulster. I find it quite the exception to see any families who have migrated from the South or West to the North. One of the directors of a large textile factory in the North informs me he recently brought up at his own expense a number of families from the South; but after the time, trouble, and

expense of teaching them the work, and although in the receipt of good wages, I am informed in a letter I have from the director only one family has remained, and this one largely lives on charity. I can only account for this, owing to the people outside of Ulster, with few exceptions, being raw recruits, unused to the regularity, punctuality, and discipline required in factories, without which industries could not exist."

Decline of Flax Cultivation in Ireland.

Speaking in reference to the falling off of flax cultivation in Ireland, Mr. Woodgate says:—"There is little doubt if the flax crop was once successfully started in the South and West of Ireland, and grown in sufficient quantities to justify the establishment of flax markets in the various towns in the South, it would form as valuable an industry as it has proved to be the province of Ulster. It would seem to be beyond dispute that the climate and soil of Ireland are peculiarly adapted for the growth of this crop." In reference to this paragraph in the report, we have only to say that many have been the attempts, during the past fifty years, to promote the cultivation of flax in the South, but they have always been of a spasmodic character, and have never been followed up in a regular and persevering manner to ensure success, so as to make the industry of permanent benefit to the country. In a letter which we have just turned up from an "old flax grower," dated Tralee, 20th August, 1846, we find it stated that "Munster, as regards soil, is particularly suited to the growth of flax, as the samples exhibited at Limerick during the past week testify. The Right Hon. The Knight of Kerry, Valentia; Wm. Talbot Crosbie, Ardfert Abbey; and a gentleman from Fermoy, gained the three prizes." In an official return for 1847, we find that some 5,800 acres of flax were grown in the South and West that year, whereas the total for Leinster, Munster, and Connaught last year was only 325 acres. The old Royal Society for the promotion and improvement of the growth of flax in Ireland did a great deal of good at this time in fostering the industry in the South—so much so, that in 1850 they were able to report that "out of the twenty-three counties in Leinster, Munster, and Connaught, flax operations had been extended to twenty-one, and that in some of these—Cork, Mayo, Limerick, Tipperary, Queen's County, Wexford, and Louth—flax culture may be said to have firmly taken root." What a change since that period. The industry is now almost extinct, and we would need to begin again on the old lines of the Royal Society, and push the matter year after year with unflinching energy. The only society capable of doing the work effectively is, as we said before, the Royal Dublin Society, and if sufficient pressure were brought to bear upon its council to take the matter up—for it is as much an agricultural as a manufacturing question—a new era of prosperity in regard to flax culture in Ireland might soon be brought about.

"When business is brisk, push all the harder."

We admit, with pleasure, that business is brisk and fairly satisfactory. The flowing tide, to use a well-worn phrase, is with the linen industry, and activity is the order of the day. In the affairs of trade, as of men, the tide, when taken at the flood, leads on to fortune, and this is the light in which the present opportunity should be regarded and utilised to the utmost. It is beyond doubt that there are fresh openings to be found for linen goods to suit modern requirements, as well as possibilities for further development in branches already established. Light wraps for carriages and summer curtains of artistic merit can best be furnished by linen manufacturers, and in many ways flax has a fair field, not yet fully cultivated, in home decoration. Linen sheetings also are not pressed on public attention as they deserve. Fashion, too, is just now on the side of linens. A philosophic professor once maintained that a feminine garment identical in purpose with the masculine shirt was in existence; but a matter-of-fact opponent said that it was only necessary to visit a modern ball-room to find out that the professor was wholly mistaken. To some extent a change has taken place. However moralists may object and some dress critics demur, women have taken to wearing shirt-fronts and cuffs and collars and ties in close imitation of those of men. They still fall short of that degree of flattery which led Sir Roger de Coverley to address some person who spoke to him as "Sir," until he happened to cast his eyes down upon the qualifying petticoats and corrected himself by saying "Madam;" but so far as women's rights are reposed in fronts and collars, she has secured them, to the manifest advantage of trade. There is to be this year also, as those who are well informed agree, an outburst of emphatic colour. Subdued shades and neutral tints and indefinite patterns are to be put out of

countenance by pronounced effects which will make aesthetic enthusiasts furious, and provoke many a tirade against Philistine tendencies and aniline iniquities. But we are most concerned with the conclusion that this colour outbreak will affect other goods, and lead to an adoption of more conspicuous decoration all round. It is, to take an extreme instance, not improbable that coloured table-linens will be in much better demand, in sympathy with the shown dresses which will be grouped about them. In all these things, then, there are prospects of increased business, with the advantage of good trade on ordinary lines to back them up.

An influential London newspaper has paid Belfast the compliment of sending over a Special Commissioner to report upon the condition and circumstances of the city. We ought, of course, to be very much obliged for so evident an interest in our welfare, and proud to be the object of such distinguished attention. We must equally, of course, be prepared for criticism, and, if we wished, could not avoid it. On excellent authority it is good "to see ourselves as others see us," and we have no hesitation whatever in saying that any amount of fair and honest comment would be cheerfully received and carefully considered, no matter whether it were praise or *per contra*. But Belfast men will fail to recognise themselves and their surroundings in what is written about them. It would be about as accurate to take the features of a person as seen in an old-fashioned concave mirror and present them as a true and reliable portrait, as to accept these assertions and descriptions as true. Upon particulars which are not incorrect a distorted construction is generally put, and as a picture of Belfast industrial life the letters leave almost everything to be desired. Ostensibly, the investigation is to be solely directed to ascertaining the truth as to "the industrial and economic facts of Ulster," and anxiety quite commendable is expressed that controversial ground should be avoided. But that does not prevent contentious questions being touched upon in the same paragraph. It can only be considered very remarkable that the present moment is chosen for so much solicitude to be shown as to the state of Belfast affairs. With what motive, we should like to know, is this matter published just now, and what end are these articles designed to serve. They are tainted with political spite, and, for the rest, it is only necessary to add that they appear in the *Daily Chronicle*. When these letters in their entirety are open to reply, we may have the pleasure of correcting some of the "facts" put forward, and of putting a very different complexion upon others, so as to try and undo some of the mischief which unscrupulous misrepresentation will have accomplished. It may be that the articles have been fairly and honestly written; they may faithfully reflect observation and opinions above reproach. But, unless party spite and all uncharitableness can bear the blame of such statements as that the staple trade of Belfast "and many allied ones are being carried on below a civilised life level," or, again, that there is "a complete absence of every condition of healthy family life and infant development," the *Chronicle* can hardly be congratulated upon its Special Commissioner.

A Budget Reflection.

Curses proverbially come home to roost, and when Sir William Harcourt condemned Mr. Goschen's last Budget as "humdrum and unobjectionable," he could not have contemplated the contingency that he might have to introduce another still more humdrum but not unobjectionable. The "penny-in-the-slot" addition to taxation pleases nobody. It might be said that additions to taxation can hardly be expected to please anybody, but that does not altogether meet the present case. Theoretically, the Income Tax is as equitable and just as any tax could be. There can be no sound objection to paying a certain proportion of actual profits; and yet the tax is so obnoxious that its abolition was once held up as a bait before a general election. It is the incidence of collection that makes it so much detested. To guard against the evasion upon which a premium is put by asking persons to fix the amounts on which they will pay, there are some officials who are in the habit of increasing assessments up to breakback point. With a perversity so stupid as to be exceptional, those in charge of tax districts are regularly changed at about the time when they have acquired just enough local knowledge to be useful. When the last straw of surcharge has been laid upon the back of the unhappy taxpayer, he has to appeal and produce his books either before people with whom he is frequently well acquainted, or as likely before others who are quite ignorant of his business, its risks or remuneration. At the best, or worst, the tax has usually to be paid through a local collector, who is thus not only informed of

profitable use of the knowledge if he chooses to do so. Rather than a graduated income tax, of which—although it appears to have been successfully and remuneratively established in Germany—there seems but little hope over here, and before even a preferential rate for industrial as against spontaneous or professional incomes, would traders desire to see the income tax officially dealt with from one end of it to the other.



Flax Cultivation in Ireland.

IN another column will be found an abstract of the annual report of the Flax Supply Association submitted last month. It is a matter for congratulation, whilst so many trades and industries have been suffering from depression, that the Irish linen trade not only holds its own, but has been making a steady progress for some time past; the statistics for last year showing gratifying results. A comparison of the exports of the textile trades of the United Kingdom, for the four months of this year, bear out a similar healthy condition, so far as concerns the staple trade of Ulster. The apprehension of a falling off in the shipping branch, in consequence of the increased tariff in the United States, has happily not been realised; but, on the contrary, trade with that important country shows continuous growth, whilst the various efforts made from time to time to establish a rival industry, under the heavy protective duties, have signally failed; the climatic and labour conditions being so essentially different, it is scarcely possible that any linen manufacture worth naming can ever be successfully established there. As regards the raw material for our mills, it is a matter of great regret that year after year the acreage in Ireland has been a diminishing quantity, and not only that, but the yield for the past two years has been so much below an average. No doubt the weather is an important factor, for no crop is so dependent as flax on favourable atmospheric conditions; and the last two seasons were very disappointing. With a fair average season, good seed, suitable soil, and careful treatment, no crop pays so well as flax; but failure in some one of these conditions results more or less in disappointment: one thing seems clear, and that is, that as flax-growers we are retrograding, and the question should be earnestly considered, not only by manufacturers but by farmers, so that the causes of this continuous decline in flax cultivation may be traced, and the industry placed on a much better footing than it is at present. The average yield per acre for the past 20 years to 1891 was $27\frac{1}{2}$ stones, but last year the average was only $22\frac{1}{4}$. In 1890 it was upwards of 33 stones. Taken by provinces, last year Ulster shows an average of 22.19, but much better results were obtained elsewhere; Munster showed an average of 34.58, whilst Leinster and Connaught went as high as 40.67 stones to the statute acre. These latter figures show what splendid results may be looked for, even in an unfavourable season, if the growth of flax were stimulated in the South and West of Ireland. A mine of wealth is still unworked in our own country, if only the means were taken to encourage the industry. Statistics show that the average yield in Austria is 27, Hungary $28\frac{3}{4}$, Holland 30, Belgium $31\frac{1}{2}$, Germany 37, and France 43 stones to the acre; but in point of value the Belgian flax ranks first, Dutch next, and French and German next on an average of years. The great care exercised by the Belgian and Dutch farmers in the selection of the seed, as well as in every stage of the cultivation, followed up by the greatest care in the subsequent processes of retting and preparation for market, all contribute to the production of that high-class fibre which is so much sought after by our spinners of fine yarns. The misfortune in this country is that, notwithstanding all that has been done to educate the Ulster farmer, he has made but little progress for many years, and adheres to old-fashioned and thrifless habits as much as ever. Turning to the report of the Flax Supply Association for 1883, the late Sir Wm. Ewart made a suggestion that, in view of the alarming falling off of the flax-growing industry in Ireland, a conference of farmers, manufacturers, flax

scutchers, and flax merchants should be held to consider the situation. Accordingly, on the 13th February, 1885, a meeting of this kind did take place, at which a great deal of valuable information was elicited. Sir Wm. Ewart submitting a number of practical suggestions, whilst several speakers dealt with different branches of the subject. One practical flax-grower, Mr. Joseph Beatty, of Waringstown, detailed the results of his careful management of the crop, and gave the market prices he obtained each year from 1851 to 1870, which were as follows:—16/-, 13/-, 18/-, 14/-, 16/-, 16/6, 12/6, 14/-, 11/6, 12/-, 12/3, 12/9, 10/9, 11/3, 11/-, 13/6, 12/3, 11/9, 9/6, and 10/3 per stone. It would be a most useful thing if a conference of the kind were held every year, with a view of following up any experiments made, as well as for mutual counsel between farmers and manufacturers. The late Mr. Wm. Charley, of Seymour Hill, was a zealous advocate of flax-growing, and was highly successful himself, having the technical skill and experience which contributed to his success. His example and advice were of great value, and his loss was a serious one to this Association, as well as the North-East Agricultural Society. Mr. Wm. M'Causland, at the meeting last month, urged the example of Mr. Charley and those like him, who have been successful flax-growers; and as an illustration of what he (Mr. M'Causland) had done in the same way, he produced a sample of flax grown in the neighbourhood the year before last, and which he stated had been twice retted, first in 1891, and again in 1892, the second time along with new flax, both being the same length of time in the water. For this flax he had been offered £100 a ton, but he considered its present market value to be £112. He urged that a little practical work done by members of the Association themselves would do much good and more effectually influence the farmers. With examples such as these there is surely great encouragement in pursuing the subject; and though there may be nothing new to be said, it is only by example and reiterated argument we can hope to bring about a better condition of things, and benefit not only trade but agriculture.

A Mayo Industry.



REFERENCE has more than once been made in these columns to the Foxford Woollen Factory. Started by the energy, perseverance, and pluck of Mrs. Morrogh Bernard, Lady Superiress of the Convent, it has owed its success to the same causes. Mrs. Bernard, never losing heart, was able to collect around her from far and near a band of willing helpers. Those who could not give advice or actual personal assistance gave what was equally, or even more needfully, wanted—money. Lord Zetland, Lord Londonderry before him, Mr. Balfour, the Barones Burdett-Coutts, all were interested, and by their aid the Foxford Woollen Mills became an accomplished fact, and honest remunerative toil has been afforded to the people of one of our poorest and most congested districts. This being so, it is with the deepest concern that we learn the whole industry is in danger; and from all accounts in very serious danger. In fact, its very existence is threatened. To point out how this is occurring, we shall not go further than a letter which appeared in the papers from Mr. J. C. Smith, of the Caledon Woollen Mills, Co. Tyrone. Mr. Smith, it should be said, is amongst the first and foremost friends of the Foxford venture. He has been consulted and has advised, and, as a practical and successful woollen manufacturer, his advice, it may be imagined, was not without value. He writes now to refute the arguments by which the landlord of the water-rights at Foxford seeks to justify his action in ordering the removal of a boulder-weir which has been constructed in order to supply Mrs. Bernard's factory with water-power. One would imagine, says Mr. Smith, that the course of the river had been seriously changed, and that there was some just cause of complaint on the owner's part that his vested interests in the fishing had been damaged. Had such been the case, no business man could make any protest against his claims and his actions. What, however, are the facts? is a question to which Mr. Smith replies—"There is room for 10,000 salmon to pass without ever coming near the boulder-weir. How, he continues, do fish pass up and down a weir where only legal or Parliamentary fish gates or steps are provided with only water enough to cover them? while at Foxford there is a "deep gorg" several yards wide, and many feet in depth, with hundreds of thousands of cubic feet of water passing per minute." It would seem as though the fish-damage argument will hardly prove sufficient to condemn the

factory weir. Other arguments are to the fore, but we must pass them over rapidly. They consist of an objection to the present weir because it is said to be likely in wet weather to swamp certain alluvial lands by raising the water-level; and, on the other hand, an alternative plan of cutting a channel through the rock above the weir is objected to as likely to reduce the water-level, and turn the same alluvial lands into deserts. The present article is not the place to enter into any argument on points such as these. They can be easily settled either by a judicial tribunal or by arbitration. We need only mention that, as a matter of fact, the Lady Superiress has offered to demolish the present weir, and in its place to use a rock-cut channel, giving guarantees against any damage to the lands which may ensue. Thus the matter stands at present, and on the solution of the difficulty depends the very existence of one of the most successful attempts to revive and establish industries in rural Ireland. The Foxford Factory has cost over £13,000 to erect and equip; it gives employment to many hundred persons; and it has already changed the whole economic aspect of the district. As Mr. Smith says:—"At my first visit to Foxford, I saw a large gang of men employed within twenty yards of the present mill. On asking the Lady Superior what they were doing, I was informed—'These poor men are a lot of those whom the kind charity of Mr. Balfour has employed in road-repairing.' Close by, Mrs. Bernard had some half-dozen men and boys employed attending her masons and carpenters, who had begun to build her schools and mill. At my last visit to Foxford, about the 17th of March last, there were 200 or more, all told, on the premises, learning in various ways how to begin life and become self-supporting." Here was a transformation scene. From poverty and charity to industry and honestly-earned livelihood. From dependence to independence. And is, we ask, this scene, so creditable to all concerned, to be blotted out off the face of poor Ireland? Are the people of Foxford to be driven back to road-mending and out-door relief? Must the busy hum of machinery, the click-clack of the shuttle, and the whirr of the turbine wheel, which sets all in motion, cease? Must the factory become a ruin, and the looms rot in the empty buildings? Must the £13,000 sunk and invested—not only advantageously as regards a mere commercial return in interest calculated by £ s. d., but invested to the full and wide advantage of a starving people supplied with food, and idle, perhaps mischievous hands be no longer supplied with honest work—be lost? It surely is not asking those concerned in this threatened calamity too much to ask them to reconsider their position. Against every claim of damage caused by the working of the factory, an answer, seemingly complete, has been filed. If damage is caused, or has been caused, the amount can easily be ascertained, and some means can surely be found by which the mill-wheel may still go round, and no one be a penny the worse, while hundreds of needy ones be pounds the better. Rights are rights, and we should be the last to in any way palliate, whatever might be the object, the infringement of any one's interests. But there are just and equitable laws, passed by the Government under which we live, which protect and define the rights of ownership. There are special laws, enacted for the very purpose of settling disputes between mill-owners who would wish to utilise the water-power of our rivers, and riparian owners who might object. A difference of opinion such as that which now threatens the usefulness of the Foxford experiment in industry has occurred before, and has not been found of insuperable difficulty. We trust that wise counsels will prevail, and that no personal or private considerations may be allowed to hinder or delay the prompt settlement of a matter, apparently simple of solution, upon which depends the continued prosperity of the industrial colony Mrs. Bernard has succeeded in gathering round her woollen mill at Foxford.

RECIPES.

DYEING RECIPE FOR LIGHT BLUE—Linen piece 72 yards, 30 inches wide.—Boil for one hour with 2 lbs. 3 ozs. soda ash, rinse, give a light-blue in cold vat, sour with $3\frac{1}{2}$ lbs. sulphuric acid, and rinse. For the finishing, prepare a mixture of 108 pints with 2 lbs. 3 ozs. wheat starch, and the clear solution of $\frac{3}{4}$ oz. of Gentiana violet B. and $8\frac{3}{4}$ oz. alum; pass through this mixture at 120 degs. F., and calender. If the blue is not required so fast, give a paler shade in the vat, and use the following finish: boil out 11 lbs. St. Domingo logwood in water, and dissolve in the decoction when clear $17\frac{1}{2}$ ozs. alum, boil up in the liquor $3\frac{1}{2}$ lbs. starch, allow it to cool, and then stir in $17\frac{1}{2}$ ozs. sulphate of zinc and $\frac{3}{4}$ ozs. tin crystals, with this make 105 pints, work the goods in it for half-an-hour, then dry and calender. The goods must pass evenly through the mixture,

Practical Instructions in Linen Weaving.

VI.

(SPECIALLY WRITTEN FOR THIS JOURNAL, AND ALL RIGHTS RESERVED.)

The Loom Machinery.



THE rapid increase of fancy cloth production has caused a great amount of improvement in loom machinery. The demand for intricate patterns grows year by year; more complete arrangements are required in the looms to meet these demands; and the dobbie, next to the jacquard machine, is generally adopted where variety is necessary. Originality is fast taking the place of mere copying, and our designs are now worthy of notice either for the home or export markets; and with good shedding motions very beautiful weave combinations are obtainable.

There are a great number of shedding motions. In some, the portion of warp yarns not required to form the shed is at rest; whilst in others, all the yarn is in constant motion; and a great amount of argument is used as to which system is the best. We may say from our experience that the system of shedding is not very well adapted for fine cloths, where the shed is closed before the lay gets to the cloth, and the weft is scraped some inches along the closed-in warp yarns before it is driven up; this entails a considerable amount of friction, and weakens the warp threads needlessly: the idea is that the supposed treading on the shot gives a smooth face to the cloth. The hand-loom weavers' practice of treading on the shot is turning the shed when the lay strikes the cloth. There is a great amount of difference between the two systems of power and hand-loom practice in spreading the warp threads so as to obtain a smooth surface; the turning of the shed at the beat of the reed is the best form of shedding for plain fabrics, and especially so when the *healds* are much *worn*. The proper configuration of a tappet is a point of great importance; in those for plain weaves it should be of such a form that, when properly fixed upon the shaft, each revolution should form a perfect shed; when descending, the treadle ought to be balanced by the ascending one, with a slight pressure, so that when the descending one has gone as far as is necessary, the pressure on the ascending one ought to be ready to reverse the motion, and never go to the extremity of the lift. This would give an easy, soft turning-point; all undue strain on the warp threads would be avoided; the shed opened without a sharp jerk, and in proper time; and the greatest amount of elevation and depression of the healds secured at once; contact with the bowl of the treadle is required throughout the entire revolution of the tappet: this method of treading would be a great saving in the wear and tear of healds, etc. The main point in this class of weaving is the proper length of a *pause* for the different tappets, moving at various speeds and producing varied effects. The diameter of the friction roller must be taken into consideration, and it is found as follows:—Multiply the number of treads required to complete a pattern—commonly called the round—by 4; suppose 6 treads $\times 4 = 24$, this gives the number of parts which the circle must be divided into; four of these parts will represent one revolution of the crank, and the half of it will be sufficient for the long pause to keep the healds down for one pick; but if found necessary to keep the shed down during two picks, then four more parts would have to be added. For a short pause only one part is required for the first pick; but four must be added for the second, and so on; four parts always representing one revolution of the crank.

The Movement of the Lay.

In making linen or mixed goods, the motion of the lay has a great influence in making good cloth or the reverse. Let us consider how this may be. The faster the swords and lay are moving when the reed is moving to the cloth, then the force of the stroke given by the protector when the loom bangs off will be proportionally greater. The real amount of eccentricity of the lay is *always* in direct ratio to the connecting rods (which couple the crank and lay together), and the diameter of the circle described by the crank. Suppose this to be six inches, then the centre of the crank should be three inches below the centre of the connecting-pin in the sword of the lay. It will be obvious that the shorter this connecting rod, the greater the sweep of the crank with more eccentricity. But there is a limit beyond which the motion of the lay will become angular; a decided tendency to pause will occur just as the crank passes the back centre, therefore more power is required in another part of the loom to carry it over this dead resistance. This is of some importance, because the less force we can use in working any loom the better.

The Throw of the Crank.

This, with the length of the stroke given to lay as well as all other movements, ought to be as small as possible; needless friction of the warp threads occur if it is too long, because they pass through each other more frequently than if the traverse was shorter. Then the question arises, what ought to be the length of the lay's stroke? Practical experience of all classes of weaving machinery proves that it ought to be in accordance with the size of shuttle used (it is good practice in weaving to use the smallest size of shuttle possible). When the reed touches the cloth, if the rocking shaft of the lay is properly centred, the reed will drive in the weft at right angles with a firm blow, and with less vibration throughout

The Stroke of the Lay.

The leverage given by the point of connection of the crank arm with the cloth or otherwise has an effect on the stroke of the lay. To get this stroke of the lay correctly, the rocking shaft and swords must be in a perpendicular position; then from the centre of the rocking shaft (a shaft connecting the lay swords) to the centre of connecting pin is one factor; from the centre of the rocking shaft to point of contact with the cloth is another factor; and diameter of the circle described by the sweep of the crank is the third factor; and from these the rule is obtained. As the distance from the centre of rocking shaft to centre of connecting-pin is to the distance from centre of rocking shaft to point of contact with cloth, so is the diameter of crank circle to the stroke of the lay. The best length of stroke for a lay in a medium width of reed space may be taken at three times the width of the shuttle; the medium width we may take as six quarters, if broader, a little more, and narrower, a trifle less; the leverage of the lay swords caused by their point of connection to the crank being below the level of the shuttle-board must be taken into account, and this amount of leverage will be to the distance from the centre of connecting-pin to the line of the shuttle board as the distance from centre of connecting-pin to the centre of rocking shaft is to twice the throw of the crank. It may be noticed, when the lay is thrown back with the crank on the back centre, the bevel of the shuttle-board will be found in a well-constructed loom to suit the reed; but the reed and back of the box are perpendicular to the plane. If the front of the box is thrown in a little at the head, the shuttle gains a solid, steady movement, and is in a great measure prevented from rising off the board. Now, when the rocking shaft is placed in the centre of motion—and it is the common practice—the forward and backward motion of the lay will, and does, cause too much vibration in the lay swords, and this is transmitted from the lay and crank back to the shaft, causing more lubrication than is at all necessary.

The Protector

requires just sufficient spring to keep it in position, so that the shuttle can be taken out of the box without being bound up. The shuttle ought to enter the box with ease, and not, as is usually the case, with a bang. This sort of a delivery soon wears out a shuttle and causes the web to be cut; further, the shuttle has a tendency to fly out, particularly if it is in any way worn on the back. The binders should have more care bestowed upon them than is usually the case; in my practice I always considered this point as one of importance—keeping them clean and well oiled, where the protector finger is in contact as well as the binder pin, will be found well worth the trouble; these apparently small trifles, for which no rules can be given, go a long way towards facilitating production, if properly understood, and proves the distinction between a good and indifferent loom overlooker. A loom may, for teaching purposes, be dislocated, and the students shown how each part is put together, and its use thoroughly demonstrated—no doubt useful information; but there is the life, the concentration of the forces working in harmony for one single object, that is, the whole united to drive the pick into the cloth—this is information that can only be gained by constant practice and study combined. I may remark that it is good policy to have everything secure; allow no working loose of bolts, springs, or screws, and if these will continue to work loose they ought not to be tolerated, but good articles obtained in their place. The loom is a combination of independent and intermittent actions, and it is in their proper relations to each other that the successful working of the machine depends. It is constructed on fixed mechanical principles. It may be the case that looms can be made to run after a go-as-you-please style; but they are always at the mercy of speed variations. The later the pick, and less time for the stop-rod to be in position, a slackening of the speed and the slower the shuttle, so that the chance of the protector (sometimes called stop-rod) acting is almost nil. Again, the pick has to be made stronger to force the shuttle across. Smooth and safe running is out of question. Looms will stand a good many blows of terrific force, but they are not designed to be continually banging off whenever the speed of the engine become through some cause slowed down; and this must take place with a late pick, or the loom being allowed to get into such a condition. Shortening the time of the shuttle, and adding time to make it up, is a poor wretched way to run a loom; time the shuttle from one point as a standard, say with the crank at the top centre, and every other motion timed in unison, and if a loom cannot be made to run successfully by this true arrangement, send for the maker and ask the reason why. There are no doubt causes which seriously affect the proper running of the looms quite outside their mechanism. If they are not truly set in line with the shafting from which they receive their motion, they will stop and start very hard—more than the necessary strength being required to start or stop them; and the same if not level. Uneven speed causes imperfect cloth and also waste, more so on light, fine fabrics. The work which does not seem to go well can be materially altered by a little care and attention to the shafts of healds and their timing; web may be made to run out better by removing every obstacle that has a tendency to break it. A deal of trouble, loss of time, and waste takes place for want of a little attention. The amount of power wasted is enormous, and could easily be prevented; for instance, it is not uncommon to find a shuttle driven with a force sufficient to send it as many yards as there are inches of reed space; increased speed in a loom ought not to mean increased force, but an increase of picks per minute. What is wanted in a loom, whoever may construct it, is a distinct, specified, never-varying

motion, regulated by the speed to overcome a gross waste of energy. Much of the prosperity of a weaving establishment depends upon the machinery employed, and a very anxious task devolves now-a-days upon employers to obtain efficiency combined with economy.



The Irish Woollen Trade.

Present Condition of Business.

A VERY marked improvement in the condition of business in the local wholesale warehouses has undoubtedly taken place since date of last issue of this Journal, so far as sales of Irish woollens are concerned. At the moment of writing, a very fair business is passing in repeats of tweeds of various kinds for present season's trade, though these are not yet sufficient to induce the warehousemen to place repeats in corresponding measure with the manufacturers. In point of fact, it may be taken as the general opinion of makers and warehousemen alike, that so far as sales for the present spring and summer are concerned, the business of the Irish woollen manufacturers is practically over. It must not be forgotten, however, that repeats were placed by the warehousemen from six weeks to two months ago on a scale far above the average in quantity, considerably exceeding even the repeat trade of the same period of last year; so that, notwithstanding the dulness that marked the trade during the whole of April and the greater part of March, the turnover of the entire season must be fairly satisfactory. The warehousemen have, however, still on hand a considerable part of the second season-buying referred to, and there is little doubt but that they will content themselves with running off stocks of summer goods, so far as may be, during the remainder of the season.

Prospect of Trade.

The trade for the coming winter, which is that with which the leading wholesale houses principally concern themselves just now, is progressing more favourably than was hoped for a few weeks since. The buyers have confirmed their orders to the manufacturers, and if these are not quite so large in point of quantity as could be desired, the range of selections has been a wide one, and quite extensive enough to secure to the Irish makers a substantial share of whatever business may be done during the season; and this is a very great deal to have secured. There will be in the hands of the woollen travellers a larger proportion than ever of Irish samples; and should the trade prove to be better than has been feared in some quarters, the Irish manufacturers will receive their full share of it. And the mode of doing business which has been generally adopted this year, viz., making a liberal selection of qualities and designs, and placing for these only moderate opening orders, would, in the opinion of many, be the very best that the trade could follow in all and every season, unless something very exceptional in the condition of the wool market presented a good and sufficient reason for departing from it. Some of the manufacturers, however, do not, for obvious reasons, at all like the system recommended. The leading makers approve of it thoroughly; indeed, to disapprove of it would argue want of confidence in their own productions, and in the value they were offering.

A few of the leading retail houses on this side, and many across the channel, have already begun to make their selections for the coming autumn and winter; to these, 6/4 tweeds for suitings, Saxonomies of the medium and better qualities, and overcoatings have been sold in considerable quantities for delivery later on. I have just heard, on good authority, that the representative of one of the oldest houses doing a cross-channel trade with the better class merchant tailors and high-class retail houses—what is known in England as the "West End" wholesale trade—has this season done a larger business, both in England and Scotland, than in the corresponding period of any previous year. His orders have not only been more extensive, but are of so general a nature as to indicate that Irish woollens are taking an undoubted hold on the market. And this is corroborated by what I hear from other houses doing an English and Scotch trade, though not of so select a kind.

On this side I have been shown some fairly extensive ranges of selections already ordered. The Irish Tweed House, Royal Avenue, shows a very choice and wide assortment of Irish woollens ordered for the coming autumn trade, embracing selections from the productions of all the best makers. I observe some very handsome coatings and suitings, the manufacture of the Caledon Woollen Mills Co., the Belfast Wool Spinning and Tweed Co., F. & J. Clayton & Co., Dinsmore, of Old Green, Ballymena, Mahonys, Hills, and some others, chiefly Southern Irish manufacturers.

Changes in the Course of Trade.

Although the prospect is so far cheering enough, there are several important changes in the course of demand that, for the time being at least, make against the Irish woollen trade, and are worthy of careful consideration by all Irish manufacturers. One of the chief of these is the very evident disfavour into which worsted tweeds have fallen of late.

The Belfast Linen Trade Report.

A STEADY tone characterised the market up to the middle of last week, but towards the close buying became animated, in consequence of the reports from the Continent regarding the flax crop.

FLAX.

The market last week, which had been gradually hardening in price, became quite excited as successive reports of a more and more unfavourable character came to hand respecting the growing flax, which is most seriously damaged from the long-continued drought. The Irish crop, for so far, is reported to be looking remarkably well, but, up to Friday last, was in need of rain. We subjoin a few reports received from our correspondents last week:—

ANNSBOROUGH.—Flax crop in this district continues to look very promising, but would benefit by a little rain. **AUGHNACLOY.**—It is a considerable length of time since the braids in this locality presented such a strong and healthy appearance. **BALLIBOROUGH.**—Braids looking remarkably well here, and every prospect of a good crop. **BALLYMONEY.**—Flax all around this locality looks very hopeful, but rain will soon be needed, as the ground is getting greatly dried up. **BALLIBAY.**—Braids are the healthiest we have had for some time, and, for so far, look promising. **BALLYMENA.**—Healthy appearance generally, but some spots seem to be injured from want of rain. **BALLYNO.**—Crop in this district continues to look healthy and hopeful. **COLERAINE.**—Braids have a most promising appearance; the weather hitherto has been most favourable. **COMBER.**—Crop looks well here, but will soon require rain. **DUNANNON.**—Braids look healthy, and promise a good crop. **LISNASKEA.**—Flax around this district is looking remarkably well. **LIMAVADY.**—Braids present a very healthy appearance. **MARKETHILL.**—Crop continues to look hopeful. **MONAGHAN.**—Flax in this locality has braided splendidly; every appearance of a good crop; a little rain would do much good. **NEWTOWNSARDS.**—Sowing not quite over on 10th inst., but what has braided looks well; weather for so far has been favourable. **SPRINGMOUNT.**—Flax crop presents a very healthy appearance.

The following is a report from a local firm of flax-seed merchants:—

The season has wound up satisfactorily for the importers, practically all the seed brought forward having been cleared out at good prices. The imports of Riga to Belfast and Derry are 11,748 bags, compared with 14,825 bags last year, the falling off being principally in the quantity taken by Derry. Of Dutch, the imports *via* Belfast were equal to 11,146 hogsheads, against 11,748 in the previous season. In addition to these figures there was a small quantity of Riga seed into Newry *via* Leith and Glasgow, and considerable quantities of Dutch to Dundalk, Coleraine, and Derry *via* England and Scotland. The inference drawn from the sales of seed is that the sowing is slightly less than last year's, but it may turn out that the difference is insignificant, as in the spring of '92 considerable quantities of seed (difficult to estimate) were left over, but this spring scarcely any.

YARNS.

A steady demand was maintained for yarns up to the early part of last week, but since then much excitement took possession of the market, as alarming reports came to hand respecting the Continental flax crop, in consequence of which prices were smartly advanced. On Friday last, spinners practically withdrew their lists, and refused to enter into any fresh contracts at present. The quotations given must therefore be regarded as only nominal.

BROWN POWER AND HAND-LOOM LINENS.
For light power-loom bleaching cloth, demand, which had been limited of late, became brisk last week, green goods having most attention, higher prices being secured. Medium and heavy makes continue to move off as produced, and prices are very firm. Ballymena cloth has been stationary for the past few weeks without change in value. The same may be reported of Co. Down linens in the several grades; the output has been small and easily disposed of at firm rates. Roughs and several makes of tow goods have been in good request, the hardening tendency of yarns stimulating business. Union goods have continued in favour, and contract orders were easily secured at late rates. A slight improvement has appeared in the handkerchief trade, linen makes being in better request, whilst cambric cloth has been largely bought of late for hemstitching, at higher rates. Damasks rather quiet at present, but fancy linens have been in good request, prices showing a hardening tendency. In fact, prices for all goods are stiffer, and the certainty of flax not only keeping at its present high level, but the prospect of its being much dearer, is obliging manufacturers to hold for better prices.

BLEACHED AND FINISHED LINENS.

Home Trade.—It cannot be said that this branch of trade is at all as satisfactory as could be desired; in fact, as compared with previous months, it is believed there is less doing all round. A check in the shipping trade with some markets contributes to the want of animation across channel, and affects London and Manchester centres.

Continental.—Continued quietness is the feature of this trade, the prospect of dearer goods not stimulating business. Although France and Germany, according to the returns of last month, were larger buyers, Italy and Spain were much smaller consumers. The volume of business with these countries for the four months of this year shows a falling off of over 22 per cent.

United States.—The largely increased shipments recorded in previous month were not maintained in April; the Board of Trade returns, in fact, show a decline of 6½ per cent. However, the total for the four months of this year is very satisfactory, being equivalent to nearly 15 per cent. over same period last year. Advices speak of trade at the other side as quiet of late.

Other Markets.—The Foreign West Indian trade was not so large last month, but the season's business was considerably over last spring. The British East Indies, United States of Columbia, Brazil, and the Argentine Republic, all figure as larger buyers this season. Smaller countries have also been consuming more, but business with British North America and Australia has fallen off, the latter considerably, owing to the numerous Bank suspensions in Melbourne of late.

For the four months ending April 30th, the total quantity of linen piece goods exported from the United Kingdom shows an increase of 8·3 per cent. and values 5·8 per cent. over corresponding period last year.

Prices Current for ordinary Line and Tow Wefts. May 12th, 1893.

LEA NOS.	14	16	18	20	22	25	28	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	150	160	
Line Wefts	—	—	—	8/-	7/3	6/6	6/-	5/6	5/3	5/-	4/10½	4/6	4/3	4/3	4/3	4/3	4/3	4/3	4/3	4/3	4/3	4/3	4/3	4/4½	4/7½	4/9	5/-	5/3
Tow Wefts	6/-	5/7½	5/6	5/4½	5/3	5/1½	5/-	4/9	4/7½	4/4½	4/3	4/1½	These prices are per bundle of 60,000 yards of grey Yarn, subject to the usual discount for cash.															
																						120 threads 2½ yds.—1 lea						
																						12 leas=1 hank						
																						16 hanks 8 cuts=1 bundle						

These have hitherto been made in substantial quantities by the leading Irish makers, and in 6/4 goods for suitings and narrow widths for trouserings have met with a ready sale for a good many seasons past. Worsteds tweeds have not only formed a far from unimportant part of the Irish production, but they have been amongst the most remunerative of the woollen goods made in Ireland. As I have said, these are going out completely, and it is to be feared that they are doing so not so much from any purposeless freak of fashion as from a well-grounded prejudice that the public have taken against them; in which case their withdrawal from the manufacture will be, if not permanent, at least for a considerable length of time. Owing possibly to the hard twisted yarns from which they are made, they not only quickly glaze, but cut speedily, and tailors now find it almost impossible to dispose of them. The unfortunate part of it all is that their place is not being taken by any other goods of Irish manufacture, but chiefly by vicunas and cloths something like smooth-faced meltons, none of which, so far as I have seen, are made in Ireland.

On the other hand, there are certainly some elements of strong encouragement in the future prospect. Some of the overcoatings which have been offered by the Irish manufacturers this season have been purchased pretty freely, and are highly spoken of in the trade. I have been shown some soft-finished cloths, having the appearance of a rather rough-

coatings hitherto produced in this country. They are produced in black and indigo, and in several shades of brown and grey.

It is too early yet to say much as to the Donegal tweed end of the trade. Very much depends upon the weather as to how Donegal goods sell, but unquestionably no such variety has ever before been offered as is this season shown by Cormick Cannon, the Convoy Woollen Co. (Limited), and others. The improvement in texture, finish, and colouring is most marked; in addition to the usual plain and twilled makes, quite a variety of designs in stripes and checks of various sizes is being exhibited.

The Dress Tweed Trade.

The change of fashion in the make of ladies' costumes is seriously affecting the Irish dress tweed trade. The full bell-shaped skirts that are now so fashionable do not permit of the making up, so as to show to advantage, of goods so heavy in handle as Irish tweeds; and for ordinary walking and outdoor costumes, tweeds may be said to have gone out completely. There is still, however, a very considerable demand for ladies' suits, with straight, narrow skirts, for golf, tennis, and seaside wear, and for tourist and sporting suits, &c., and for these tweeds are almost solely bought. A large quantity of tweeds are also being sold for skirts, to be worn as tennis costumes in combination with printed French cambric blouses. Narrow tweeds have been more affected than the wider widths,

Exports of Linen Yarns and Linens from the United Kingdom for the Month ended 30th April, 1893; and in the Four Months ended 30th April, 1893, compared with the corresponding periods of the Years 1891 and 1892.

COUNTRIES.	MONTH ENDED 30TH APRIL.						FOUR MONTHS ENDED 30TH APRIL.					
	Quantities.			Declared Value.			Quantities.			Declared Value.		
	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893
LINEN YARN.	Lbs.	Lbs.	Lbs.	£	£	£	Lbs.	Lbs.	Lbs.	£	£	£
To Germany,	323,700	296,300	688,400	25,325	24,600	50,322	1,116,900	945,800	1,690,600	90,567	79,485	126,250
Holland,	200,800	152,400	155,500	6,669	5,050	6,177	742,100	683,100	878,400	25,452	24,092	30,341
Belgium,	116,600	104,200	193,800	9,088	7,820	14,161	545,500	430,700	770,200	44,369	34,666	53,489
France,	118,800	88,800	98,700	12,918	10,824	11,671	430,500	510,200	443,100	47,326	57,182	49,503
Spain and Canaries, ...	317,900	326,300	246,400	11,806	12,168	12,001	1,365,700	1,326,200	1,065,400	48,052	49,197	47,920
Italy,	37,900	27,900	26,700	1,754	1,116	1,152	146,700	146,300	116,200	6,955	6,555	5,431
United States,	40,300	38,100	15,300	1,782	1,536	450	132,700	110,400	166,300	5,547	4,300	5,625
Other Countries,	167,400	192,600	191,700	7,073	7,360	7,266	532,500	668,100	906,400	24,710	28,684	38,955
Total,	1,323,400	1,226,600	1,616,500	76,415	70,474	103,200	5,012,600	4,820,800	6,036,600	292,978	284,161	357,514
LINEN MANUFACTURES.	Yards.	Yards.	Yards.	£	£	£	Yards.	Yards.	Yards.	£	£	£
To Germany,	341,300	335,800	363,800	17,179	16,256	17,484	1,255,700	1,237,200	1,304,900	61,500	59,856	64,105
France,	172,300	35,000	122,100	7,473	1,556	5,791	626,700	832,200	445,600	27,481	36,909	19,911
Spain and Canaries, ...	143,200	119,000	57,200	4,907	4,861	2,066	523,000	429,700	172,700	19,149	17,036	5,668
Italy,	134,800	110,200	56,100	5,816	4,531	2,355	354,000	353,100	255,000	14,661	14,343	10,041
United States,	4,556,200	7,404,200	6,920,000	97,701	155,795	153,098	30,115,400	33,588,000	38,567,300	634,824	696,478	805,333
Foreign West Indies, ..	1,303,200	1,726,200	1,603,600	26,890	35,414	31,655	5,284,500	6,068,400	6,636,400	107,251	116,635	129,361
Mexico,	160,000	127,400	114,300	4,333	3,044	3,036	629,300	483,800	346,500	15,785	11,956	9,111
United States of } Colombia,	143,500	307,800	356,300	2,626	5,009	5,483	1,083,800	1,230,700	1,279,900	18,267	20,721	20,861
Brazil,	288,500	177,000	272,600	9,099	4,907	7,166	1,261,400	694,400	958,300	43,201	20,193	27,831
Argentine Republic, ...	38,800	43,700	53,200	846	1,109	1,926	143,600	111,600	286,500	4,131	3,825	10,381
Philippine Islands, ...	36,400	61,600	13,200	794	1,193	414	544,000	156,400	172,600	9,905	3,071	3,701
British North America	436,300	486,900	402,800	9,697	10,415	7,650	3,209,500	3,156,400	2,819,200	63,274	59,995	50,760
British West India } Islands & Guiana	158,300	136,000	138,000	3,091	2,537	2,885	683,700	563,500	514,300	13,233	12,008	10,061
Do. East Indies,	248,800	196,000	381,200	7,370	6,272	9,971	979,600	1,124,500	1,262,300	29,331	30,757	33,566
Australasia,	763,800	481,000	391,700	21,015	13,386	11,049	3,538,900	3,602,200	2,787,600	104,483	98,019	75,681
Other Countries,	1,549,300	1,446,400	1,495,200	35,530	33,037	34,003	5,669,100	5,031,800	5,751,700	129,308	116,095	119,181
Total Plain, Un-bleached, or Bleached	9,301,300	12,142,400	11,407,500	218,344	269,714	261,737	50,314,000	54,007,400	57,409,000	1,129,824	1,178,365	1,243,221
Total Checked, Printed, or Dyed, and Damasks or Diapers,	840,100	791,900	1,100,300	20,887	17,332	22,926	4,497,400	3,623,600	5,233,300	116,271	91,670	113,536
Sail Cloth and Sails, ...	333,300	259,900	233,500	15,176	12,276	10,869	1,090,800	1,032,900	868,500	49,689	47,862	38,811
Total of Piece Goods, ..	10,474,700	13,194,200	12,741,300	254,407	299,322	295,532	55,902,200	58,663,900	63,560,800	1,295,784	1,317,897	1,395,577
Thread for Sewing, ...	Lbs.	Lbs.	Lbs.	£	£	£	Lbs.	Lbs.	Lbs.	£	£	£
	218,300	200,500	196,300	27,101	25,454	26,136	814,300	828,400	805,300	101,292	101,803	99,807
Other Articles, .....	.....	.....	.....	69,186	61,762	61,582	.....	.....	.....	329,705	302,659	317,970
Total Value of Linen Manufactures, .....	.....	.....	.....	350,694	386,538	383,250	.....	.....	.....	1,726,781	1,722,359	1,813,354

Importations of Flax—Dressed, Undressed, and Tow or Codilla of:

COUNTRIES.	MONTH ENDED 30TH APRIL.						FOUR MONTHS ENDED 30TH APRIL.					
	Quantities.			Value of Imports.			Quantities.			Value of Imports.		
	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893
	Cwts.	Cwts.	Cwts.	£	£	£	Cwts.	Cwts.	Cwts.	£	£	£
From Russia,	5,177	8,155	3,620	131,994	200,102	105,460	14,963	24,689	6,140	396,554	622,231	173,836
„ Germany,	371	334	696	9,277	6,984	17,477	1,229	1,540	1,568	34,304	31,867	39,970
„ Holland,	621	480	462	32,363	22,687	23,289	1,677	2,549	2,789	86,313	120,365	124,008
„ Belgium,	1,840	1,428	1,094	108,914	80,515	54,205	6,256	6,801	7,008	348,496	353,804	352,745
„ Other Countries, ...	901	131	80	21,228	2,885	2,139	2,087	736	350	49,010	17,390	9,961
Total,	8,910	10,528	5,952	303,776	313,173	202,570	26,203	36,315	17,855	914,677	1,151,657	700,520

wraps for ladies. Indeed, this end of the trade is said to be likely to increase considerably this season. Narrow tweeds of Donegal and Mayo make are still being purchased in moderate quantities, chiefly in checks of various sizes; and there is little doubt but that they will again be largely worn, should the width of the skirt show any diminution, or even if it do not increase.

The Making-up Trades.

The Apron and Pinafore Factories.

NOT for a considerable time past has it been possible to report so general and satisfactorily busy a condition of trade in the apron and pinafore factories as prevails at present. Orders have been placed by the English and Scotch warehousemen on a liberal scale; and the wider range of goods—outside of pinafores—now produced in the factories, by withdrawing a number of machines from the ordinary production, serves to accentuate the prevailing briskness. Holland goods, both in all-linen and union, but chiefly in union, are selling freely; checked dowlas aprons are in very constant and apparently growing demand. In the fancy end of the trade, prints are in but moderate demand, the principal sale being for fancy cotton costume goods.

A branch of trade that is now being pushed with some success by most of the pinafore factories is that of juvenile clothing. Sailor suits, in striped and white drills, are being made up in large quantities for the English markets; and a fair business is being done in print "overalls" for children. The apron factories, like the other makers-up, are also busy on ladies' blouses.

The Shirt and Collar Trade.

The leading shirt factories are well employed on repeat orders for coloured cotton, printed, and white shirts, though the majority of them are now beginning to devote their attention chiefly to wool goods for the coming autumn. They have, last month, completed their arrangements for the supply of material, and have their sample shirts, &c., made up; but, though some of the earlier buyers have been placing orders for delivery later on, the weight of the trade can hardly be said to have yet begun. Present sales, for the most part, consist of French and Manchester print shirts—for the former there seems to be a steadily increasing demand—and of grandrills and the lighter makes of Harvards. Flannel-ette shirts seem, for the present, to have almost gone out of demand. In the collar factories there is not so much activity as could be desired. The weight of the demand is for very low-priced collars, and there is not even so much business being done in the better qualities as was being done at this period last season. There is a large and regular demand for low-priced prints, but this trade is said to be far from remunerative. An increasing trade is being done by all the making-up factories in ladies' blouses, which are being produced in greater quantity and variety than ever. For goods of an altogether superior quality, suitable for the costumiers' trade and outfitting houses, there is a brisk and growing demand. For these, fancy muslins and fine French cambrics are chiefly wanted.

A branch of the making-up trade that has not yet secured the footing in this country that it ought, is that of made-up pillow and bolster cases. These, in both linen and cotton, with goffered or cheap embroidered frillings, are being sold in enormous quantities by the cross-channel houses. They have to a limited extent been made here, but only "on hire" for the English houses.

The Irish Cotton Trade.

Cotton Yarns.

THE business transacted during the past month has been to a great extent of a very dragging description. The opinion that had been held regarding the probability of the maintenance of the advanced prices to which yarns had attained has been falsified by the development of time, as a shrinkage of about $\frac{1}{2}$ d. per lb. has taken place since our last issue. As mentioned in a previous report, it was anticipated that the thousands of looms that were waiting to be started as soon as the strike had terminated would absorb the increased production of yarns, and prevent any material decline in the price of raw cotton; but owing to some unforeseen cause the very opposite has happened, and the present rates of both cotton and cotton yarns stand lower than they did four weeks ago. Reports say that vast quantities of cotton still exist in America. The price there has been, and is, somewhat below the Liverpool level, so that cotton is coming in in greater volume than it did at about this time last year. Besides, it appears that the acreage there has increased, and that the planting season has been good. The Ulster manufacturers, believing that prices of yarns will still further decline, have been limiting their purchases to the bare requirements of the moment, so that only a hand-to-mouth business has been done, and a total absence of speculation and of life characterises the market. Besides, the demand for union goods has been recently rather unsatisfactory, or at least not quite up to the expectations entertained, and manufacturers therefore find no inducement to exceed what is absolutely required to keep their machinery in movement. There has been less doing in coarse goods of the cream description for cutting up, the bank failures in Australia, and the depression of the home trade, having adversely affected the manufacturing department. The same remarks apply equally to other makes of goods usually exported. If the American market had

further developed, there would be undoubtedly more animation pervading the trade; but this is not likely to have effect before the lapse of a few months.

Cotton Cloth.

The imports of cambrics have not been of any great moment during the past four or five weeks, as the demand for printed and embroidered handkerchiefs has been only of a medium description. The American market has been the only one exhibiting any signs of life, and even there a moderately good business only is being done. Other markets, both home and foreign, continue in a rather languishing condition, which results in a less demand for cotton cambric cloth. Interlinings, although not brisk, have been moving off in fair quantities. Rates all round have been somewhat easier, yet buyers continue to hesitate, expecting a still further decline in price.

Monthly Reports.

(From our own Correspondents.)

Whilst we endeavour to obtain the most reliable reports from the best sources of information, it will be understood that we do not hold ourselves responsible for the views of our correspondents.

Irish.

DUBLIN.—The tone of the linen market continues satisfactory, though perhaps a slight diminution in the number of orders betokens an abatement of activity. No apprehension has, however, been betrayed, and prices have not been affected, still remaining firm. In woollens a healthy feeling of confidence has been maintained in all the branches of the industry. This has naturally reacted upon the markets for the raw material, and though supplies locally are, up to the present, too light to allow of any strictly accurate arrangement of values, yet the tendency is towards a hardening of prices. It is just possible that before I close actual quotations will be to hand, and if so, I shall append them; meanwhile the outlook for Irish growers is encouraging. Messrs. Ganly & Son have made arrangements for an unusually large wool trade this year. Their auction sales bid fair to be more successful than ever, as they expect a further attendance of buyers from all the markets. Irish wools are growing in favour with manufacturers, both abroad and in America, and there is room for a considerable increase in the volume of supply without any fear of over-meeting the demand which is daily increasing; indeed, large quantities could be taken by our Irish mills without any assistance from English, Continental, or Transatlantic manufacturers. The latest wool report to hand is:—Very little of new clip yet offering, and few transactions have been concluded. Quotations, ewe or wether, 9d. to 9 $\frac{1}{2}$ d.; hoggets, 9 $\frac{1}{2}$ d. to 9 $\frac{3}{4}$ d. Yarns are firm at former prices, with a good demand. Silks and poplins unaltered, business showing no signs of either increasing or diminishing.

Miss Kerstemon Marchant.

The only attempt at any exhibit of textile fabrics at the Spring Show of the Royal Dublin Society was made by Miss Kerstemon Marchant, who had her usual stall at Ball's Bridge for the sale of embroidery and needlework on behalf of Irish gentlewomen who have been reduced to working for their living. For upwards of ten years Miss Marchant has carried on her philanthropic labours with ever-increasing vigour, and the articles she offered for sale at the Spring Show exhibited no diminution in artistic design or excellence of execution. There were some magnificent specimens of art-needlework and embroidery, besides a large supply of admirably made children's clothing and ladies' underwear, and I trust that Miss Marchant found a liberal patronage amongst the thousands of visitors during the time the show was open. As already said, there were no other samples of textiles on view. Again, and by no means for the first time, the Royal Dublin Society received no response to their offer of medals and awards of merit for woollen wares. None of our manufacturers consented to compete, and really it seems a waste of energy for the Society to go on offering these prizes. For many years one single firm of Irish manufacturers sent on samples of their textures for competition, but of late even this meagre response has ceased, and opposite the prizes listed in the catalogue can be read the laconic words—"No entries." I have before now expressed my opinion upon this matter in these columns. I still adhere to what I have said, and regret that from one cause or another manufacturers do not see their way to compete yearly for the Society's prizes. I cannot in the least see how doing so could in any way injure them; and I do hold that such exhibition of wares in competition with each other would benefit trade and stimulate manufacture. However, it is evidently no use talking, and, under the circumstances, the Royal Dublin Society had better rearrange their catalogue of prizes by eliminating those offered for woollen manufactures, and substituting in their place prizes for some article or industry which is likely to attract competitors. I may add that just as there were no Irish woollen goods on view, so, too, there was not a single example of Irish silks or poplins to be found amongst the multitudinous articles exhibited and on sale at Ball's Bridge during the Spring Show.

The Training of Women.

The Royal Irish Association for promoting the training and employment of women which has done such excellent work in the past, has

arranged for the inauguration of classes in cookery and laundry work. It is intended to open these classes some time this month if possible. The classes will be divided into two sections—A, For those who wish only to learn or improve themselves in these subjects: in this class the fees will be moderate, so as to suit those who will be likely to join the classes, which will be found to be of considerable benefit to women about to become cooks or laundresses. Section B will consist of classes held for the purpose of training those who wish to become teachers in either or both of these subjects, and for them a special course of instruction will be laid down, similar in every respect to that carried on in the principal technical schools in England; after examination, diplomas will be granted to successful candidates, enabling them to hold appointments as teachers in these subjects. There is a great scarcity of competent teachers in both cookery and laundry work in this country at the present moment, and it is to be hoped that the opportunity now held out by this Association will be largely utilised by those for whom it is intended. All particulars can be obtained from Miss Croker, Secretary to the Royal Irish Association for Promoting the Training and Employment of Women, 21, Kildare Street, Dublin.

School Industries.

Amongst the successful attempts made to revive Irish home industries is that which the Sisters of St. John of God have made in the Convent Schools, Kilkenny. Here, under the patronage of the Bishop of Ossory, Dr. Brownrigg, an industrial department has been opened, which is intended solely for the benefit of the girls of the neighbourhood, and all profits derived from the work are expended in their interests. In 1891, some seven hand-loom were obtained and set up; a competent instructor was obtained from Messrs. Ewart, of Belfast, and the girls set to work. Since then, other looms have been added, but still the supply is not equal to the demand, and it is in contemplation to further extend the industry. The patronage hitherto extended by the public to the products of the Schools has been such as to give promise that the industry may be fully and firmly established, though, of course, the initial cost has been large. The principal product to which attention is paid is linen specially made for church purposes, such as altar-cloths, albs, etc., and the Sisters of the Convent find that already there is a good demand for these. That the industry has been of considerable benefit to the district there can be no doubt, and the plucky enterprise shown deserves the success which I have no doubt will attend it.

LURGAN.—The linen cambric trade has been fairly satisfactory since my last report; orders have not been coming to hand as fast, but those booked two months ago are still causing full employment. Plain linen cambric for hemstitched handkerchiefs is largely in demand, and the supply limited. The output from hand-loom is very small, as is generally the case at this time of the year. Woven-bordered linen handkerchiefs are being inquired for, and are now low in stock; but prices are not remunerative. Power-loom manufacturers are very busy, and are now engaged at sheer linen cambric for embroidered goods. These used to be only produced in hand-loom, and, of course, still have to be in medium and fine setts. Cost in these has advanced considerably; the quantity of hand-loom engaged at them is small, and, in order to get the goods made, the weavers' wages have been largely increased. Embroidered tea-cloths, pillow-shams, quilts, sheets, sideboard covers, &c., also bird-eye diapers, are in good request. Machine hemstitchers very busy; steam-power yarn winders not well employed.

English.

BARNESLEY.—In the linen trade of this district business has varied in the different branches. There has been no improvement in the demand for damask table and such-like fabrics; in fact, there have recently been fewer inquiries and less business done. Carpet, stair, and other coverings have been a shade quieter. The production and sales of fancy, plain, and other drills of good qualities have increased, the exportation to tropical countries having been larger than for some time past. A rather quieter feeling has prevailed as regards sheetings, mattress, and such-like goods, and in shades and blinds also the business done has been less than during March. More inquiries and increased orders have come in for drabnets, bluettes, &c. There has been a steady business doing in the various kinds of damask bordered fringed towels; in the higher qualities especially, more orders have come to hand. Narrow goods generally have sold fairly well, the demand having been about equal to the production. Goods in which cotton webbing is used are in better demand, as, since the close of the Lancashire strike, cotton webbing has been more easily procurable. Trade is up to the average of last year, and manufacturers are hopeful of a fair business being done during the next few months.

LEEDS.—Business in this district has varied considerably; whilst some manufacturers are extremely busy, others are running short time, this depending in a great measure upon the class of goods they are engaged in producing. The brilliant weather of the past month has had a great effect upon business generally, and much stock has been sold, with a consequence that orders have come in rather freely, both for repeat and new fabrics. Serges especially have felt the full effect of it, and large orders are now on hand which will keep manufacturers very busy well into the summer, and the same may be said of worsteds in the various qualities, in fancy styles and good colourings; whilst cloths of the tweed, cheviot, and such-like characters have recently sold very freely, and seem

likely to have a good run should the genial weather continue. The plainer kinds of goods, unless in some special cloths, have not shown much improvement, the tendency having been mostly for fancy fabrics. In mantlings there is little new to note, there having been a rather dragging demand. Prices of most kinds of cloths keep moderately firm.

BRADFORD.—The spirited competition by both home and foreign buyers at the London sales has further strengthened the tone of the wool market of this district, and although the turnover by staplers towards the close of the month had fallen off a little, still, the trade done during the month has been much above the average, and stocks being at present light and users extremely busy, prices are very firm, with a higher tendency. Wools of a lustrous character have been in strong demand, and seem likely to continue so for some little time, consequently they are held for extreme prices. There has been a steady business doing in yarns, both for the home and export trades, and new orders have been fairly good, and, where quick delivery has been required, spinners have demanded full rates. Two-fold yarns have been in better demand. Other descriptions are about as last month, prices being firm. In the piece branches there is little change to note, but manufacturers find it rather difficult to procure prices proportionate to those they are paying for wool and yarns. The coating trade with United States keeps up well, and seems to be gradually enlarging. The home trade is rather quiet.

MANCHESTER.—The linen trade since our last report has been, on the whole, active, although sales are rendered more difficult by the necessity under which manufacturers feel placed of asking an advance on the rates they had previously been accepting. Occasionally, representatives of Lille and Belgian houses visit the North of England for the purpose of calling upon the agents selling foreign spins of yarns to British manufacturers. One of these gentlemen stated recently that Russian growths of flax are being bought very extensively, and that prices are advancing. Tows have become dearer all along the line, and under the circumstances spinners are compelled to keep up their quotations. Reports regarding the crops both from Belgium and France continue unfavourable, the drought having, according to the authority mentioned, had a very depressing effect. As far as linens are concerned, we believe that sales have not been maintained in the home trade, and that some branches of the shipping business show a falling off—a statement which is confirmed by the Board of Trade returns issued just when this is being written. Brazilian orders for jute bagging and linen drills have not been so satisfactory of late, and fears are entertained as to future prospects in the Cuban market, owing to the continued opposition manifested in various portions of the island to the Spanish rule. A revolutionary outbreak in the island, accompanied as it would be by trade paralysis, is what local shippers fear may be the ultimate result if the present agitation is persisted in. The staple trade of this district still remains in a depressed condition, and the fact is one which influences nearly every department of trade here.

Messrs. S. & J. Watts & Co., the well-known home trade merchants of Portland Street, Manchester, are, we understand, about to embark in the shipping trade, and with that object have taken over a large warehouse in Chorlton Street, where the various departments of the parent establishment will be duplicated. Although Messrs. Watts, whose business was established in 1798, occupy a strong position in the home trade, holding one of the largest stocks of general dry goods in the country, and having a connection with many of the best retail houses, the venture they have taken may pardonably be criticised as a bold one in view of the unremunerative character of the shipping trade for some time past. As the departments are to be duplicated, linens and jute goods will presumably be stocked at Chorlton Street, and local agents for the Belfast and Scotch houses will thus have another name to add to their list of calls.

Orders on Canadian account continue to be satisfactory, and the arrivals of buyers have not yet ceased, while many who were here a couple of months ago are still present. The following Montreal houses have representatives here: Hodgson, Sumner & Co., Alexander & Anderson, J. Johnston & Co., Thibeau Bros. & Co., Gault Bros. and Lonsdale, Reid & Co. Trade throughout the Dominion is reported upon satisfactorily, and that a feeling of confidence prevails is evidenced by the large sales which buyers are making.

Some specially attractive lines of fancy linens have been prepared this season by foreign as well as British firms. The impetus afforded by the World's Fair, and the increased inquiry from all parts of the States for linens, may be said to account in part for this.

I omitted to state in my reference to Messrs. S. & J. Watts & Co. that the firm has embarked in the shirt and ready-made clothing trade, premises having been taken in Silver Street, adjoining their main building.

The old-established dry goods house of Mackay Bros., Montreal, will, we are informed, shortly retire.

There is very little doing on Australian account, and no prospect of a remunerative trade for some time to come can be said to exist.

With reference to railway rates, many of the local houses have declined to recognise the new charges, but have forwarded cheques when the January, February, and March accounts were rendered, on the basis of the previous rates, while others have paid in full, and sent in a claim for excess. In the case of at least one company—that of the North Staffordshire—the cheques thus forwarded have been returned, with the

accompanying threat that unless the full amount is paid the accounts will be closed. As to this, the advice of the Lancashire and Cheshire Conference to traders is—"Do not pay one penny of the excess. If the companies threaten to go into court, let them go. They will lose."

LONDON.—Since I wrote you last the home trade of the city has continued brisk, and there is little indication of its falling off at the time of writing. All the warehouses are now specially busy; while the official announcement of the engagement of Prince George to the Princess May has given a spurt to trade, particularly in the retail branches, which will last for a few months. If the betrothal had been specially arranged to come in at a time when the outlook was gloomy, it could not have happened better than just now; for so soon as the spring trade was over, there was the feeling that, with the heavy financial gloom which is hanging over the city, and indeed the provinces, the prospects for the remainder of the year were poor; while the losses which are being looked forward to as the result of the Australian crisis cannot fail to be heavy. These losses are of two classes—first, those which will result from orders being cancelled, which to many houses is already a serious matter, and there is no means of telling to what extent this may go on. Talking to the principal of a city house a few days ago, with very extensive connections in the Australian colonies, he told me that every day for the last fortnight they have received cables countermanding the shipments, while the mails for the last three weeks contained very little else but cancels or indefinite postponements; these, as a rule, coming from people whom they looked upon as their best customers. What arrangement the distributing houses will be able to make with the manufacturers is very doubtful, for the latter, as a rule, require their money prompt, and specially in certain districts where the labour troubles of some months past have had a very weakening effect. The second class of loss is, however, what is being more seriously looked forward to—viz., losses from insolvency; for with the pressure which must be put upon the storekeepers by the banks, either under a scheme of reconstruction or in the event of their going into liquidation, there seems nothing for these traders, if they are not able to meet the demands, but to consult their creditors; and then the question of the creditors being able to stand this, with their financial support very largely cut off or curtailed by the crisis, brings us face to face with a state of things which is serious to contemplate. We are told, of course, that the indebtedness of the colonies for merchandise to the British markets is at the present time small as compared to a period when everything is in a healthy state; but be this as it may, most of the London houses with Australian connections have a liability hanging over them which even some of the strongest will feel. Already a few of the Australian merchants have been asking for temporary help from their creditors, which has in every case so far been granted. Another mercantile failure in the Queensland market is announced, but I have reason to believe that Belfast or Ulster houses are not interested.

In the Milk Street trade business continues much the same as when I wrote you last. One of the handkerchief agents informs me that there is nothing very brilliant to report in his goods. The repeats from the spring orders delivered in February and March are rather disappointing. Much larger orders were expected than those which have been placed during the last two weeks; but taking everything into account, there is not much reason for complaint in the handkerchief trade; the run is on the fancy end. Agents in tailors' linens are quite satisfied; business is easily done, and the demand is likely to continue for the next few months, possibly improving with the advent of the holidays, which, generally speaking, commence in July.



United States Market.

(From our Special Correspondent.)

NEW YORK, April 28th, 1893.



RHYTHMIC swing of dullness in Franklin Street" is the way one of our trade journals expresses itself in regard to the state of affairs in the linen trade at this time. And matters are quiet, indeed. But after three months of good trading, the resting spell that now intervenes is only what should follow after a period of activity. One thing that makes affairs seem duller than they really are is the fact that all the spring orders have been shipped to their destinations. There will be re-ordering and filling in again, and plenty of it, before the six months close; and the round-up should show a good season's trading. This week has been a broken one for business in all lines. Festivities in honour of the nation's guests, who are here for their share in the Columbian celebration, have absorbed attention generally. Yesterday was a close holiday on account of the great naval review; and to-day was a half-holiday given over to witnessing the land parade of sailors and marines of the various nations whose ships are here. To-morrow, being Saturday, is "no day," anyhow; so we can infer that the sketches of sales per the "Etruria's" mail to-morrow will be light for other places as well as Belfast.

The handkerchief men are doing considerable growling. The ocean of cheap cotton stuffs they are wading through has upset the old-time fitness of things. A Franklin Street man, who came to this lovely country with tow in his hair and Lurgan mud upon his boots, remarked this morning that "them cotton things and them countin' glasses jist makes life a task, so they do!" Certain it is that the cheapening process has gone on in the cotton lines so far that enormous quantities must be sold now to make sales foot up respectably. I was shown a lady's cotton handkerchief yesterday that was a surprise, and I have seen not a few surprises in the handkerchief way in my time. It was of good cloth and a fair size, with a quarter-inch hem. There were sprigs of embroidery upon it, and there was handwork from Lurgan. The invoice cost was one shilling per dozen, and I understand that they might be "done" at elevenpence. The retailer will dispose of these at about twopence-halfpenny each, and give the best value that ever went on this market. Handkerchief men should realise, and Belfast should note the fact, that theirs is a fall and not a spring business. Their harvest time begins when vacation days are over; and, although handkerchiefs are *always* a selling property, the spring season is the one of the short grass.

There is a good pull on 4/4 linens from Troy, as the making up for fall will soon be in full swing. In fact, there has been no let up in Troy's manufacturing processes for many months. Collar and cuff makers are all behind in filling their orders, and the question with them now is the diplomatic one of how to courteously refuse contracts which they know they cannot fill. Aside from men's goods, there is a pronounced revival in ladies' collars for summer wear; but 4/4 linens obtain little or no benefit from this new birth, for coloured cottons of the percale, Madras, and chambray wares are the favourites. Fauntleroy shapes and chemisettes are the fashionable forms, and the collars upon the latter are of the deep-branded turndown variety.

Lady Aberdeen arrived this week, and she has gone to Chicago in the interests of her Irish "Industrial Village" exhibition. We have not heard much about this matter of late; but the coming of Lady Aberdeen reminds us of the death of Mr. Peter White, who was to have had charge of the village. Although not generally known to the linen trade, he was popular with the few who had the pleasure of his acquaintance. He was very well thought of among buyers of woollen goods. The Chicago Fair is the absorbing topic of the times. Henry Matier & Co., not previously mentioned, are to make a fine showing there. Their case is a large one, and is devoted almost exclusively to handkerchiefs, all their well-known lines being in representation, especially their fine embroidered goods. A special case contains an interesting exhibit of "flax, from the seed to the white cambric"—the seed, the plant, the scutched stalk, the hackled and dressed flax, the yarns, and the brown and white cloth. A spinning-wheel and reel made of bog-oak complete the *ensemble*. The Exhibition will have opened before this letter reaches the *Journal*. Representatives from four of our linen houses are at Chicago this week putting the finishing touches upon their Irish exhibits.

Flax Supply Association.



On the 14th ult. the twenty-fifth annual meeting of this Association was held in the Chamber of Commerce. The Right Honourable John Young, P.C., D.L., president, occupied the chair.

Mr. W. H. Morton, secretary, read the annual report, of which the following is an abstract:—

The acreage for all Ireland last year was 70,642 against 74,665 acres in 1891, showing a falling off of 4,023 acres, or 5.4 per cent., and the yield per acre 16.40 per cent. less. The home supply of raw material was consequently smaller in 1892 by 2,600 tons, or 20.91 per cent. Compared with other crops, flax was 4.41 per cent. in 1891, and 4.15 per cent. in 1892.

The result of the imports and exports is a supply of flax from outside sources of almost 500 tons more than in the previous year. Combining this with the home supply, makes a deficiency in the total for 1892 of only 2,165 tons, or 5.7 per cent. This is not of much consequence.

During the three years since the last enumeration there has been an increase in both spindles and power-looms in Ireland. Spindles have risen from 827,451 to 846,642, leaving for increase 19,191 spindles. Doubling spindles have increased from 26,544 to 28,134; and power-looms, put at 26,592 formerly, are now 28,233—increase, 1,641, or 6.17 per cent.

Linen yarn exports from Belfast have decreased 1,435,840 lbs. (7.23 per cent.), but the imports have risen by 770,560 lbs. (9.37 per cent.) The following relates to the whole United Kingdom:—

The imports of flax and tow for 1892 were 85,557 tons—1,496 tons more than previous year. Tow or codilla composes about 12½ per cent. of these imports. Total supply for United Kingdom in 1892, 87,845 tons—1,021 tons under 1891, or 1.22 per cent.

Linen yarn exports show a small increase of 617,900 lbs., or 4.1 per cent.

1891—14,859,900 lbs., 1892—15,477,800 lbs. Increase, 617,900 lbs.

The imports of linen yarn for 1892 have exceeded any previous years. They are given at 20,447,801 lbs. This is larger than the imports of 1889, which were 19,637,817 lbs.; increase, 809,984 lbs. The value for 1891 was £758,749; that for 1892 has not yet been procured.

The reshipment of these foreign yarns has received a very decided check. In 1891 only 13,332 lbs. weight were exported. The previous year the quantity sent off again was 272,816 lbs., or twenty times as much.

As regards the linen exports—In piece goods, the quantity shipped in 1892 was 171,320,100 yards, 11,862,400 in excess of previous year = 7.4 per cent. The value rose from £3,708,969 to £3,883,353; increase, £174,384 = 4.7 per cent.

The exports of "other articles of linen manufacture unenumerated" have fallen from £1,013,601 to £974,604.

Linen thread in 1892 shows a very trifling change in quantity, but the value of the exports was £309,000 in both years (£309,626 and £309,338).

The total exports of linen manufactures (exclusive of yarns) are as follows:—

1891—£5,032,156; 1892—£5,167,295. Increase, £135,099, or 2.7 per cent.

About 54 per cent. of this large amount is declared at the port of Liverpool, the destination being as follows:—

United States, 47.7 per cent.; Foreign Countries, 35.7 per cent.; British Possessions, 16.6 per cent.

The imports of foreign linen manufactures continue to range at about £430,000 per annum.

The following reference to flax culture in the South and West is necessarily brief. The area in Munster, Connaught, and Leinster in 1891 amounted to 372 acres, which fell in 1892 to 325 acres. This of course put an end to the custom of sending down buyers for the present.

The increasing dislike to flax-growing is hard to account for, but the methods of rural life in the South may account for much of it, and perhaps agitation may have interfered with the cultivation of a plant requiring some industrial skill.

No apathy in this direction can be laid at the door of the spinning trade of the North of Ireland, as every possible opportunity has been taken advantage of to foster the growth of flax in the South.

The President, in moving the adoption of the report, said of all the trades in Great Britain and Ireland, the linen trade was almost the only one which showed an increase during the past year. Very probably the large diminution in the cotton trade as shown in the report arose from the decrease of values, but whether that or the diminution of quality was the reason, the fact remained that there had been a large decrease in the returns. It was gratifying, therefore, to find that the money returned to Ireland for her exports of linen was greater than in 1891. Upon the question of the real business of this Society—the promotion of the growth of flax in Ireland—the provision of raw material for the linen trade—there was little to be said. Indeed, in the home cultivation of flax they seemed to be always dealing with a diminishing quantity. The amount grown in 1892 was smaller than that in 1891, and in the latter year the quantity again was smaller than that grown in 1890. There had been a constant diminution for years past, and, as far as they could gather at present, this year did not promise any increase. Last season was a very bad one for yield, the amount per acre being no less than 16 per cent. below the average. There was ground for hoping that with the favourable weather which had prevailed for the past month, and the admirable condition consequently of the land for the reception of the seed, not only would farmers be encouraged to sow a larger acreage than they originally had intended, but that the yield per acre would be considerably greater than last year. Why it was that farmers in Ireland had always been so shy in planting flax was a mystery to him. With the present price of oats, flax was a far more profitable crop, and those who were versed in the science of farming and the rotation of crops were agreed that on properly cultivated land flax might be treated as a stolen crop—that was to say, that after a sufficiently manured crop of potatoes or turnips, a crop of flax might be taken on the same manure without injury to the land. Farmers, however, were more conservative for the most part than any other class, and in regard to their crops were generally disposed to follow old courses, and not to attempt anything new. It had always seemed a pity to him that the farmers did not co-operate more or less with those in the trade in providing material for the staple trade of the province. Perhaps they were too much in the habit of appealing to the farmers to grow flax as if it were only for the manufacturers' advantage. No doubt it was to their advantage, because other countries could not grow the exact kind of flax suitable for some departments of the trade. But still it could not be concealed that there was a deficiency in the supply of raw material for the Irish mills and factories. That deficiency was supplied from foreign countries. There was not a spinning mill idle in the country for want of flax, so that it was merely after all a matter for the farmers themselves whether they grew flax or not. Perhaps the very existence of that Association, consisting as it did of those interested in the linen trade, induced the belief referred to on the part of the farmers. However, the statistics put before them that day would not justify any such belief. It was, he believed, equally for the benefit of the farmer and the spinner that the former should include flax in the ordinary rotation of his crops, because, when properly cultivated and in average season, flax was undoubtedly a remunerative crop. There was nothing he need add in respect to the general trade. He congratulated all connected with the business on the fact that the statistics showed that the linen industry was progressing, and they hoped the progress would continue. Notwithstanding hostile tariffs in the United States and other countries, this progress as yet had

not been stopped. Perhaps they might not consider that he was trespassing on grounds forbidden in that Association in saying that they were all interested in one great question which they thought possessed a vast importance for their trade and for other trades in Ireland. The secretary had in the report alluded to the existing political agitation as militating against any increase in the growth of flax. They might congratulate themselves that so far their trade had not suffered from this political agitation. However fearful they might be of the future—and they undoubtedly were fearful that evil times might fall upon their trade in consequence of this ill-begotten Bill—they still felt confidence in their own resources. They believed that Bill would never pass, and even if it did, they had, he felt assured, sufficient energy, self-reliance, and tenacity to carry on their business as it had been carried on before, and to continue in that law-abiding course which had characterised themselves and their forefathers hitherto. The result of such a determination would be that in spite of every difficulty they would go on and prosper. (Applause.)

Mr. Lanyon seconded the resolution, which was passed.

Mr. R. H. Reade was appointed president for this year, and Mr. J. D. Barbour, vice-president. The Council for this year having been appointed, and the thanks of the Association having been given to the press, the meeting closed with a vote of thanks to the retiring president.

Factory Inspector's Report.



IN the Report just published, there are several matters of interest in regard to mill management, with a view to promote better health among the workers, which are worth noting. They deal with the temperature and humidity in cotton mills, and various points in relation to the Acts of 1889 and 1891.

Use of steam to produce humidity.—Speaking on this subject, Mr. Inspector Osborn, in the Blackburn district, says:—We endeavour to impress managers that, to use steam to advantage, the pipes should be covered with non-conducting materials, some of which are very good, and a reducing valve should be fitted to control the amount of steam allowed into the pipes to a force sufficient to permit a mild escape at the farthest point, under which conditions the air will only take up what it can, and will be better diffused by the circulation set up by the ventilators, while there will be less condensation in the conducting pipes. Thus with 12 lb. or 15 lb. pressure in lieu of 60 lb. or 70 lb., a better result is obtained at the expenditure of about a quarter of the previous quantities of steam, which being the most infinitesimally divided form of vapour, to speak unscientifically, mixes better with the air than the more condensed sprays, which fail in diffusion, because they gravitate naturally as the introducing force is exhausted.

Dust in factories from sizing.—I am glad to notice that there is very much less dust now in these sheds, owing to the more skilful management of the sizing, which also saves material; a manager of a large shed, where the size is heavy, informed me he had made alterations in his mixing which gave better results in the cloth, less disengaged dust, and required less humidity to weave, and was equivalent to a saving of £250 on the year.

Prevention of scale in boilers, and freedom from influenza.—An occupier of two sheds where some 460 persons are employed told me, as an interesting fact from a medical point of view, that a preparation of eucalyptus is constantly used in the boilers to prevent scale, and out of the large number of weavers employed there had been no cases of influenza (then prevalent), and this he attributed to the inhalation by the workers of the eucalyptus vaporised in the steam, *valent quantum*.

Improvement in the health of workers from better ventilation.—It is gratifying to receive continual expressions of satisfaction at the evident amelioration in the health of the workers during the last two summers particularly, and this often from those who strongly opposed our plans in the beginning. At one large shed, containing over 2,000 looms and some 1,300 persons, the manager specially requested me to wait while he brought all the overlookers to tell me what they had already told him, viz., that they had been all struck by the unusually small number of persons who had been "off sick" during the two last summers since the new ventilation had been in use, and they also stated that everyone was much brisker at work, and far less tired at the day's end. At this place, when built, some £600 had been expended on "self-acting" ventilation, which had proved "non-acting" in summer; and in winter simply produced down draughts, and so had to be stopped entirely. It is now ventilated by 19 18-inch fans, with the above result. In some factories, as many as 12, 15, 18, 20, and 25 of these small fans are running the year round; and as an example of what had been achieved generally, it may be interesting to state that in the Blackburn district alone there are already quite 1,200 fans to (approximately) 36,000 operatives. From which ratio it may be calculated that in the most favourable weather, when outside currents are not interfering with the outflow, probably each worker is getting the benefit of about 1,000 cubic feet of fresh air per hour, a strong contrast to the time when the air was probably not changed in these sheds once in the day.

Drying the wet clothes of workers.—In the report of our inquiry in 1883, Dr. Bridges and I pointed out the desirability of the outer clothing

of the weavers being hung outside the weaving shed, so as to be free from dust and moisture during the hours of work: and from my long acquaintance with the climate of Lancashire, and study of the people, I am more satisfied than ever that the absence of drying closets or cloakrooms is a serious defect of mills and schools, as frequently workers and children get soaked on their way to work and school, and have to resume their cold, wet clothing to return home—a most fertile source of neuralgia, rheumatism, and chronic colds, and provocative of phthisis and other lung affections. For several years Messrs. Greenwood, of Infirmary Mills, Blackburn, have had a cloakroom heated with steam-pipes to meet this want, and it has been used and valued by their people; and I am glad to say Mr. Williams has induced Mr. Fred Baynes, of Furthergate Mill, Blackburn, and Messrs. J. Dugdale & Sons, of Higher Audley Mills, Blackburn, to contrive and fit up similar cloakrooms for their weavers, who now find their shawls and outer clothes dried and warm to put on when they leave work—a pleasant and healthy change they thoroughly appreciate. It is to be hoped this example will spread: some employers have imagined, from the failure of mill dining-rooms, such places would not be used if provided, but there have always been social distinctions and feelings of pride among the various classes of workpeople which have disinclined them to take their meals together, but which do not come into play in this case. Elaborate arrangements are not necessary, and the experience of large drying-rooms shows that a steam coil at one end and a fan to draw the hot air through will dry clothes far more rapidly than a range of steam-pipes; so that, where space is small, the garments could be dried in batches during the time of work; or, in some circumstances, the heat over the boilers might be drawn through a filtering screen of cotton wool and be made available for the purpose.

Improved shuttle-guard.—In the course of my visits I have met with a very cheap, movable, simple, and efficient shuttle-guard, which requires little trouble to fix and keep in order, and can be used safely with the steel roller-templates, which render the stiff or fixed bar-guards dangerous. It can be fixed for a cost of about two shillings, and is the invention of Mr. Timothy Yates, 33, Victoria Street, London Road, Preston, who is in the employ of Messrs. Swainson and Birley, Fishwick Mill, Preston, where it is used, as well as at other factories in the town.

Lancashire and Scotch weavers compared.—Mr. Henderson, speaking about trade in Scotland and the North of England, refers to the difference in the wage-earning capacity of the female weavers of Lancashire and Scotland as follows:—In Glasgow, early in the year, an effort was made to induce the operative weavers to work more on the conditions which prevail in Lancashire, by attending to a greater number of power-looms. In Lancashire, a weaver will take three or even four looms, when weaving the plainer qualities of cloth, but in the West of Scotland the custom has been to restrict the number to two. The earnings in Scotland are correspondingly small, being just about one-half of the amount earned in England. The attempt to force the Glasgow weavers to take more than two looms proved a failure. There was a long strike against the employer who made it, and ultimately the weavers returned to their work on the old conditions. The indifference of the Scotch workpeople in cotton factories to making a big wage is difficult to explain. As I mentioned in my report last year, although the Glasgow manufacturers actually pay more for their weaving than those of Lancashire, yet the operatives do not earn more than half the wages. The same experience is found in cotton spinning. There is now a large and well-equipped cotton-spinning mill in Glasgow which is managed by a gentleman from Oldham. He tells me that a Scotch factory hand is content when she makes about half the wages that would satisfy an Oldham lass. As both are paid by the piece, this practically means that only about one-half of the amount of work is done by the Scotch, compared with the English girl. Towards the close of the year, some improvement took place in the weaving trade in the West of Scotland, which it is to be hoped may continue. This has been more conspicuous in the manufacture of mixed goods, and particularly where silk yarn is largely used.

Scotch flax and jute trades.—In the flax and jute industries in Scotland, business has been fairly well maintained during the past year. In Dundee the jute factories have been well employed, although business has fluctuated a good deal. Last year a reduction of five per cent. was made in the wages in Dundee when trade was depressed, and although there has been some agitation for its return, up till now it has proved unsuccessful. In Dunfermline, the linen factories have been well employed during the year, and, notwithstanding the M'Kinley tariff, largely on American account. The proposed establishment of linen factories in the United States appears to have proved a failure, nothing but the coarsest fabrics having been produced up till now. Several important additions are now being made to some of the Dunfermline factories, and with the prospect before us of a modification of the United States tariff, the future of this industry seems to be established on a very sound foundation.

THE EDISON & SWAN UNITED ELECTRIC LIGHT COMPANY, LIMITED.

THIS well-known firm has recently opened a branch depôt at 11, Queen's Buildings, Royal Avenue, Belfast. They are the sole manufacturers of incandescent electric lamps in the United Kingdom, and the magnitude of their various establishments may be judged from the fact that they

stock at their several provincial depôts over a million lamps. No doubt many of our readers who visited the Electric Light Exhibition, held at the Crystal Palace in 1892, will remember the grand display made by the Edison & Swan Company, over 10,000 incandescent lamps being used by them for one illumination of the huge screen which covered the centre transept. They manufacture every kind of electrical fitting required for electric lighting, of which they claim to be the largest manufacturers in the British Empire. Our contemporary, *Money and Trade*, in a lengthy article on March 15th, referring to the Company's works, says:—"All the lamps, and the appliances necessary to bring them into perfect action, are produced at the Company's works at Ponder's End, Middlesex, where there are offices, lamp stores, glass works, foundry, fitting shops, experimental laboratories, engine-houses, and the Company's own gas-works, with water and railway communication, which makes every part of the United Kingdom easily accessible to the premises. The company has land enough at the side and rear of the works to split up into allotment gardens if it desired to enter into this class of enterprise, and to find employment for the spare time for some among the thousand hands it has constantly engaged on electrical-plant production, inclusive of two hundred and fifty girls and women, who assist in the more delicate parts of the lamp manufacture. Eleven years ago this business had not been begun, and the site of the Ponder's End works was a waste of land going out of cultivation. Within the same period the Edison-Swan business has been created. Employment has been found for 1,000 to 2,000 workpeople. Other industries engaged in the production of the raw material have benefited. Important branches for the development of the business have been opened in Dundee, Newcastle, Liverpool, Leeds, Hull, Birmingham, Cardiff, Dublin, and Belfast, each adding to the army of wage-earners employed. Since opening these depôts, the increase of business has been so great that the company have found it necessary to re-open their old works at South Benwell, Newcastle-on-Tyne, where they are now employing a large number of workpeople in the endeavour to cope with the tremendously increasing business. With all these additions in premises and plant it is still found practically impossible for the company to execute special orders with its usual despatch, and in consequence of this the whole of the plant of both lamp and fittings departments at Ponder's End is being increased threefold. Orders are received daily from all parts of Ireland, Scotland, Wales, and the provinces. The company's chief London warehouse and showrooms are at 110, Cannon Street, where about 20,000 lamps are stocked, ranging from one to 3,000-candle power. There is also a large stock of coloured and fancy lamps for decorative and special purposes."

CHICAGO EXHIBITION—BRITISH SECTION CATALOGUE.

We have to thank the Royal Commission for the British Section of the Chicago Exhibition for sending us a copy of their catalogue, which is a bulky volume of some 650 pages, turned out in good style, and conveniently arranged. Printed by William Clowes & Sons, Ltd., Stamford Street, London. Price 25 cents. We purpose in a future number giving a description of the cases and contents of Irish textile exhibitors; but in the meantime note from the catalogue that the following firms are represented:—The Belfast Ropework Co., Wm. Barbour & Sons, Limited; Brookfield Linen Co., Ltd.; John S. Brown & Sons; Fenton, Connor & Co.; Wm. Liddell & Co.; Henry Matier & Co.; Old Bleach Linen Co.; J. N. Richardson, Sons & Owden, Ltd.; Robertson, Ledlie, Ferguson & Co., Ltd. The woollen trade is represented by the Athlone Woollen Mills Co., the Irish Woollen Manufacturing and Export Co., Ltd. Clothing industries by the Irish Industries Association, Smyth & Co., Balbriggan. Lace and art needlework are also largely in evidence. Introductory chapters are contributed by writers of ability in the several sections, that in textiles being written by Mr. Swire Smith, of Keighley.

Chemicals and Dyes.

(Special Report by Messrs. SADLER & Co., Ltd., Middlesbrough.)

A STRIKING feature in the chemical trade at the moment is the remarkable demand for disinfectants of every description. It has been many years since Bleaching Powder realised such high prices as are now obtaining, but manufacturers declare that they are fully able to cope with the exceptional demand. Permanganate of Potash, Bi-chloride of Mercury, and last, but certainly not least, Carbolic Acid products are largely going into consumption, and are realising important values far beyond the anticipation of the most sanguine maker. What will happen if there is not a recrudescence of cholera is easy to forecast, but the reports of the Continental centres leave no doubt that the year will be marked by a return of the dire disease, over a more extended area than during the past year, and sanitary authorities are providing against this contingency. Caustic Soda and Soda Ash are dull, and prices are receding. There is a better demand for Chlorates, which are at least 30 per cent. dearer. Tar Acids, Tar Products, and Aniline Dyes, are as dull as they well can be. Sulphate of Ammonia, on the other hand, has been in capital request. Manufacturers have not been able to cope with the requirements of consumers. The same favourable aspect has marked the Nitrate market. Owing to short shipments of this article it has been scarce and dear. Both Nitrate and Sulphate, however, are easier, and do not look like maintaining their high values. In sympathy with dyes, dyers' chemicals are in slow demand, and the market is chiefly remarkable for the exceptional cutting by sellers. The only important changes in values are in Oxalic Acid, which is quoted at ½d. per lb. better, Aniline Oil, which is quotable at 6½d., and in Sulphate of Ammonia, which has fallen quite 20s. per ton.