

'Sewing Machine'. Sewing machines have arrived at that degree of perfection that in their various kinds they do about every kind of work that can be done with a needle. They are deemed almost an indispensable article in every household. See pp. 2098-2124, "*Mech. Dict.*"

Figs. 2235-2237 show the operating devices of the Wilson Oscillating Shuttle Machine, with the shuttle carrier and shuttle. An eccentric on the driver revolves the feed shaft through the vertical lever; a secondary lever, pivoted to the vertical lever midway of its length, operates the rock shaft which oscillates the shuttle; a pin on the vertical lever works in a slide to regulate the motion of the lever. An automatic cut-off in the wheel prevents the machine from running backward and allows the winding of the bobbin with the needle standing still in the work.

Cole's Universal Feed Sewing Machine does plain and fancy stitching, braiding, etc., stitching in any direction at the will of the operator, allowing him to follow the most intricate patterns.

An extra large machine of the Singer type, made for a manufacturing firm in Liverpool, and designed to be run by steam, weighs over four tons, and is in some respects of new design, uniting much simplicity of construction with great strength of parts. It is adapted for general manufacturing purposes of the heavier sort, although specially made for stitching cotton belting, an article which is just now taking the market as a

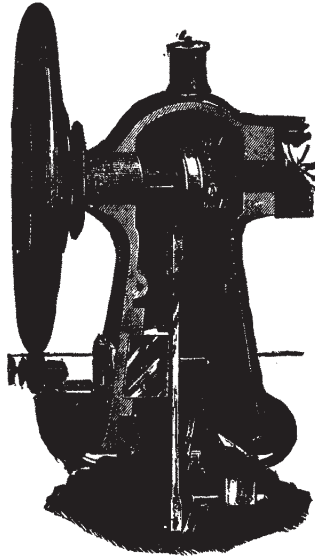
cheap and serviceable substitute for gearing and the ordinary leather belting.

The material used is of great strength and toughness, and is sewed together in plies or layers up to an inch in thickness. The belting in being sewed together is passed through heavy feed rollers some $\frac{9}{16}$ in diameter, and more than $\frac{9}{16}$ in length, getting stretched and pressed in the process. There are

two needles at work with shuttles, and the shuttles can be removed from the bottom without disturbing the overlying plies or belting.

The rollers between which the work passes are actuated by reversible worm and cam motions, and the machine has, in addition to these roller feeds, what is known as a top-feed motion, suitable for a higher class of work. The stitch, as in the ordinary sewing machine, can be adjusted from one-eighth inch upward, and the pressure of the rollers on the work passing through the machine can be regulated at the will of the operator.

Fig. 2235.



Wilson Oscillating Sewing Machine.