

4. Reeling mill for spinning doubles; the spindles making 4,500 revolutions.

The size of the thread is according to the number doubled together, for the term is used whether 3 or 20 may be so laid up. Organzine may be two-thread doubles; tram may be 3 to 6 thread, or more. Spindle stop patent, March 24, 1876.

Nonotuck Silk Co.'s (Florence, Mass.) machinery for throwing and finishing spool silk consists of

1. Frame for winding on to spools from the imported skeins of raw silk. Machine has a glass eye for the singles to pass through. Hill's patent.

2. For doubling several threads (from 3 to 20) together as required to obtain the required thickness. This machine has Dimock's patent detachable drop-wire to stop the winding on that particular spool if either of the individual strands should break.

3. For spinning, or twisting the threads together; the machine having a self-oiling spindle.

4. A machine for doubling several of these spun strands together.

5. For spinning these doubled threads, forming a finished cord.

6. For reeling into hanks.

7. Dyeing follows.

8. A soft silk winding frame with Brown's patent rocking or oscillating motion to the top skein carrier to facilitate the work.

A SPOOL PRINTER and SPOOLING MACHINE, which see.

**Silk Ma-chin'er-y.** Danforth Locomotive and Manufacturing Co. (Paterson, N. J.) use —

1. Winding frame for singles.
2. Silk spinning frame for singles; the spindles making 2,000 revolutions per minute.
3. Doubling frame in which the twisted singles are laid together on spools.