

Cor'set-mak'ing Ma-chine'. A loom for weaving fabrics having an undulating contour of varying dimensions. It is arranged to make the tubular spaces for the introduction of the whale-bones. In the machine exhibited at the French Exposition in 1867, the principle of a constant length of travel for the shuttle was adopted for the sake of simplicity ; but as it is necessary, in weaving the gores, that the weft-thread should pass through only a part of the breadth of the warp, the Jacquard has been employed for the purpose of taking up the portion of the warp required to be woven in that part. As the shuttle always passes over the full breadth of the warp, of which only one portion, say one third, is to be used, it unwinds the full length of weft thread from the bobbin, but only one third of it is tied in the warp. In re-passing the shuttle one third more is tied, thus leaving one third of the unemployed weft-thread in the form of a loop upon the article manufactured. To remove this superfluous thread, the thread-catcher, which is a lever with an elastic finger, passes from behind, through the lay on each side of the reed, and pulls the thread out. The shuttle is conveyed by a carrier to the center of the warp, where it is taken by the other carrier and passed through the remainder of its course.

The most difficult part of the work is performed by the *regulator* or *take-up motion*, the action of which is to take up the woven cloth in such a manner as to leave a straight line in front of the reed. As the cloth is woven first only on one side ; then for the whalebone pockets, where the cloth is double, evenly over the full breadth ; thirdly, on the other side only ; and, finally, for the full breadth at the back and front of the stay, — the motion of the regulator must change accordingly. To effect this, the cloth passes between two sets of rollers, the upper of which are simple pressure-rollers, to be regulated by springs and set screws. The lower rollers are fluted and worked by a system of levers independent of each other. The levers are worked conjointly by the Jacquard and lay, so that the lay gives only a movement to those levers which have been previously acted upon by the Jacquard.

An elastic-warp tension is obtained by a peculiarly constructed lever combined with an elastic brake, so as to render the whole machine fit for flat, convex, plain, or richly ornamented work, according to the cards placed upon the Jacquard, and the material put in warp and shuttle.