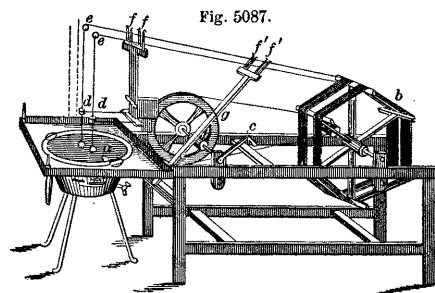


Silk-reel. An apparatus for unwinding silk from the cocoon. The glutinous quality of the filament when first spun by the worm causes the threads forming the cocoon to adhere closely together, requiring the action of heat and moisture to effect their separation.

For this purpose the cocoons are placed in a shallow pan of water *a* heated by a furnace beneath. The ends of several filaments are united and attached to the reel *b*, to which motion is imparted by turning the crank *c*. The threads pass upward through glass eyes *d d* over rollers *e e*, by which a slight twist is imparted, and are guided by cylinders of porcelain *f f f f* to the reel. The shaft *g*, on which the latter pair of guides is placed, is caused to traverse from side to side by a pin on its under side working in a cam-groove in the roller *h*, so as to distribute the thread on the reel. Unless this be done it cannot be unwound, and is consequently unsalable.

One of the arms of the reel is provided with a screw, so that it may be shortened when desired to remove the skein. It is screwed out again for winding.



Silk-Reel.

The automatic silk-reel is designed for unwinding the thread from the blocks of the throwing-mill and winding it into hanks.