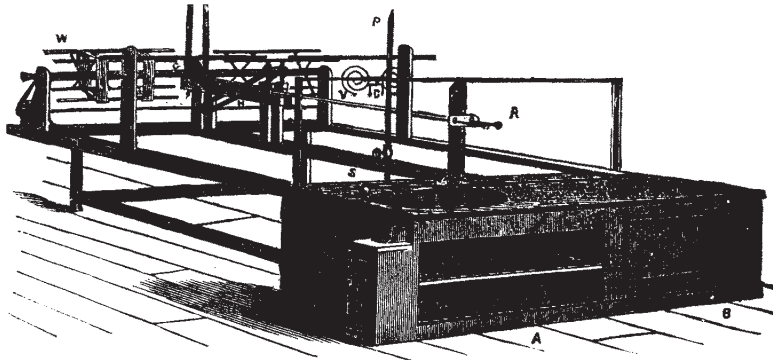


Silk Wind'er. For reeling the silk from the cocoons.

This apparatus, shown in perspective in the accompanying illustration, is double. Each half consists simply of a metal lined basin, *B*, supplied by a faucet, *S*, with cold water, heated to such temperature as may be desired, by steam from the pipe *P*. Immediately above and back of the basin is a transverse bar, *H*, which bears projecting horizontally from it, two stems carrying the *filieres* *F*, which are porcelain disks half an inch in diameter, and each pierced in its center with a small vertical hole. The horizontal bar has a slight traversing motion. Above and across the machine is a transverse bar carrying the *croiseur* or *twister* *C*, which is a tiny reel with a vertical axis, and set in motion at will, by a train of clock-work. At each side of the *croiseur* is a *trembleur* or vibrator, *V*, which is a spiral spring bearing at its free end a loop fitted with a heart-shaped glass plate. Midway of the machine rise standards which bear a reciprocating cross-bar, fitted with a triangle of wire, apex downward. At the back of the machine are standards bearing a reel operated by a crank or by power, the belt being thrown into

Fig. 2260.



Silk Winder.

operation by a clutch actuated by the rod *R*. The cocoons (containing the dead chrysalides) being placed in a basin of hot water, are softened and rendered more easy to unravel. The free or outer ends of the cocoons are gathered by beating the floating mass gently with a stiff brush of twigs. Two sets of six each of these being selected, are passed upwards through the holes in the porcelain *filieres* *F*, are crossed, passed through the loops on the *croiseur*, through the niche in the glass bushing in the vibrators, then through loops in the triangle, and then to the reel. The machine being then set in operation by the hand crank or by the belts, the delicate threads are unwound from the bobbing cocoons, brought together, intimately twisted, and wound on the reel, which is seen to contain two hanks of the twisted thread.