Machinery and Appliances.

THE DOBCROSS LOOM.

MESSRS. HUTCHINSON, HOLLINGWORTH, AND CO., DOBCROSS LOOM WORKS, NEAR OLDHAM.

We notice with pleasure a new loom of Messrs. Hutchinson and Hollingworth, which they have lately presented to the Huddersfield Technical School, containing all their latest improvements. We have been afforded the opportunity of seeing this loom at work and noting its many features of excellence. The firm is well known in all weaving districts, but more particularly in the woollen and worsted centres of Huddersfield, Colne Valley, Leeds, Dewsbury, Bradford, Galashiels, and Hawick, and has long enjoyed a well-deserved reputation for looms for weaving fancy woollens, worsteds, shaws, and carpets. For many years, previous to 1853 their attention was confined to the making of the old, slow, Dobcross loom, running at a speed of 45 to 50 picks per minute. Since that time they have devoted their attention to the production of a loom to run at about 80 picks per minute, and to weave all kinds of fancy worsteds and woollens up to 36 shafts of healds, with one to seven different colours of weft. They have so far succeeded that the loom which they put upon the market to-day fully sustains their old reputation, and is rapidly displacing the older patterns in all enterprising establishments. This loom was originally made from patterns obtained from the Knowles Manufacturing Co. of the United States, but has been so much improved upon, by strengthening the machine throughout, by adding new motions, and adapting old ones, that it can scarcely be recognised as the same. The driving is effected by means of a belt and fast and loose pulley, mounted upon a small counter shaft, which gears by means of a bevel change wheel for altering the speed of the loom. It is driven by a train of spur and bevel wheels from the crank shaft, which may be thrown out by gear. Drawing by connecting pin fastened to a hand lever passing to the front of the loom, and immediately under the control of the weaver. This part of the loom is worked by hand from a large hand-wheel projecting at the front, and also well under the weaver's control. By this means mispicks, broken picks, or other faults may be easily caught by bringing the loom to a stand, disconnecting the jacquard portion by drawing the lever before mentioned, and operating healds and boxes by hand. The pattern may be reversed by a reversing lever or knob, and the various sheds obtained in reverse order for the withdrawal of picks.

A new feature of this machine is a positive take-up motion similar in principle to those already in use, but somewhat different in detail, owing to the fact of its being driven from the pattern chain shaft. The result of this is that whenever the weaver finds it necessary to reverse the pattern chain to pick back, the cloth is at the same time reversed by means of the take-up motion. Consequently, after picking back, the weaver has simply to wind back the amount of warp slackened, the adjustment having already been regulated to a nicety by the take-up motion.

The motion communicated to the healds and boxes through jacks, levers, cords, etc., is obtained by the revolution of a toothed disc to left or right on its own centre. The centre is in a lever, which is indicated by the pattern chain to lift or drop the vibrating disc into a top or bottom toothed cylinder. The cylinders are driven in contrary directions by two opposite bevel wheels on the upright shaft before mentioned. Suitable connecting levers, pivoted at one end to the jacks and at the other to a point about an inch within the periphery of the revolving disc, communicate, and at the same time convert the half-circular motion of the disc into a horizontal motion of an eccentric character, which imparts to the healds a motion commencing slowly when the heald is at full stroke, and increasing gradually towards the centre of the stroke, and decreasing gradually again until at the other extremity. The shed is of that variety known as open shed. A levelling lever is provided, by means of which all the healds may be brought to one level to facilitate taking up ends. This shedding motion has now stood the test of several years' practical work, and has been found durable, impossible almost to make wrong threads, very smooth in working, and causing the least possible extra strain upon the warp. It is not liable to get out of order, and is very much in favour among weavers because of the readiness in picking back, and the certainty that the boxes can never get out of harmony with the healds. In addition, being open shed, it causes the least possible wear and tear of healds, cords, and leathers. The shuttle boxes, although taking a large shuttle, are made very light, of steel throughout, and work very true in planed grooves. They are also made open top and bottom, so that bobbins in the lower boxes may be seen through the top.
The stop rod is of the ordinary "banger" description, but is provided with a stout spring buffer to reduce to some extent the excessive momentum.

The picking motion is peculiar to this class of loom. It is an underpick, and consists of a square, wrought-iron, horizontal rocking-shaft, upon which a picking shuttle is mounted, and which is connected by suitable levers, arms, and leathers to the picking stick. The picking tappets are fixed upon the picking shaft, which revolves at the same speed as the crank shaft—tappets being arranged so as to slide horizontally upon the picking shaft—only being in gear, as indicated by the pattern chart.

The let-off motion is the one usually adopted in looms for this class of goods, viz.: the worm and worm wheel, with compensating back rests fitted up with levers and weights.

These features, all excellent in themselves, are well supported by thorough workmanship and first-class material. The joints are all pinned, many of the parts, particularly in the harness, are of steel, the working part case-hardened. The gear wheels are not cast, but cut from the solid, and the whole is got up in a very neat manner.

The parts are all interchangeable, and made true to standard, jigs and gauges. The requirements of the trade have been carefully studied, and nothing in the way of development has been spared to make this machine a source of satisfaction to owner and maker alike.

"A REVOLUTION IN COTTON GINNING."—By an invention chronicled in the New York Commercial Bulletin, "a revolution in cotton ginning" is predicted. The inventor is a Mr. Drousis, of Altavilla, Pa. It is said that an unbroken and silky staple from upland cotton, rivalling that from sea islands, and worth ten times as much, had been treated in the ordinary way. Not only is the breaking of the fibre prevented, but the seed is thrown out, which, it is claimed, will reduce the cost of getting out the oil.

Foreign Correspondence.

TEXILE MATTERS IN THE UNITED STATES.

NEW YORK, MAY 2ND.

The prospects offered to those desirous of embarking in the American carpet industry are not as bright as they were a few months ago. The present low prices and still growing consumption in the home market, production has grown in a greater ratio, and on various occasions during the past few months suggestions have been made with a view to the curtailment of production, as has been mentioned in The Textile Mercury from time to time. One of the numerous English specialists, with whose attentions the country has been in favour during the past few years, has been enquiring into the question of taking up some of our Philadelphia mills, but the result of the inquiries made has not been satisfactory. Three firms were approached, and an offer was made to purchase their respective businesses with the view of operating them through the medium of a joint stock company. Accordingly, accounts were drawn up shewing the cost of the machinery and buildings. The result was not considered satisfactory by the promoters, and the capitalists interested decided to abandon the project on the ground that the most favourable presentation of the possible profits would not produce anything like a satisfactory pecuniary advantage. Only one of the firms referred to, according to current reports, could show a favourable balance as the result of the first year's operations.

Some of our leading jobbing houses have been called upon during the week by the representatives of the Textile Mercury, with the view of extracting some information as to the course of the local dry goods business during the year. Cheviots,-striped, and plaids have favourites during the season, the fabrics being in demand both for dress goods and furnishings. As in Manchester, so in New York. It is reported that the town of Scarsdale, containing 1,500 looms, was burned down.

The weaving-factory of Julius Bach in Königs-gof has been completely destroyed by fire. The insured value is estimated at 160,000 florins.