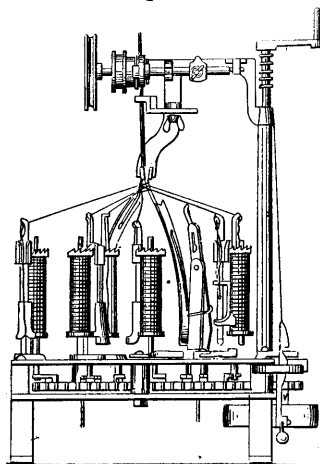


Braid'ing-ma-chine'. A machine in which a fabric is made by the laying up of three or more threads by a plaiting process.

Fig. 867.



Braiding-Machine.

Mechanism guides the thread-holding bobbins in a serpentine course, to interlace the threads. Threads, from three to thirty, are twisted one around another by revolving wheels, spindles, etc., making braid, stay, and shoe laces, upholsterer's cord, and coach-lace. It is also employed for covering whips, threads of caoutchouc, the wires of crinoline, etc.

Braiding-machines are made of all sizes, from

machines braiding seven strands to those braiding eighty-five, this being the limit at present of flat braids manufactured in the United States; though round braiders, or machines for covering tubes, are

built capable of braiding ninety-six strands. The sizes of round braiders most largely in use, however, are those braiding sixteen and twenty strands, which are the sizes used in the manufacture of shoe-strings and covering hoop-skirt wires. The sizes of flat braiders most in use are those braiding fifty-three and sixty-five strands worsted yarn, which produce the common dress braids now so commonly worn. The production of American machines is about a million yards daily of dress braids.

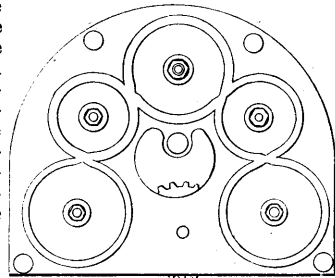
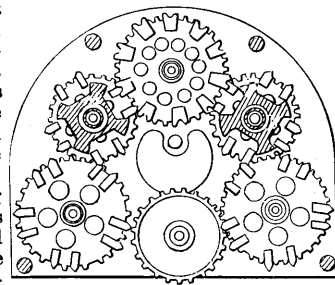
The braid is passed through fire to relieve it of its floss, and prepare it for the dyer.

The views (Fig. 868) are respectively elevation and plan of a braiding-machine. The elevation shows the mode in which the spindles and bobbins are arranged relatively to the skirt-wire, around which the strands are being plaited. The lower figure shows a view of the carriers, and of the race-circles, in

which the spindles are caused to move, so that they move in and out, crossing each other's paths, and thus interlace the strands. When the braid is to be laid up tubular, as in covering upholsterer's cord, whips, and skirt-wire, the set of race-circles form a continuous series around, and the spindles make the complete circuit, again and again repeating the serpentine course in the same direction. The upper figure represents a machine of this kind.

When the braid is to be laid up flat, as in the *Braiding-Machine Carriers and Race-Circles*. drag and other common braids, each *racer*, as the spindle-holders are called, makes a single course, turns round the last race-circle of the series, and then returns, intersecting its own former path as it follows the circles shown in the lower part of the figure. The upper part shows the carriers which impel the racers, each one delivering the racer to the next carrier in series, which it impels along its allotted path in the circle. The two figures represent the carriers and race-circles of a machine for laying up flat braid. By a still farther refinement of the process, the machine is adapted for making two or more distinct braids connected at their edges; thus admitting of different-colored stripes. Each racer for this purpose goes only through its own course of race-circles, one of which circles is common to the two carriers.

Fig. 868



Braiding-Machine Carriers and Race-Circles.