

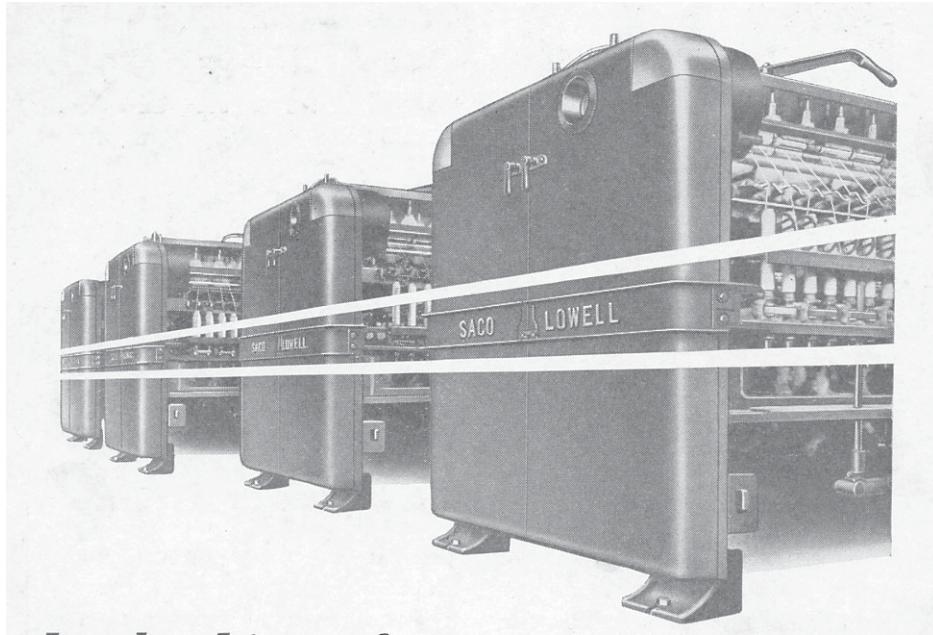
THE SACO-LOWELL BULLETIN

APRIL 1928



Wing-On Cotton Mill—Shanghai, China
35,000 Spindles
Entire Mill Saco-Lowell Equipped

In This Issue
GETTING THE MOST VALUE FROM NEW OPENING
EQUIPMENT
LARGE PACKAGE SPINNING



In the Line of
PROGRESS

THE name Saco-Lowell always comes to the front when new developments in textile machinery are discussed. For years the developments in spinning frames by our Biddeford engineers have made them leaders in the field. Right now the new Saco-Lowell spinning frames, due to their design and workmanship, offer opportunities to lower production costs. Their rugged construction gives a staunchness that insures the maintenance of this quality of output year after year.

C If you do not find a copy of our "Bulletin" in your mail, addressed to you personally, send us your name and address. You'll find it full of news and facts—things you want to know.

SACO-LOWELL

Largest Manufacturers of Textile Machinery in America

147 Milk Street, BOSTON, MASS.

CHARLOTTE, N. C.

GREENVILLE, S. C.

ATLANTA, GA.

THE SACO-LOWELL BULLETIN

Issued monthly in the interests of efficient mill operation by the

SACO-LOWELL SHOPS

147 MILK STREET

BOSTON

CHARLOTTE

GREENVILLE

ATLANTA

VOLUME I

APRIL 1928

NUMBER 2

Getting the Most Value from New Opening Equipment

THE low grade cotton crops of the past few years stimulated many improvements in opening room equipment. In this field the Saco-Lowell Shops led the way by redesigning the old equipment and by developing new machines which enabled mills to obtain better cleaning than had previously been thought possible.

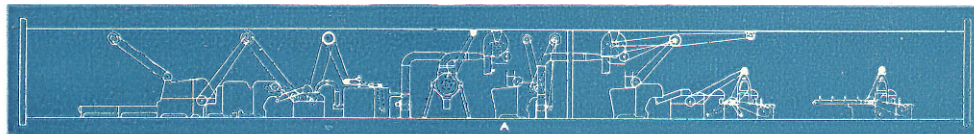
The story of how these new developments made it possible for mills to turn the low grade cotton to their advantage is well known. There has been so much written about it that it needs no further elaboration here. However, a question now arises in the minds of many mill men. What will result from the use of this new opening equipment when cotton from this year's crop, which is grading higher, is used?

This question can be answered simply. Absolutely no adverse effects will be noticed. On the other hand, all the advantages will be retained. While better cleaning was the primary object in the

development in new opening equipment, the mills were at the same time gaining a tremendous advantage from the more efficient opening and blending. The wide adoption of large units of this equipment will continue. It is significant of the importance of better opening and blending that many of the leading mills using high grade cotton are continuing their program of installing complete units of this modern equipment.

Every mill realizes the advantages of a good mix, but in most cases the bin system requires too much room and hand labor to be practical. On top of this, it is impossible to obtain a fine mixing or blending from equipment installed according to the general practices of a few years ago.

In the writer's mind, a sharp distinction is made between mixing and blending. For example, when layers from ten or twelve bales are placed on the extended apron of the bale breaker, and are opened up by the inclined apron a coarse *mix*



In the above layout there are two lines of opening equipment delivering to a battery of six blending feeders at "A" through an automatic distributor. This in turn delivers the stock onto a lattice apron from which it is conveyed to a second automatic distributor over the hoppers of the breaker pickers. The introduction of these blending feeders between the opening line and the pickers automatically gives the stock a thorough blending and automatically does away with bins.

is obtained, i.e., the stock is delivered to the opening machines in small, open bunches which are mixed together. The beating operations of the subsequent machines, the lattice opener and cleaner and the vertical or horizontal cleaner, *blend* the bunches themselves together. It should be remembered, however, that this blend is made up of the stock from not over a dozen bales.

A more comprehensive blending is obtained where there is more than one line of opening equipment, by delivering stock from each line onto a single lattice apron. From this central blending point the stock is usually taken by the pipe line to the distributor over the breaker picker hoppers. Suppose, for example, we have three lines of opening. Each delivers a fine blend of 12 bales to the lattice apron. According to our definition the stock as a whole is only a coarse mix of three groups. In order that all 36 bales may be really blended, it is necessary to pass the stock from the lattice conveyor through another series of machines, or a battery of mixing feeders, before it is delivered to the picker room.

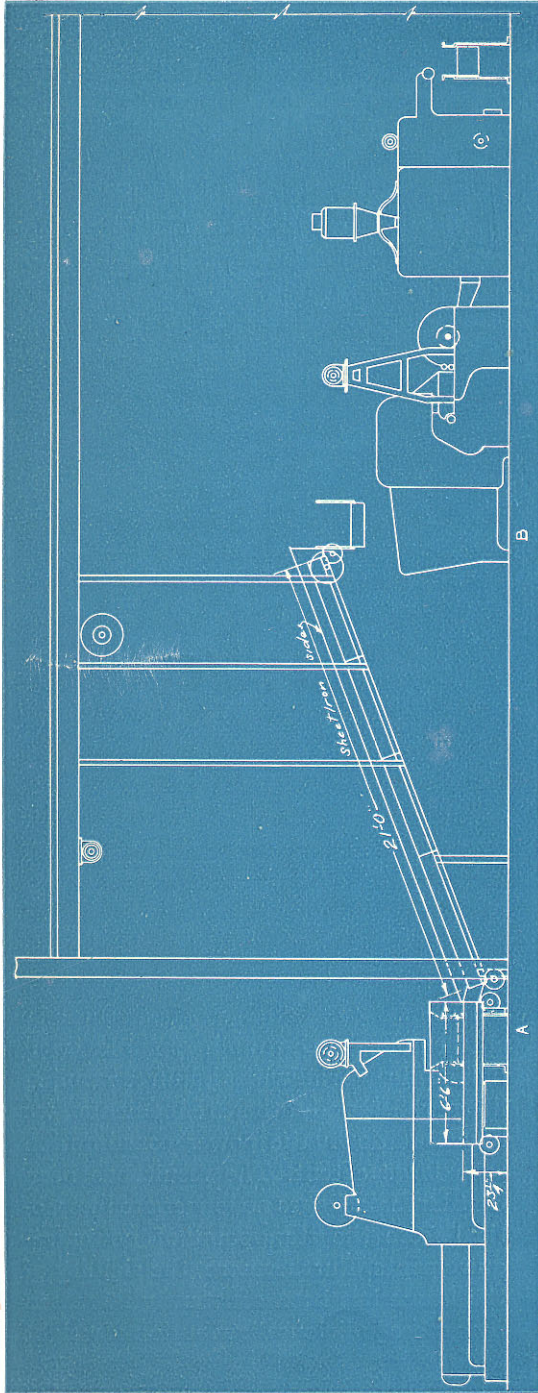
In the above procedure, the cotton is thoroughly opened before the mixing is completed, a most important consideration. Of equal importance is the fact that the stock delivered to the breaker pick-

ers is a blend of many bales. Both are obtained without entailing additional labor cost and without the use of bins.

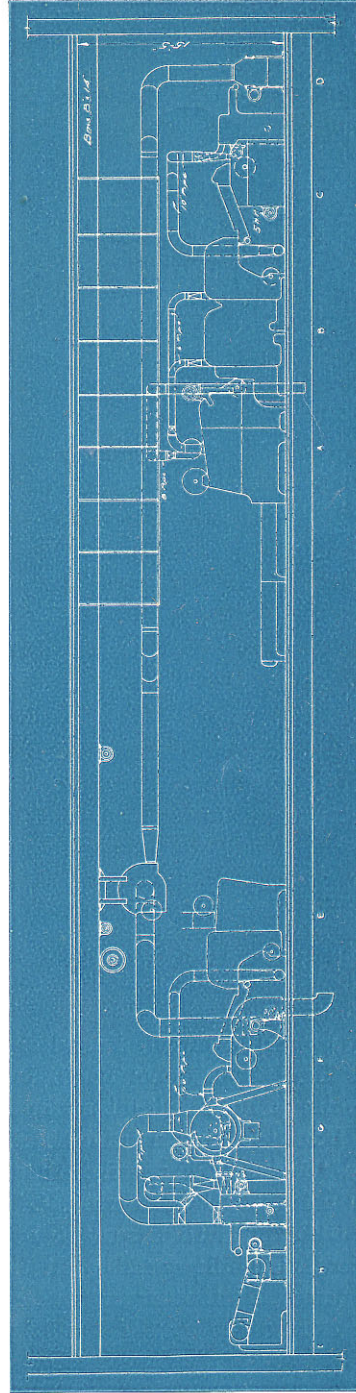
The above plan has been followed, by many mills using high grade cotton, in laying out new preparatory machinery to profit by proper blending. In many cases, instead of having a continuous line of opening machinery made up, perhaps, of bale breaker, tandem feeders, vertical opener and lattice opener and cleaner, and horizontal cleaners, they have split this line at some point best suited to the individual conditions of the mill. At this centralizing point they combine the stock from the different lines, delivering it to a battery of the remaining machines.

On the other hand there are many mills on coarse work that run a very complicated mix of cotton and various grades of waste. Getting the proper percentages of the different kinds of waste and cotton necessitated much hand labor, added to which was the continued variance in mix impossible to avoid. In many instances our engineers, who through many years of experience are skilled in planning efficient layouts, have installed modern equipment which, through the proper placement of machines, conveyors and automatic controls, has enabled the

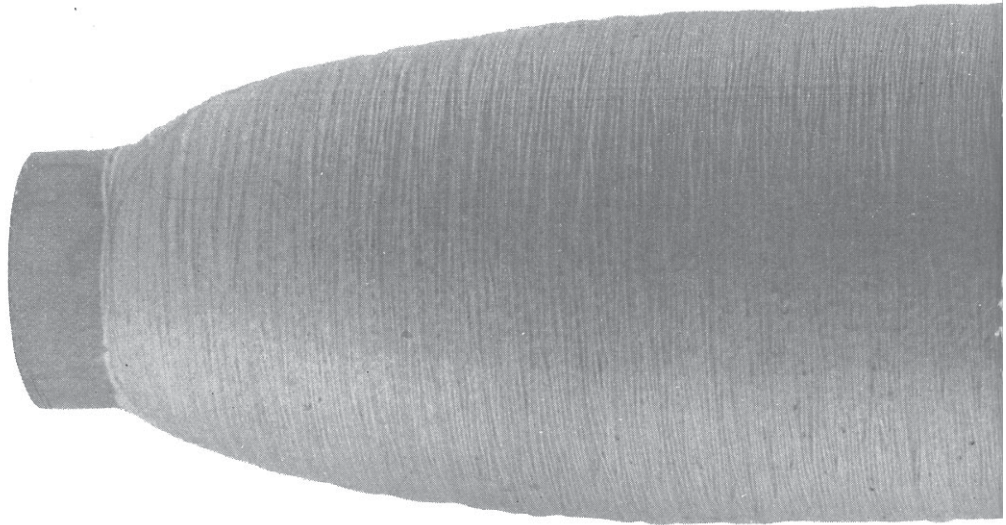
(Continued on page 6)



Showing how a Southern mill recently split its original line of opening equipment at the bale breaker in order to combine the stock from the various lines in the lattice apron (A) and distribute it again to the feeders (B) for delivery to the remaining machines in the line. By this arrangement they were able to obtain a much finer mix than with the original layout.



Four lines of equipment made up of Bale Breaker (A), Tandem Feeders (B), and Lattice Opener and Cleaner (C), deliver low grade cotton and waste stock to one Lattice Apron (D). The combined stock is automatically distributed to four more lines of equipment made up of Automatic Feeder (E), Lattice Opener and Cleaner (F), and Horizontal Cleaner (G). Delivery is made to a single lattice apron (H) and subsequently to a tubular dust trunk (I).



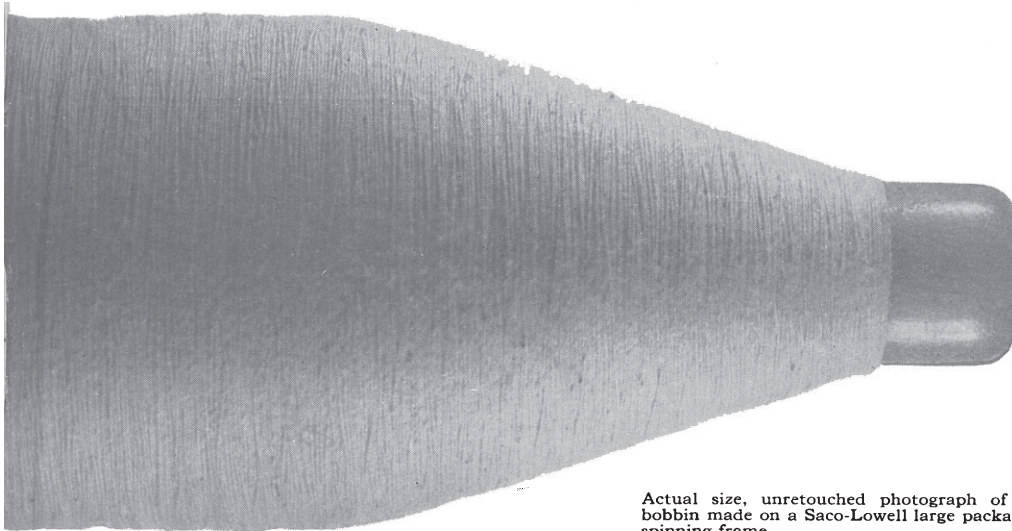
Large Packa

ON the finer counts of yarn, the size of the package produced by the modern ring spinning frame is fairly consistent with the limitations involved. On the coarser counts however (20's and under) the size of the finished bobbin rarely approaches its possibilities.

The economies effected by spinning on as large a package as possible have always been common knowledge. The usual limitations have been: first, the ballooning and resultant strain on the yarn from too long a traverse and, secondly, the excessive speed of the traveler when using too large a ring. Of course, both these limitations may be overcome by slower spindle speeds, but then the advantages of the larger packages are more than offset by the loss in production.

We have recently built a number of frames to specifications calling for extremely large packages for the coarser counts. They have been used with excellent results. The general process of re-designing and improving our ring frame over a period of years, has enabled us to accomplish this.

By the use of ball bearings, accurately cut gears, smooth-running spindles, well balanced ring rail with rigid free running lifter rods, and other refinements, we have cut down the power consumption to a large extent. The result has been that large packages no longer are impractical from the standpoint of power requirements. Furthermore, the rigidity of the frame has been constantly increased by a more judicious distribution of weight and the use of steel beams.



Actual size, unretouched photograph of a bobbin made on a Saco-Lowell large package spinning frame.

ge Spinning

In addition to these general improvements, we have developed a traversing thread board of much simpler construction and greater effectiveness than those formerly available. By its application the ballooning effect on the yarn was greatly reduced and the strain on the yarn at the top and bottom of the traverse was greatly lessened. Coincident with this, the great improvements made in rings and travelers during recent years permit the necessary high traveler speeds.

We have reproduced here an actual size photograph of a bobbin taken from one of our large package spinning frames installed in a well-known, representative mill. The economies effected by the use of such a large package are immediately evident. Specifications of the frame producing the bobbin illustrated and the

exact figures covering the results obtained, as given us by the mill, are as follows:

Number of yarn . . .	7's from 1 hank roving single
Gauge of frame. . . .	4½"
Traverse.	9"
Ring	3"
Amount of yarn on finished bobbin . . .	13 ounces
Time of doff	3 times in 20 hours, approximately every 7 hours
R.P.M. on front roll . . .	165
R.P.M. Spindles . . .	6450
Power required	10 H.P. for 200 spindles

The mill also informs us that there are less ends down than on their old spinning frames using smaller packages, and because of the large package free from knots, the spooler hands are able to attend more machines.

Getting the Most Value from New Opening Equipment

(Continued from page 2)

mill to obtain a mix which will keep constant the required percentages with practically no hand labor. Such layouts are always flexible so that by simply changing the speeds of the various lifting aprons, conveyors, etc., the mix can be altered to conform with the changing requirements of the mill.

The layouts on pages 2 and 3 give a good idea of how this has been done in some of our recent installations. All Saco-Lowell equipment can be automatically controlled, and regardless of the ex-

tent or combinations of machines and conveyors, the stock is not handled from the time it is placed upon the apron of the Bale Breaker until the lap is removed from the Breaker Picker.

We know of many cases where this fine mixing of well opened stock, in mills using the higher grades of cotton, has not only materially improved the appearance of their lap and card sliver, but has also added to the quality of the work throughout the mill.

An Increase in Breaking Strength

WE quote below an excerpt from a report of one of our engineers upon returning from Georgia, where he recently visited a well known mill to check up on our long-draft installation.

I called here on July 13th and found that the long-draft job is progressing very well. The mill has 4 long draft frames in operation and the erector, Mr. Martin, is just beginning to start 3 other frames, making a total of 7 frames in operation probably by the end of this week.

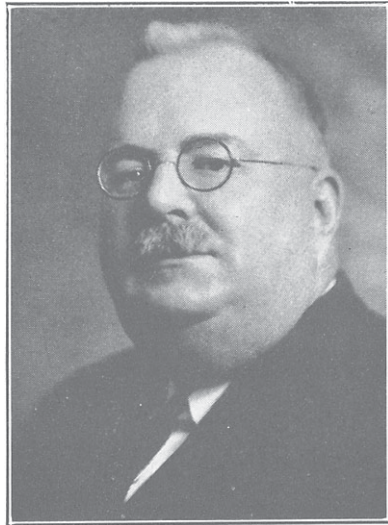
The mill is very much pleased with the running of the 4 frames and particularly with the increased breaking strength. I have sized and broken the mill's yarn both on its regular and long draft equipment and attach copy of this report. You will note the increase in breaking strength of the long draft over the regular. These numbers of yarn are supposed to be 28's warp yarn from 3.00 hank double roving, draft of 18 from 15/16" cotton. The spindle speeds are at present 8334 R.P.M.; frontroll speed 110 R.P.M. However, the mill expects to change the pulleys during this week-end and increase these speeds to 9400 R.P.M. spindle speed and 120 R.P.M. front roll speed. However, in starting up the balance of the frames the manager, Mr. _____, has agreed to start the frames on low speeds and run the frame at this low speed for two or three weeks.

Will say in passing that both Mr. _____ and the Superintendent are enthusiastic about long draft spinning. Mr. _____ made the statement that, if this installation of long draft proves to be what he thinks it will be, he would probably go ahead and buy more spindles with the long draft for replacement of other frames in this mill. He also stated that the long draft so far has proven to be everything that was claimed by Mr. Gayle when the order was placed, and in his opinion was doing more than was claimed.

REGULAR 3 ROLL FRAMES	
Average Break in Pounds	Average Numbers by Weight
64	2778
55	2778
65	2632
69	2632
4)253—63 lbs.	4)10820—27.05 Avg. No. of Yarn

LONG DRAFT	
Average Break in Pounds	Average Numbers by Weight
77	2703
73	2703
77	2632
71	2703
4)298—74 lbs.	4)10741—26.85 Avg. No. of Yarn

From Field and Shop



Mr. U. S. WASHBURN

In Memoriam

MR. U. S. WASHBURN died at his home in Charlotte, N. C., on March 20, 1928.

Mr. Washburn has been associated with the Saco-Lowell Shops over a period of thirty years, for the past fifteen years as selling agent from the Charlotte Office.

His death is a great loss to the company and his passing has caused deep and sincere regret among all those who knew him.

Personnel

Mr. E. E. Blake has been appointed Chief Engineer of this company. Mr. Blake will have general supervision of the design of the company's products, and will have charge of experimental and development work.

Mr. F. E. Rowe, Jr., has been appointed Sales Engineer. He will maintain close contact with the mills and will work closely with the selling, manufacturing and engineering departments, in rendering service to our customers on technical problems and in adapting our products as closely as possible to mill requirements.

The Saco-Lowell Shops, through their Charlotte Office, have announced two important changes in the personnel of their Southern organization, these changes being brought about by reason of the death of Mr. U. S. Washburn, of the Charlotte Offices.

John L. Graves, who has been Manager of the Greenville Offices for several years, has been transferred to the Charlotte Office as selling agent. Mr. Graves has a host of friends in South Carolina, and is widely known among Southern mill men generally.

H. P. Worth, of Charlotte, has been transferred to Greenville as Manager of the Saco-Lowell branch office. Mr. Worth was Superintendent of the Pomona Mills, Greensboro, N. C., prior to his connection with the Saco-Lowell Shops. He has been associated with our Charlotte Office, as selling agent, for some time.

New Rolls Cut Maintenance Costs

There has been a lot of discussion lately concerning the excessive maintenance cost on old spinning frames, even though they seem to be in fairly good mechanical condition. We have lately run into a number of instances where a mill is running very old frames, and was

still using plain fluted rolls, with the result that the leather on the top rolls was quickly becoming fluted and worn out. If these rolls were replaced with Saco-Lowell irregularly fluted rolls, not only would they draw more evenly than the old ones, but also would not flute the top rolls. The saving in top roll covering alone would soon pay for the new steel rolls and at the same time better yarn would be produced.

Metallic Drawing Roll Company of Springfield, Massachusetts, have been moved to Saco-Lowell Shops, Newton Upper Falls, Massachusetts, and from now on all business of whatever nature connected with The Metallic Drawing Roll Company will be transacted by Saco-Lowell Shops. All correspondence should, therefore, be addressed to Saco-Lowell Shops, Newton Upper Falls, Massachusetts.

Metallic Drawing Roll Company

Consolidated with Saco-Lowell Shops at Newton Upper Falls

We wish to announce that the tools, equipment, and entire business of The

This company possesses every facility for carrying on the business of manufacturing metallic rolls of the highest quality efficiently. We solicit the continuation of all business connections with which The Metallic Drawing Roll Company has been favored during the many years of its active life.

DO you like the "Bulletin" and its news of the developments in textile machinery? It makes no claims to being infallible, and welcomes a difference of opinion based on the experience of men who use textile machinery. If you see anything printed herein with which you cannot agree, give your version of the question in a letter. If you have

ideas which will benefit the industry, we shall be glad to publish them, under your name if you permit, or as unsigned notes or articles. We are always glad to get your letters. Will you send us the names and addresses of any of your department heads who should be on the "Bulletin" mailing list?

Mail to The Saco-Lowell Shops, 147 Milk St., Boston, Mass.

Name

Address

Name

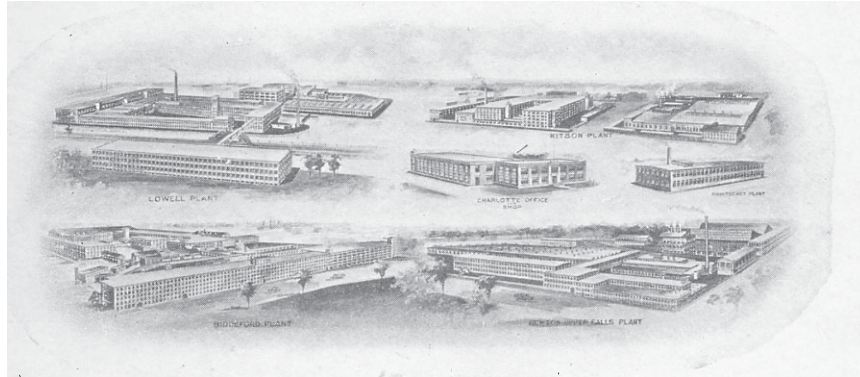
Address

Name

Address

Your name

Firm



IT is natural from the wide experience we have in equipping all kinds of mills under all kinds of conditions, and in solving their various manufacturing problems, that our Engineers should have gained a great fund of technical knowledge and engineering skill, with the ability to apply it both soundly and practically.

We want you to take advantage of this experience. Call on us at any time for anything—that's what we are in business for.

SACO-LOWELL SHOPS

Largest Manufacturers of Textile Machinery in America

147 MILK ST., BOSTON

CHARLOTTE GREENVILLE ATLANTA

