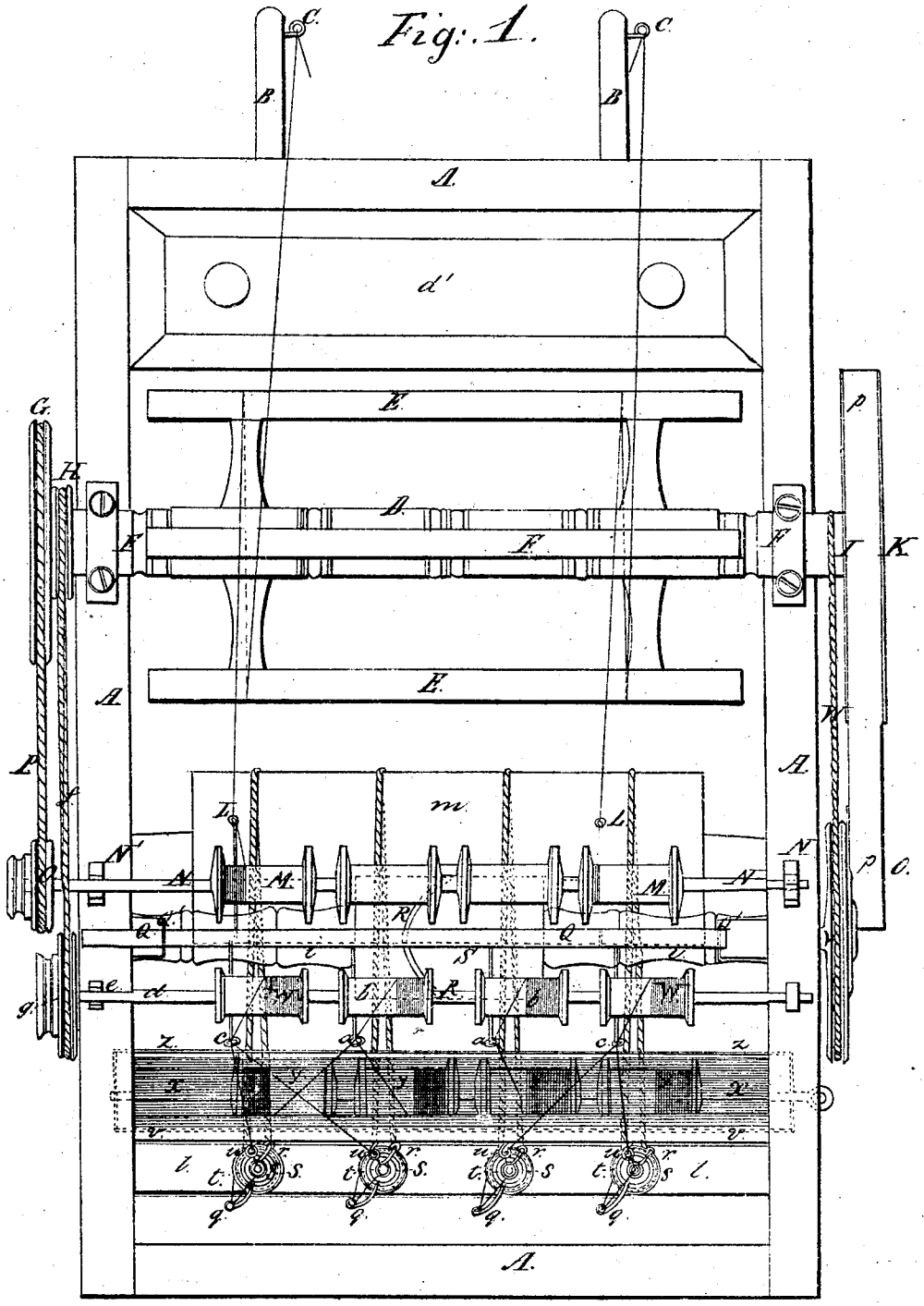
No. 1,367. PATENTED OCT. 12, 1839.

J. PRATT.

MACHINE FOR REELING, SPINNING, AND TWISTING SILK.

3 SHEETS—SHEET 1.

Fig. 1.



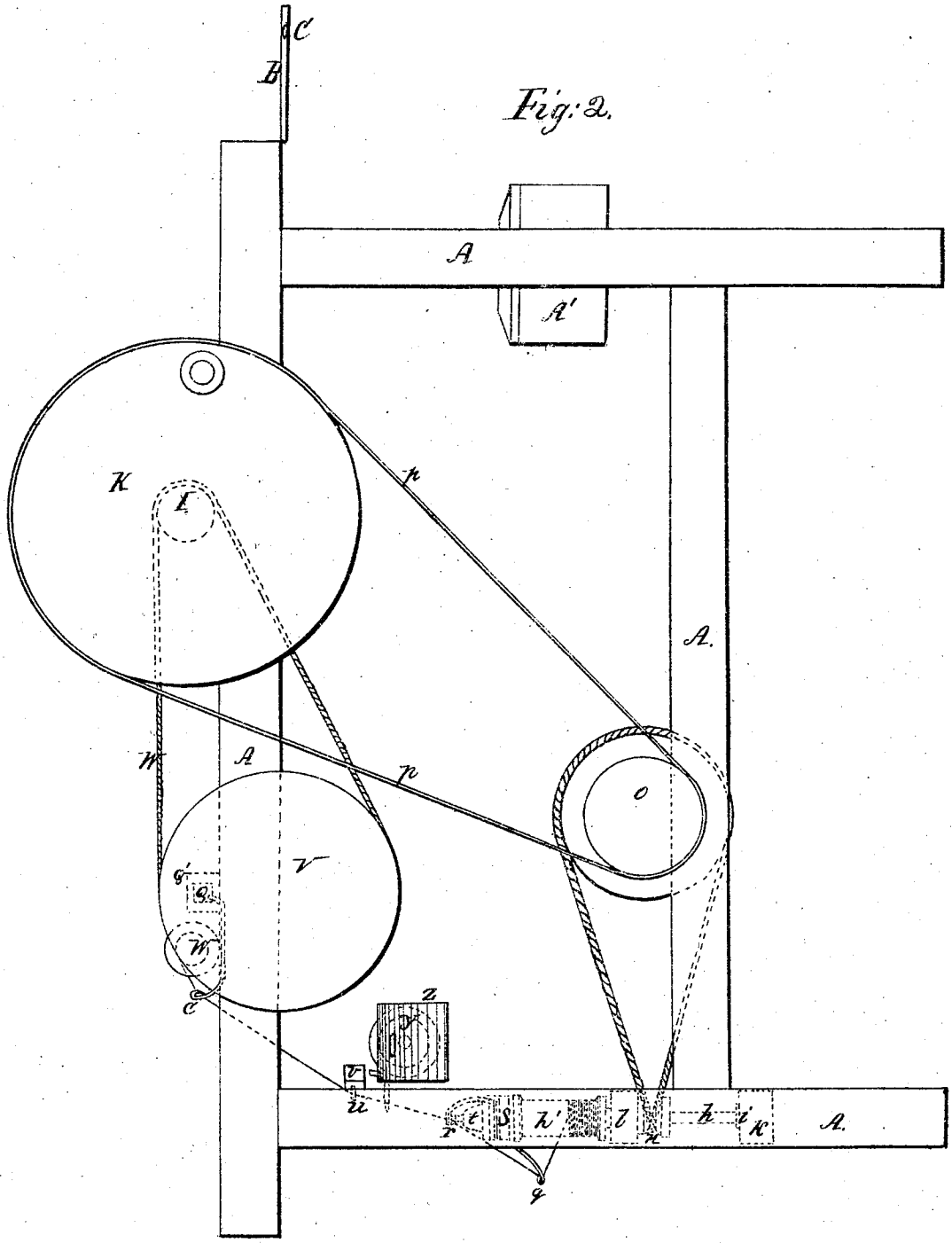
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3 SHEETS—SHEET 2.

Fig: 2.



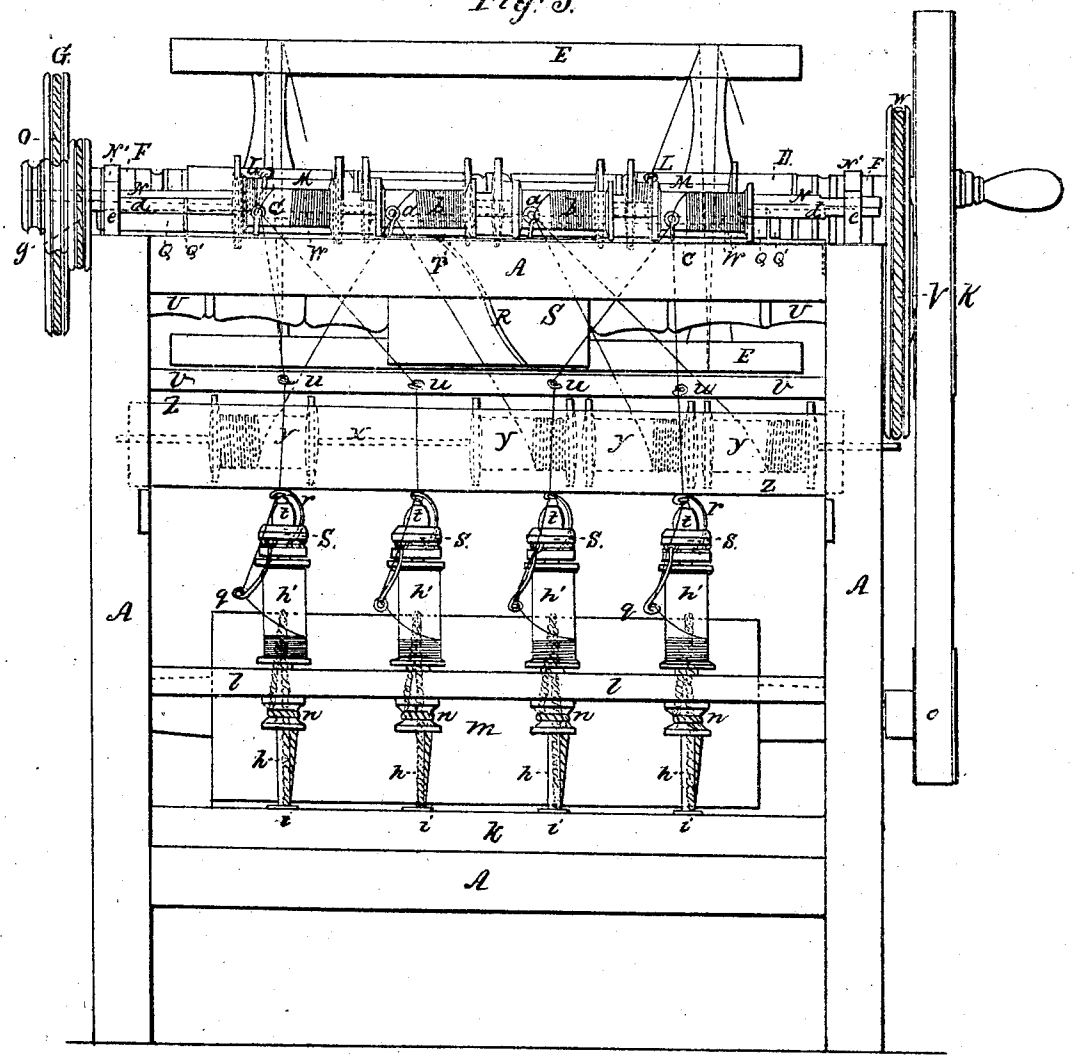
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3 SHEETS—SHEET 3.

Fig. 3.



UNITED STATES PATENT OFFICE.

JACOB PRATT, OF SHERBORN, MASSACHUSETTS.

MACHINE FOR REELING, SPINNING, AND TWISTING SILK.

Specification of Letters Patent No. 1,367, dated October 12, 1839.

To all whom it may concern:

Be it known that I, JACOB PRATT, of Sherborn, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Machinery for Reeling, Spinning, and Twisting Silk and all other Fibrous Materials to which the Same May be Applicable. These improvements, the principles thereof, the application of said principles by which the same may be distinguished from other inventions, together with such parts, improvements, or combinations, I claim as my invention, I have herein set forth and described, which description, taken in connection with the accompanying drawings herein referred to, composes my specification.

Figures 1, 2, and 3 of the accompanying plate of drawings represent my improved machinery. Fig. 1 is a plan. Fig. 2, being a side view and Fig. 3 a front view of the same.

A A A A is the framework constructed in any suitable manner to support the various parts of the machine.

The first operation of reeling the raw fiber may be that described. To the back part of the machine, are attached the two projecting arms, B B, to which are affixed the guides, C C through which the raw fiber is introduced from the cocoons. The cocoons are arranged in a boiler of warm water beneath the arms B B, for the purpose of dissolving the glutinous substance which causes the fibers to adhere to each other. This being accomplished, the fibers are readily separated or unwound from the cocoons. After passing through the guides C C the fiber is carried (as shown by red lines in Fig. 1), to the reel D D around the arms E, E, E, E, &c., of which, it is wound one or more times. The axle of this reel has proper bearings, F, F, attached to the top of the frame A A; it is also arranged with the pulleys, G, H, and groove I, by which, with bands it is connected with other parts of the machinery. Motion is imparted to the axis of the reel and through this to the other parts of the machinery by means of the pulley K, on said axis to which any kind of power may be applied.

From the reel the silk is conducted through the guides L L to the spools or bobbins M, M, M, M, &c., around which the fibers are wound. The bobbins M, M, M, M, &c., are fixed on an axis N, N, which rests and revolves in bearings in the upright arms N′, N′, the axis at one end resting in a mere slot, in one of the arms N′ so that it may be taken out, and the bobbins therein removed at pleasure.

The axis N N is revolved by means of the pulley O, connected with the pulley G by the band P P, and bearing such proportion to said pulley as to insure the requisite degree of velocity to the bobbins M, M, &c., to enable them to take up the fiber as fast as delivered from the reel.

In order to distribute the fiber over the spools the guides L L are attached to the vibrating or traverse beam Q Q, supported and moving easily through holes in the uprights Q′ Q′, attached to the inside of the frame, as reciprocating rectilinear motion being imparted to the beam, by means of the winding grooves R R, on the drum S, working with the dog or projection T, Fig. 3, properly placed on the beam, the operation of which will be readily understood. The drum S is fixed on the axis U U, which has suitable bearings in the framework, and is revolved with proper velocity by means of its pulley V connected with axis of the reel D D at I, by a band N′ N′.

After the bobbins are filled, the axis N N, is taken from its bearings and the bobbins M, M, &c., slipped off and passed upon the axis X X on which they turn loosely so that the fiber may be easily unwound, the bobbins being lettered here, Y, Y, Y, Y. The axis X X rests in bearings in the sides of the rectangular zinc trough Z Z which is partially filled with warm water, to keep the fibers from adhering to each other on the bobbins, by keeping the glutinous substance in a state of solution. The fibers from two of the spools Y Y Y Y are then combined as shown in Figs. 1, 3, and being carried through the guides *a*, *a*, are wound as one strand, upon the bobbins *b b*. The guides *a*, *a* as well as those marked *c*, *c* (the object of which will be hereafter explained), distribute the thread on the bobbin by being attached to the vibrating beam Q Q, the operation of which has been before described. The axis *d*, *d* of the bobbins *b b*, is supported and arranged in the upright bearings *e*, *e*, attached to the top of the framework, so that the spools may be removed at pleasure from said axis as on the axis N, N. The

axis *d d* together with the bobbins thereon are made to revolve in proper direction and with the requisite velocity, by means of the cross band *f f* passing from the pulley *g'* to the pulley H on the axis of the reel. When the bobbins Y Y Y Y, &c., are empty they may be removed (by slipping the axis X X from its bearings), and full ones substituted in their places.

The process next in order is spinning the fibers, and may, with the machinery, to effect the same, be thus described. After the bobbins on the axis *d*, *d*, are filled they are removed and arranged, on the several spindles, *h*, *h*, *h*, *h*, as shown at *h' h' h' h'*; the spindles, resting and turning in the steps *i i i i* in the crossbar *k*, *k*, having bearings also in the crossbar *l*, *l*, through which they pass. These spindles are made to revolve by means of belts passing from a drum *m*, *m*, to and around the grooved pulleys *n*, *n*, *n*, *n*. The axis of the drum *m*, *m*, has suitable bearings in the framework, and is revolved by means of the pulley *o*, and band *p*, *p* passing from the pulley K on the axis of the reel. The bobbins *h' h'* being placed upon the revolving spindles, the strands are passed (as shown by red lines in Fig. 3,) through the guides *q r q r q r* &c., which project from and are secured (in any proper manner) to the loose pulleys, *f*, *f*, *f*, *f*, which are kept on the spindles by means of the caps *q*, *q*, *q*, *q*. The strands are then passed through the stationary guides *u*, *u*, *u*, *u* in the cross bar *v v*, Two of the srands are then combined and carried through the vibrating guides *c c* (the operation of which has been before described) to the spools *w w*, on the axis *d*, *d* before mentioned, this completes the spinning process.

The fast operation of twisting the strands or forming the thread is accomplished by shifting the bobbins *w w*, again to the spindles and repeating the process just described above. The bobbins when filled with thread may be easily removed as before suggested.

It will readily be observed that the operation of the machine may be extended to any economical degree by increasing the number of spools, spindles, &c., and enlarging the framework. It will also be apparent, from a slight examination of the machine that it is well adapted to domestic manufacture, and equally well to factory purposes on a more extensive scale.

Should it be deemed desirable a box X' may be attached to the framework for the reception of the empty cocoons.

Having thus described my improved machinery, I shall claim in the same as my invention as follows:

I claim using a trough of zinc partially filled with warm water in which are arranged (as above described) the spools, from which the raw material is to be wound, for spinning.

In testimony that the above is a true description of my said invention and improvement I have hereto affixed my signature, this seventh day of June, in the year eighteen hundred and thirty-nine.

JACOB PRATT.

Witnesses:
WM. J. HUBBARD,
EZRA LINCOLN, JR.