

## Machinery and Appliances.

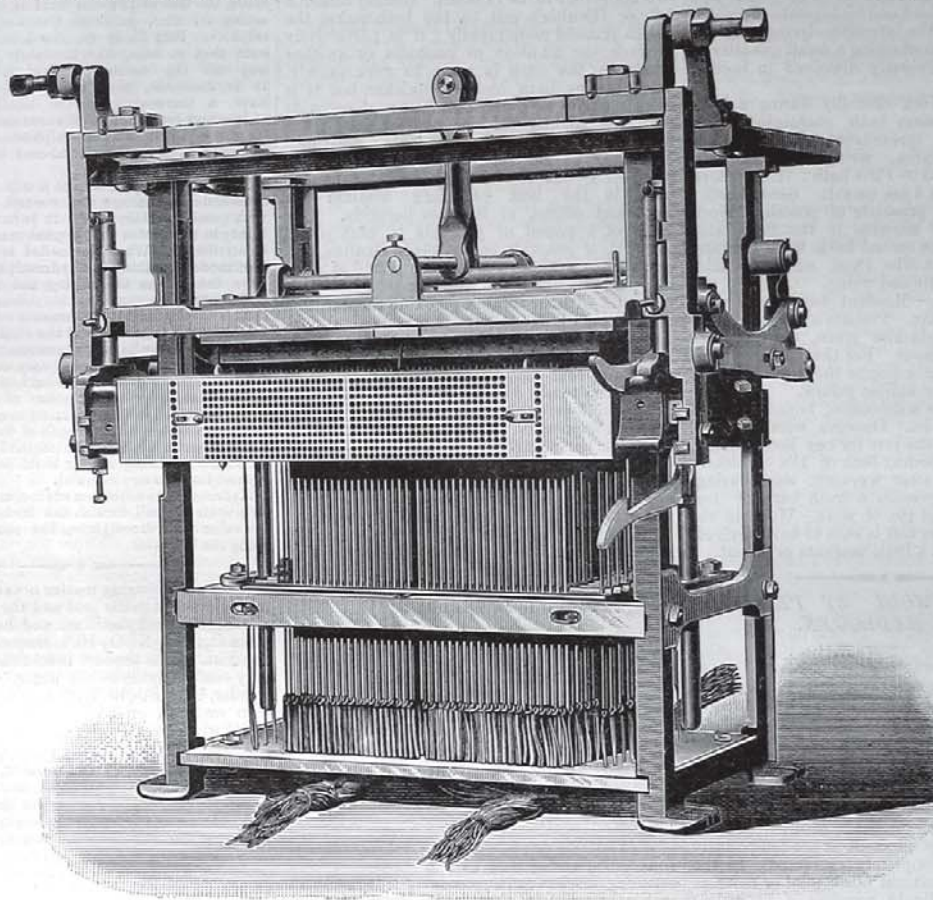
### THE JACQUARD.

The word at the head of this notice, though a personal name, has become so thoroughly identified with the machine bearing it, that the individuality of the inventor from whom it is derived is almost lost. It is only amongst the more literate of the masses of people engaged in the textile industries that the fact is known that the Jacquard machine was invented in the first year of the present century, by an ingenious Frenchman called Joseph Marie Jacquard. The feminine

the growing taste of the various communities in which it was practised. The consequence was the draw loom was invented, in which by a simple mechanical arrangement, and the aid of a boy to pull the cords, the shedding was much more expeditiously performed. Skilful and careful drawboys were not however over numerous in those times, than they would be found to be to-day, and the nature of the difficulties the old draw-loom weavers would experience may easily be imagined. To remedy this the drawboy machine was invented. It was this system which Jacquard's invention superseded, and his ingenious machine or mechanical drawboy, as it might very properly be called, has ever since been a most important adjunct of the loom. As it issued from Jacquard's hands, it was, compared to its condition to-day, a very

McMurdo, New-street, Miles Platting, Manchester.

The Jacquard is a remarkably simple machine when considered in relation to the fact that its power and range of work is almost unlimited. By its use the most elaborate figure weaving may be accomplished with the greatest facility, as may be easily proved by referring to the figured linens of Belfast, the quiltings and fancy cotton fabrics of Bolton and other Lancashire towns, and those of other fibres of several other districts in the kingdom. Jacquard machines are of various sizes from very few up to 1,200 hooks and even beyond. The higher numbers are, however, mostly used in hand looms. It would be a work of supererogation to undertake a description of the principles of a machine so well known as the Jacquard. All that is



SINGLE LIFT 600S JACQUARD MACHINE.—MR. JAMES McMURDO, MILES PLATTING, MANCHESTER.

baptismal appellation conferred upon him probably indicates that his parents were good Catholics. Such, however, has been the success of his invention that it may safely be asserted that he has exerted a much greater influence, and upon a larger number of persons, than any of those who played such a prominent part in the revolutions, religious and political, which occurred during the prime of his manhood in France, and whom historians, and the public under their lead, generally regard as far more important personages than the inventor.

Probably the first form of ornamental or figure weaving was what is known as tapestry weaving, which at an early time achieved very high excellence. This, however, ultimately proved too slow and expensive a process to meet

crude affair and of very limited application. It, however, embodied a most valuable principle, of which succeeding inventors have availed themselves. In their hands it has undergone various modifications and improvements, and has been adapted to many purposes that were hardly contemplated by its author on the first realisation of his idea. Most of these, however, are outside the scope of our present object, which is simply to review the high perfection that has been attained in the construction of the Jacquard and its adjuncts—for even the Jacquard, an adjunct to another machine for weaving purposes, has got adjuncts of its own. This we propose to do by describing and illustrating the series of excellent machines made in the well-known establishment of Mr. James

necessary on the present occasion is to point out the improvements in its details introduced by Mr. McMurdo. Our illustration represents a 600's single lift machine with swing motion. This type of machine is used for weaving all classes of goods where a high speed is not required. It is made with both swing or horizontal cylinder motion to suit the requirements of the purchaser. Amongst the improvements in details may be mentioned the fixing of the rods in the griffe, which gives the latter a very steady motion; they are also fixed in brackets, at the top and bottom on the frame. The knives are made much stronger than ordinarily and are therefore much less liable to injury. The division is wider and the hooks are not so liable to be drawn as with

the common method of construction. The frame is more open than usual, rendering every working part more clearly visible and more easily accessible for the remedy of any derangement that may possibly arise. Mr. McMurdo has also introduced an improved hammer or drop, which is everywhere admitted to be a great advance upon the one which it has largely superseded. With his machines Mr. McMurdo always uses a cast iron grid, which is far more durable than the sheet iron grid formerly extensively used, and which has not even yet been discarded in all cases.

This brief enumeration of the improvements introduced will show to practical men that the weak points of the ordinary jacquard have not escaped the attention of the maker, and have been thoroughly remedied. To any inquiries about either ordinary machines, or with special modifications that may be directed to the maker at the above address, he will be pleased to give prompt attention.

The Roe Acre Mill Company, Heywood, have increased their order to Messrs. Howard and Bullough from 4 to 58 ring spinning frames. These represent about 18,000 spindles.

The furnishing of the Tottington and Woolfold Spinning Co.'s mill has been awarded to the following firms:—Messrs. Lord Bros., Todmorden, scutchers and frames; Messrs. Platt and Bros., Oldham, cards; Messrs. Howard and Bullough, Accrington, ring frames, amounting to about 12,000 spindles. It has not yet been decided what firm shall have the mules.

The appointment of Senor Albareda as Spanish Ambassador to this country seems likely to lead to active steps being taken to strengthen and extend commercial intercourse between this country and Spain. Before he came here Senor Albareda occupied, among other important posts, that of Minister of Commerce and Public Works, and since his residence in London he has been largely instrumental in promoting the formation of what promises to be a very important company under the auspices of some of the most influential Spaniards in Spain and in this country. The company in question is to be styled the "Agricultural and Industrial Banking Corporation of Spain," and is to have a capital of £2,000,000 in shares of £1 each. The preliminary particulars are published in the current number of the *Revista Economica*, the organ of the Spanish Chamber of Commerce in London. The same journal also contains a notification from Minister Canalejas authorising the Chamber to publish English translations of the Spanish commercial code, mining laws, &c. Owing to frequent requests for information respecting the Spanish laws relating to mining and commercial undertakings, the Chamber has decided to publish authorised translations. It is the intention of the Chamber to begin with the Spanish commercial code in the July number of the *Revista*.

**DECLINE IN FRENCH TEXTILE EXPORTS.**—A Paris correspondent says that there is a serious decline in the exports of textile goods from France. The decrease in this branch of trade was very marked last year, but the process is now being changed and an improvement is taking place. The chief articles in which the diminution occurred were cotton and woollen textiles, and men's and women's ready-made clothing. The decrease in the exports last year of the first-mentioned article was equal to about £520,000; of the second, £1,200,000; of the third, £160,000; and of the fourth, £400,000. The silk exportation formed an exception to this, for France, unfortunate state of affairs, showing as it did an increase of about £620,000 in value. German competition is regarded as the chief cause of the falling off, but the French do not intend to yield their former supremacy in the supplying of goods to the world of taste without a struggle, and there are signs of the exhibition of greater energy on their part in future in the commercial world. One important firm in Paris is, it is said, about to open establishments in all parts of the world for the show and sale of French samples of good. Up till the present the countries in regard to which the decline in French textile imports has occurred are the Argentine Republic, Brazil, and the United States of North America. Made-up linen goods exported to the United States diminished last year by 65,873 kilogrammes as compared with those of the previous year. There was a decline of 49,447 kilogrammes in the total exports to the Argentine from France, and a diminution of 109,417 in those to Brazil.

## News in Brief,

FROM LOCAL CORRESPONDENTS AND CONTEMPORARIES.

### ENGLAND.

#### Blackburn.

Last week Mr. Amos Armistead offered for sale, at the Grosvenor Hotel, several lots of valuable property. There was a good attendance. Lot 1, which consisted of the weaving shed known as St. Paul's Mill, Nab-lane, containing 381 looms, with the necessary machinery, was put into bidding at £1,400, and was ultimately sold to Mr. Henry Barton for £2,600.

**COTTON SPINNING MILLS FOR SALE.**—Messrs. Edward Rushton and Son offered for sale at their rooms in Exchange-street, last week, two leasehold cotton spinning mills, situate in Clayton-le-Moors, and known as the "Victoria Mills" and "Willow Mills" respectively. The first lot included all the accessories for manufacture, but the second lot was without machinery. There was a fair attendance, but the lots were ultimately withdrawn owing to the reserve prices not being reached.

#### Bolton.

Mr. John Taylor, rope manufacturer, of this town, has received an order to supply Messrs Coates, sewing cotton manufacturers, Paisley, with over 20,000 lb. weight of driving ropes.

Large crowds continue to assemble in the vicinity of Messrs. Crooks' Mill, in order to get a glimpse of the imported man. It is reported that eleven of the latter left on Wednesday.

In Messrs. Barlow and Jones' New Prospect Mill, Messrs. Musgrave have the order for boilers, engines and gearing. Messrs. Platts, of Oldham, have the cards and mules, and Messrs. Howard and Bullough, of Accrington, the frames.

A boy has been killed at the mill of the Park Mill Spinning Company. He was a peeler, and whilst stripping waste from the scavenger rod, he was caught between the carriage and beam, receiving such injuries that death shortly after ensued.

Messrs. Dobson and Barlow, of Bolton, have secured the order for the preparing and spinning machinery, 104,000 mule spindles, for the Howe Bridge, No. 3 mill, now in course of erection. Messrs. John Musgrave and Sons, have the order for the boiler engines and gearing.

A fire broke out recently in the scutching room of No. 1 mill, belonging to Messrs. Barlow and Jones, Limited, owing to the ignition of some cotton waste, consequent upon the over-heating of machinery. Very little damage was done by the flames, which were soon extinguished.

#### Bradford.

Mr. Samuel Gulliffe Lister, Manningham mills, Bradford, has contributed £500 towards the building fund of the Harrogate Bath Hospital.

The Bradford Coating trade still keeps improving, both in quantity and quality. On dissecting a number of samples of goods now making we find that there is scarcely such a thing as one with a shoddy back, the patterns being mostly of what is called the "corkscrew makes," but not the corkscrew design which slipped, and was the cause of the celebrated expensive lawsuit that took place between a Bradford maker and an American firm. On the contrary, the coatings now making form an important branch of the Bradford trade. The patterns make up to 40 shafts.

#### Delph.

A special meeting of the members of the Delph Co-operative Society was held on Monday evening, for the purpose of taking into consideration the advisability of establishing a co-operative productive concern in the district. Mr. T. E. Moorhouse (chairman of the society), introduced the subject. It was resolved to appoint a provisional committee, with a view to establishing a productive concern, that the shares should be £1 each, and that the society be asked to invest £2,000.

#### Dewsbury.

The teacher, Mr. S. Washington, and students of the Dewsbury Technical School visited the annual exhibition of students' work at the Yorkshire College, Leeds, on Saturday last. A very pleasant and profitable afternoon was spent in examining the looms and the designs exhibited by the college students. The designs were very carefully executed, and showed considerable advance on those of previous years.

#### Earby.

The Factory Mill Co.'s establishment in this village completely stopped work on Thursday. As a large portion of the villagers were employed therein,

their closing will cause considerable distress or compel emigration of the workpeople.

#### Guiseley.

A fire broke out about seven a.m. on Saturday last in the willy house belonging to the Spring Head Mill Company. It is supposed that some cotton ignited in passing through the teaser. The flames burst through the roof in a very short time, but the brigade belonging to the mill were successful in subduing the fire after some trouble. Damage to the amount of £200, covered by insurance, has been sustained.

#### Heywood.

The extensive mills of Messrs. Kay Bros. were closed yesterday week until Tuesday morning on account of stocktaking.

Mr. William Standing, carder, has transferred his services from Mr. Mayall's to Albert Mill, Heywood, where he succeeds Mr. J. Green, as carder.

Messrs. Richard Hoyle and Co., Albert Mill, resumed work on Monday last after some days stoppage for putting in a new boiler.

A meeting is to be held at Heywood on Monday next, for the purpose of forming a company to erect a mill, to hold about 100,000 spindles, on the site of the late Britannia Mills, Heywood. The land, which is freehold, consists of 14,504 square yards. There are already constructed three reservoirs, mill chimney, fence wall, &c. The promoters feel confident that a mill can be erected at a cost which should be an augury of its success.

#### Leicester.

In consequence of the increased value of both English and Colonial wool, local spinners are compelled to advance their prices of worsted and Cashmere yarns.

We regret to learn that the old-established firm of Messrs. J. and G. Thorp, glove and hosiery manufacturers, has been under the necessity of calling together a meeting of creditors.

Messrs. W. E. and F. Brown, sock and glove manufacturers, are about to dispose of their business. The whole of the machinery will most probably be offered by public auction during the present month.

Mr. John Sutton Lee, youngest member of the firm of Messrs. T. C. and J. S. Lee, yarn agents, &c., died at his residence (Stoneygate) on the 24th ult. The deceased gentleman, in connection with his brother, for many years past enjoyed the full confidence and respect of all Leicester manufacturers.

At the half-yearly election for the Commercial Travellers' Schools at Pinner, held at the Cannon-street Hotel, London, James Ernest Hopkins, a Leicester lad, was elected. The case was nominated by Messrs. Swain, Latchmore, and Roberts, and supported by the Leicester Commercial Travellers' Association.

#### Macclesfield.

We hear that Mr. George Kerr will commence business this week as a manufacturer of silk goods in Crompton-road Mills, formerly occupied by the late Mr. William Pownall.

The proposed silk exhibition in London next year has met with much favour in Macclesfield, and it is expected that many local manufacturers will exhibit some splendid specimens of the productions of the hand looms.

On Thursday week, Mr. George Frost, the largest silk throwster in America, died at his residence in Paterson, N.J. The deceased gentleman was formerly in business in Macclesfield as a silk throwster, but moved to America in 1864.

#### Oldham.

The mill belonging to Mr. Robert Stott, Alexandra Mills, Oldham, which was destroyed by fire some months ago, has been re-built on fire-proof plans. The work is so far completed that the mill is ready for receiving machinery. Norman Mill, which is being erected by Mr. George Buckley on a plot of land situate off Rochdale-road, is not in quite so forward a condition. The floors are being laid. In the course of a few weeks the mill will be ready for the deliveries of machinery.

The machine-making works in the towns are very busy. This applies to cotton and woollen machinery, steam engines, and boiler making. Messrs. Buckley and Taylor, Castle Ironworks, are supplying the steam engines for the Beal, Ruby, and Messrs. Murgatroyd and Co.'s mill. This firm was exceedingly well engaged during the Whitsuntide recess in executing repairs to engines, and this will probably be the case at the annual holiday, which takes at the latter end of August. This also applies to similar firms in the town.

In connection with the erection of a mill at Holinwood by Messrs. Murgatroyd and Stansfield, late of the firm of Messrs. Butterworth, Murgatroyd and Co., the following contracts have been let:—Exca-