

duce such goods so much faster, but it can be run automatically all day long; and, having no shuttles to change, no warps to dress or beam, no yarns to "size" (before being used), no harnesses or heddles to bother the weaver, or add more weight to the loom—consequently requiring less power to drive—and, better yet, so easily manipulated by the weaver, that one hand can readily attend to four such machines, any one of which can easily produce a full cut of cloth 50 yards long, or heavy weight goods, within a working day. It will not require much figuring on the part of our readers to arrive at a fairly accurate conclusion as to the full value of such an invention, which is now in operation in a little unpretentious shop in New England.

To be more precise in our description, we will say that this new "loom of the future," which is meant for producing the greater part of the world's fabrics, in which (chiefly on account of its productive capacity) it will have no rival, is built in circular form, and—unlike all other circular machines, employs a regular warp as well as weft, or filling yarn. For its product, which may include plain cloths, twills, diagonals, with or without plush or heavy backs, astrachans of the best makes, overcoatings, heavy or medium weights, hair lines, checks or plaids, and many other patterns too numerous for us to now mention, there being no bar to the variety except in intricate weaving designs or "Jacquard patterns" which alone may be left to the much slower fancy loom of to-day.

When it is conceded that the foreign maker of such goods has an equal opportunity, with our own manufacturers, of purchasing his raw material at its lowest figures in the same market, it must be obvious to those who are interested in this problem that to offset his rival's advantages of cheap help, low rents, etc., the American manufacturer who seeks the same market for his productions must meet the situation more effectively in another way, viz., production.

To give our readers a practical idea of what can be done on one of these looms, let us say that on a 14-inch cylinder which is adapted for three-quarter goods, a full yard of good, marketable men's wear goods can be woven in seven minutes or about eight yards to the hour. And let us assure our readers this is no "fairy story," as can be readily proved.

On a 26-inch cylinder—meant for 6-4 goods, and running only at moderate speed—every turn of which can be made to put in and drive home 10 or more threads (or picks) of filling, the production is correspondingly great, against which the foreign rival will be helpless; and, let us add, that these are facts which can be safely vouched for by those who, like ourselves, have witnessed the loom in operation.

On account of the constant and even tension put on the warp, which (tension) is applied by springs, and no jerking motion needed, such as follows the rising and sinking of harnesses as on the present style of fancy loom the yarns needed for this rotary loom need not be of such good stock nor need it be so finely spun, as, if meant for any kind of fulled goods, the number of "holes of twist" applied in the spinning of such yarns can be reduced, thereby aiding that part of the process very materially. And, let us add, a few less turns will do equally well for the filling; both which can be spun more economically and the "fulled cloth" will thereby have the "softer feel," which will make it more desirable to handle as all experienced manufacturers are aware.

We think it a perfectly safe assumption to state that the power required to drive one fancy loom will be entirely sufficient to operate three of these circular looms; in fact, we should not hesitate to add that less rather than more power is needed to operate three such looms, the required floor space for such being about one-half that for the fancy loom.

While very few woollen weavers can attend to more than one fancy loom, especially so if on medium or low grade goods, one operator can as readily attend to four of these circular looms, which, with their even tension and regular automatic movements, will give less trouble to keep in operation; and as the production from each will not be less than three times more, the operator attending four such looms can readily turn off twelve times more than can one weaver on a fancy loom, the respective productions from which cannot be told apart when in a finished condition. In fact, if there be any difference noticeable, it is in favor of the circular loom, the product from which will be noted for its more even texture throughout the whole piece.

While the inventor does not claim to be able to produce in exact duplicate every style of goods in the market, such as intricate face weaves or jacquard patterns, enough of the less intricate sort can be made more cheaply—for the markets of the world—to offset such special demand. At the same time it is claimed by the inventor that enough of such fancy patterns can be readily and quickly produced—by simply changing the stripping bobbins in the warp, and the feeding yarn in the weft or filling part of the fabric—to more than offset such an infrequent demand, as it is well known that very few manufacturers care to produce such intricate patterns, preferring rather to work on plainer goods, such as our market calls for to-day.

Should such necessity arise for special weaving effects, however, special new pattern wheel can be readily made up, so as to press the needles in or out, thereby making them "risers" or "sinks," exactly as is done with warp threads drawn through the heddles of a harness, and the striking advantage of this mode of operating the warp threads is so obviously more economical for saving power, that once it is seen and understood it is thoroughly appreciated. In plainer terms the revolving pattern wheel is always ahead of the filling thread, pressing the upright needles to act as risers or sinks for the warp threads in the fabric; a very simple duty which the needle cannot fail to perform when pressed outward, or "skipped" in turn by the pattern wheel, which is positive in its action.

In our opinion the manufacturer who will fit up his mill with such—which will not cost him (loom for loom) as much as he must pay for broad fancy looms—and who aims at producing such standard makes as twills, diagonals, chevots, overcoatings, striped or checked effects, hairlines, astrachans, etc., in either light or heavy weights (but in great quantities, for which this rotary loom is specially adapted) will soon find that he has his market in perfect control, especially so as against the slower and more laborious productions of the common broad looms of to-day. Of this fact he need have no doubt, as to look at the question from any other point of view is simply to invite more active competition from abroad.

—Textile Excelsior.

A VENETIAN TAPESTRY.

At the exhibition of the Royal School for Art Needlework in London recently was an example of old Venetian tapestry work, and by connoisseurs it would no doubt be considered as worth a prince's ransom. For more than 250 years it draped the walls of a room in the old Venetian royal palace, and the six large and six small panels into which it is divided are estimated to have cost the working hours of many lives. The lustre of the silk is as soft and fresh to-day as when it left the workers' hands. Of a different order of richness are the