

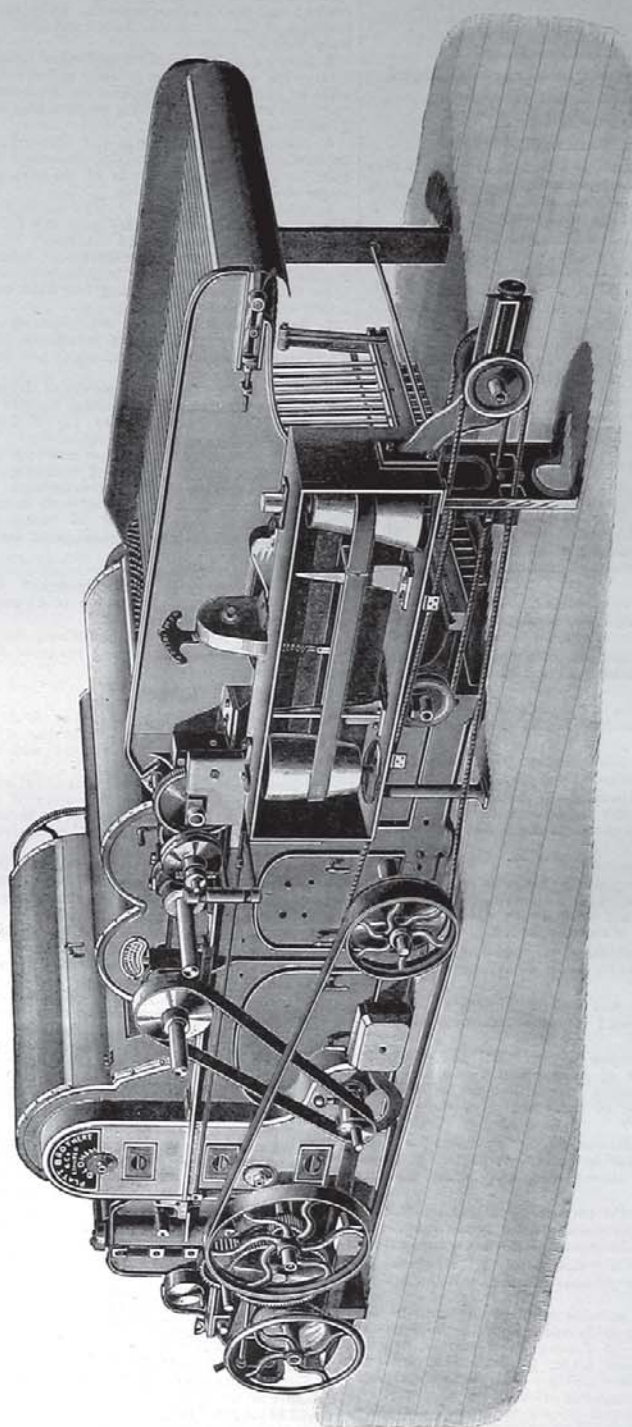
Machinery and Appliances.

THE PREPARATION AND SPINNING OF BARCHANT OR WASTE YARNS.—I.

One great feature of our modern industrial systems and which distinguishes them from the crude methods of manufacturing in olden times is the rigid economy on which they are conducted. In early days this was not the case, as the aim and end was principally to secure a good article irrespective of the cost of production. Profits then were very different from those that can be obtained now, and this was one cause of the prevailing disregard of the cost of production. But the rapidity with which money was made soon put an end to this wasteful method, as the lucky fortune coiners of early manufacturing times, not knowing what better to do with the money they made, re-invested it in extending their means of production in that which had already yielded them their wealth. Hence arose competition which every year from the early part of the present century until to-day has been growing keener, and largely from the operation of the same causes. Diminishing profits induced increased attention to the means of economical production, machinery was improved and rendered increasingly automatic thus reducing the labour cost. The cost of power driving was successively reduced to dimensions that would surprise the manufacturers of half a century ago. Correspondingly with this, increased attention was given to the waste or by-products of the various processes. Many men who cannot yet be called old, will well remember how, in close proximity to the cotton mills of forty years ago, great stacks of waste from the openers and scutchers of the mills were formed. These consisted of the dust, droppings, and other matters, including some of the best fibre, were carried out wholesale and stacked in the manner alluded to in order that their contents might decompose before being carted away upon the land as manure. Many a fortune has been thus disposed of for want of better knowledge of the means of extracting the valuable material, and its application to useful purposes when obtained. But those days are gone by never to return. Most of the cotton wastes of the time to which we refer found its way to the vat of the paper maker. Gradually, however, it dawned upon various people that a better use could be found for most of it and attempts were made to work it up into useful fabrics, necessarily of a lower character than those to which the material it had been abstracted from was devoted. Such is a brief sketch of the conditions and causes which led to the development of an interesting though subordinate branch of the cotton trade, that of the production and manufacture of waste yarns and cloths.

With the enormous growth of the cotton trade, there has been, in spite of the most rigid economy and the use of the best appliances, a considerable increase in the production of inevitable waste. Since the discovery of means of rendering it useful this has not been as before all loss. Its manufacture has been steadily growing in importance, so much so that it has been deemed quite great enough to engage the attention of our leading machinists and has led them to endeavour to make machinery for the special use of this branch, of equal excellence to that employed in the manufacture of pure cotton.

Amongst the firms who have taken up this matter is that of Messrs. Platt Brothers and



SINGLE SCUTCHER WITH FEED REGULATOR.—MESSRS. PLATT BROTHERS AND CO., LTD., OLDHAM.

Company, Limited, of Oldham. Their installation of Barchant or waste yarn machinery is the most interesting and complete that we have had the privilege of inspecting. It is especially designed for working up waste cotton of almost every kind, such as blowings, cardroom sweepings, roller, flat and mule waste, damaged cottons and cottons of very short staple. For a long time the English cotton trade has paid, and even now pays far too little regard to these materials, and it is usually, at least to a large extent, bought for export and shipped abroad to Belgium, Germany, and Holland, where it constitutes the raw material, out of which a great variety of cheap and useful goods are manufactured.

The low prices which articles produced from this class of material fetch in the market makes it essential that only a minimum amount should be spent upon the cost of production. This renders it necessary that the machinery employed should turn off a large production with the least possible attendant labour or attention. Messrs. Platt Brothers have taken all these matters into consideration in the construction of their system of waste manufacturing machinery. The series of machines include the following, all of which are especially modified to serve their particular purposes. First, the Oldham Willow; second, improved scutcher with pedal regulator; breaker card; Derby doubler, finishing card with condenser attachment, with the improved Bollette steel tape, or if preferred, the improved Sächsische leather tape systems, and a specially constructed mule. These machines complete this remarkable installation, a description of which we propose to lay before our readers.

THE OLDHAM WILLOW.

This is a machine about which it is not necessary to say much. It is the mechanical substitute for the old process of beating cotton with willow wands upon a netting in order to shake out the dust and dirt which fell through the meshes of the net, or the closely set grate bars originally used. Possibly, judging from its name, it may have originally been invented and introduced in the town from which it derives its name. The mechanical Willow usually consists of a cylinder about 40 inches diameter, and 40 inches wide across the face. In the case of this machine it is thus mounted on a shaft, furnished with driving pulleys, and rests in bearings in the framework. Fitted on and extending across its periphery are several rows of strong teeth or blunt spikes. A semi-circular casing internally furnished with rows of similar spikes covers the upper part of this cylinder. The lower portion is enclosed with a wire grid constructed in two parts and hinged together. The back portion of this grid is fixed to the frame and the front is free to move up and down in an opening in the front of the machine. It is also furnished with an exhaust fan. The material, on being fed to the machine, is dashed against the fixed spikes on the internal face of the casing, by which its matted fibres are loosened, sand, dust, and foreign matters are freed from it and fall through the grid into a cavity below, or are drawn away by the fan and discharged into the air. The material is left in this machine until it is judged to be sufficiently opened and cleansed.

IMPROVED SCUTCHER WITH PIANO FEED REGULATOR.

Cotton waste sweepings, and so on, owing to the grease and dirt with which they are often loaded, are not as tractable to deal with as pure cottons. Much more difficulty is experienced in forming them into a level lap, and this has necessitated special modifications of the scutcher with a view to overcoming the difficulty. It is

hardly necessary to go into the details of these alterations, as it would render our description too lengthy. It may suffice to say that the principles of the scutcher remain substantially unchanged and that the modifications consist of alterations in details. An improved pedal feed regulator, as shown in our illustration, conduces very considerably to the production of an even lap. An improved picker cylinder, specially designed for this machine, thoroughly separates all the fibres composing the raw material, and greatly facilitates its thorough cleansing. Our readers familiar with cotton machinery will be able to gather a very full and accurate conception of the merits of this machine from the excellent illustration given herewith. This will obviate the necessity of any lengthened description.

At St. Etienne has been recently invented an apparatus for marking the length automatically in every kind of woven fabric. This is done by stamping on one of the borders a line divided into metres, centimetres and decimetres. This system, which costs little and does no injury to the fabrics stamped, has the advantage of preventing fraud at the moment of sale, and facilitating all commercial transactions.—*La Epoca.*

Foreign Correspondence, News, and Notes.

TEXTILE MATTERS IN GERMANY.

[FROM OUR OWN CORRESPONDENT.]

ELBERFELD, JUNE 25TH, 1889.

It would seem as if the stirring I spoke of in my last letter, was caused by some officious Berlin and Vienna papers, perhaps because their masters again want more soldiers, or more money for arms; this being generally the way of making the people "bite the sour apple," as the Germans say; or, may be, in order to influence the coming elections for the Reichstag. The military wants are a screw without end; the one thing only to be wondered at is the long inanity, or, as it may be better termed, the stupidity of the people to bear those enormous and always increasing charges. The great colliers' strike is still occupying the minds of the Prussian leading men, not so much on account of the fatal consequences to commerce, as of what would happen in case of a mobilisation of the army, if there happened to be a strike, and want of fuel for locomotives (the care for the readiness of the army being always their most serious preoccupation in Prussia.) Immense stocks of coal are, therefore, being laid on in fortresses, great railway centres, etc. At the same time, the most ludicrous projects are being made to avoid strikes in the future. As for instance, one of the Government papers argues seriously that strikes are neither more nor less than a violence, an unlawful exaction, and therefore, amenable to the penal law. A paragraph must be inserted into the latter, to the end that strikes are formally forbidden, and will be punished by the criminal law.

The textile workmen of Brünn demand an advance of wages of 20 per cent., and reduction of working time to nine hours. These claims being considered exaggerated by the makers, a strike seems inevitable.

The cotton, woollen, and worsted industries of Alsace are now very busy with orders received for the greatest part from the Old German countries. Until recently these industries had their principal market in France, but since the rigorous measures taken by the German authorities in respect of the frontier traffic, passports, etc., it seems that Alsace is losing the French market, and is now trying to win a market in Old Germany, which, however, is not quite to the taste of the Old German manufacturers, as the textile industries of Alsace are strongly devel-

oped, and march in advance of those of the old country.

In the Silesian cloth factories business is very brisk. Mr. Fritze, Grünsberg, is erecting a new cloth factory, and that of the "Tuchmacher Tunning," of that town, is to be considerably enlarged.

The factory weavers of the firm, E. Reinhold, Meerane (Saxony), struck work, claiming an advance of wages of 15 to 35 per cent.

The "Fabrikfabriken, vormals F. Bayer and Co. (Limited)," Elberfeld, augmented their capital by 1½ million marks, bringing the whole up to 9 million marks. The "Actiengesellschaft für Anilinfabrikation," Berlin, propose augmenting theirs by 900,000 marks.

Joint stock companies. Under the firm "Mechanische Weberei Ravensberg," a company has been formed, capital one million marks. The establishment of Mr. Fr. Gebauer, Charlottenburgh, maker of bleaching, dyeing and finishing machines for textile industries, has been bought by an English company, to be converted into a joint stock concern. The large curtain factory of Mr. George Thorey, Falkenstein, has been converted into a joint stock concern, with a capital of one million marks. Up to this day the German Government has not yet declared its readiness to take part at the Industrial Conference, to be held in Berne.

A Vienna correspondent gives a favourable account of the condition of the Austrian jute manufacturing industry, which continues to improve steadily. An opinion may be formed of the position of the trade when it is stated that last year the imports of raw jute amounted to 225,161 quintals. Two years previously they were only 160,951 quintals; in 1884 they were 110,753 quintals; in 1882, 86,719 quintals; and in 1880 they reached only 39,022 quintals.

THE SWISS BOLTING SILK INDUSTRY.—A Paris correspondent writes a very disheartening account of the condition of the bolting silk industry in Switzerland. It appears that there has been of late a considerable diminution in the consumption of this product; while its price has fallen so low that it can scarcely become much less; and manufacturers are beginning to leave off the attempt to underbid one another any longer. At present there are probably not more than 1,000 weavers employed in this industry, and even these suffer more or less from the bad times. Some employers display a desire to pay, so far as possible, the old rates of wages which were current in more prosperous times; but others are only too ready to reduce their operatives' pay, the general result being unfavourable to the workers. One cause to which the diminution of demand has been ascribed is the unfavourable Customs relations of Switzerland with some other countries, as, for example, Germany. The greater use of new machinery in flour mills, which requires finer qualities of the bolting cloth and less of it in quantity, has perhaps had a still more detrimental effect upon the Swiss industry. Many new flour mills have been erected of late years, and the existence of such required that the old ones should be improved, the result being as already described.

POLISH TEXTILE INDUSTRIES.—According to a recent report of the British Consul-General at Warsaw, the accounts from the chief Polish manufacturing centres describe 1888 as having been a most prosperous year. The textile industries especially have made large profits and increased their production, the surplus of which, over and above the requirements of local and Russian markets, is finding an outlet in the Far East. The demand for this class of goods was so great during the year that manufacturers were not able to keep pace with it, and many orders had to be refused. The correctness of these reports, which are unofficial and unsupported as yet by statistics, is placed beyond doubt by the fact that the two railways, by which the principal traffic in textiles is carried on, yielded during the first ten months of the year 18 per cent. more than in the corresponding period of the previous year. The Consul-General, however, adds that since the month of July, when the exchange fell in the course of a few weeks from 12s. 70c. per pound sterling to 9s. 20c., prices had in many instances to be lowered to prevent the influx of foreign goods, especially from the ever-watchful Germany. One of the principal woollen manufacturers stated that his firm had now to be satisfied with a profit of 10 per cent. instead of 40 per cent. Encouraged by the large profits to be made, some foreign and native manufacturers have recently started a new curtain and three lace factories at Warsaw, in which some English capital and a certain number of English