

J. SAULT.

Machines for Spreading Silk.

No. 141,017.

Patented July 22, 1873.

Fig. 1.

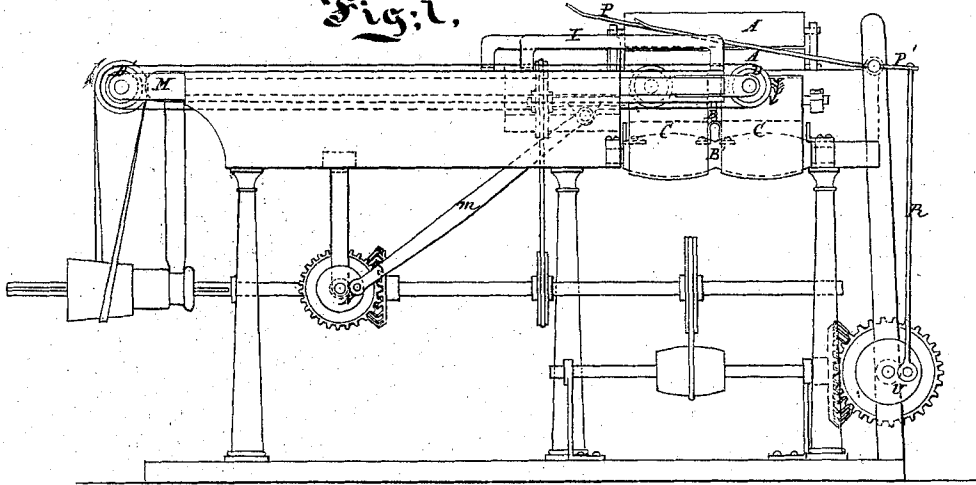
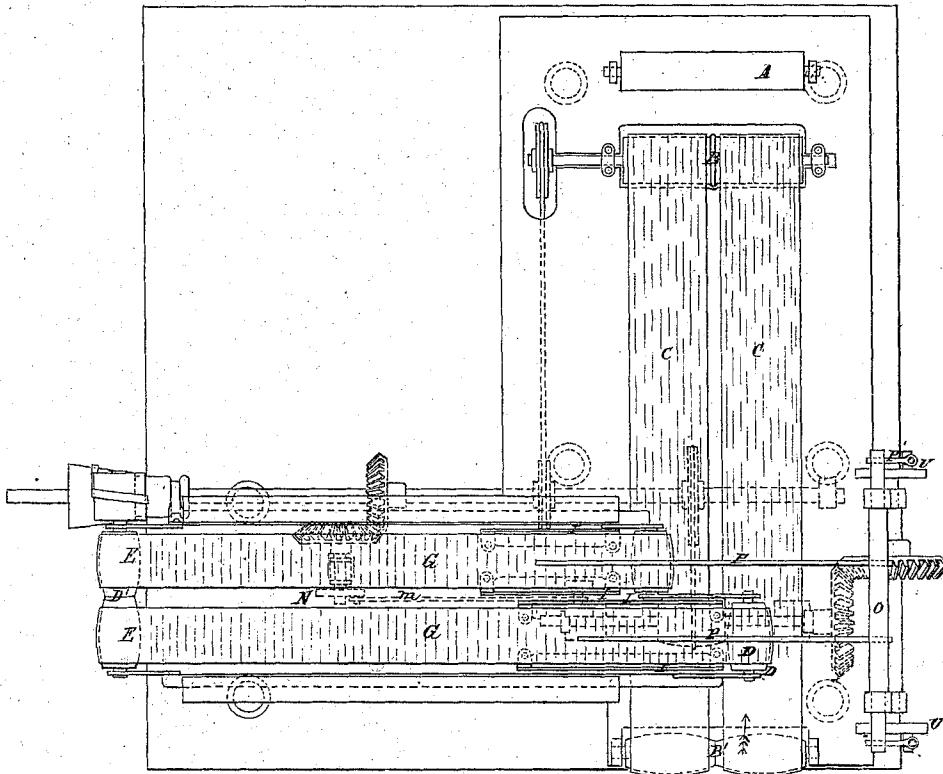


Fig. 2.



Witnesses:

Arnold Hornum.  
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# UNITED STATES PATENT OFFICE.

JOHN SAULT, OF SOUTH MANCHESTER, CONNECTICUT.

## IMPROVEMENT IN MACHINES FOR SPREADING SILK.

Specification forming part of Letters Patent No. **141,017**, dated July 22, 1873; application filed March 13, 1873.

*To all whom it may concern:*

Be it known that I, JOHN SAULT, of South Manchester, in the county of Hartford and State of Connecticut, have invented a certain new and useful Machine for Spreading Silk; and I do hereby declare that the following is a full and exact description thereof.

Waste silk has long been utilized by dividing it by suitable means into short separate fibers of a few inches in length, and subsequently drawing these fibers in slivers, in a manner analogous to the drawing of flax and hemp. The object of my invention is to properly supply such waste silk to the drawing rolls with less labor than heretofore. Instead of whipping or beating the fiber by hand and supplying it to the feeding-apron in small handfulls, requiring careful arrangement to match the ends of the fiber properly together and to distribute the mass over the breadth of the feeding-apron, my invention requires simply that the masses of fiber, as they come from the dressing-room in the ordinary condition, viz., in what are technically termed "books," shall be laid directly, by a single operation, on a supplementary feeding-apron.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation, with a few parts represented as broken, to better show the work beyond. Fig. 2 is a plan view.

Similar letters of reference indicate like parts in all the figures.

A A are the ordinary feeding-rolls, which seize the fibers and deliver them to the gills or other drawing mechanism, not represented. B B' are drums impelled by gearing or other convenient means in the direction of the arrow. C is an endless apron running over these drums in the ordinary manner. All these parts, as also the frame by which they are supported, and the mechanism by which motion is communicated, may be of the ordinary construction. A single set, or more, may be used in one machine, as may be preferred. The drawings represent two sets. D D' are drums mounted in the position represented, and rotated by gearing or other mechanism in the directions indicated by the arrows. E is

a feeding-apron running over these drums. The fiber is represented by G. The feeding-aprons E are of sufficient length to accommodate more than the contents of one book. The contents of the books are simply matched together in the obvious manner, so that the fibers lie side by side, and the motion of these cross-feeding aprons E E deposits the fiber upon the ordinary feeding-aprons C C with the fiber in the right direction—that is to say, the fibers lie crosswise on the cross-feeding belts E, and lengthwise on the common feeding-belt C. The positions of the rollers D and the lengths of the cross-feed aprons E are arranged as represented, so that one shall feed one of the belts C and the other the other belt C. The drums D D' are both mounted in a frame, M, which is so mounted on the general framing of the machine that it may be reciprocated longitudinally. A slow reciprocating motion is given to the frame M and its connections by means of the link *m* and crank N properly geared to insure its revolution. O is a rocking-shaft mounted on the framing, as represented. P P are rods extending horizontally and turned up slightly at their ends, as represented. P' is an arm (or a continuation of one of the same rods) extending in an opposite direction from the rocking-shaft O. R is a link connecting the end of the arm P' to the crank U, which is rotated rapidly by gearing or other suitable means. It follows that the rods P P are both vibrated rapidly in the vertical plane. At each down stroke they impinge on the silk fiber on the belts E E and loosen it, so as to make it readily separable, to facilitate its even distribution as it falls upon the belts C C. I I are guides adapted to prevent the fibers from falling off of the belts E in undergoing the whipping or loosening operation just described.

I can duplicate the rods P P and give them a great variety of forms and arrangements without materially changing the effect of my invention. The extent of the reciprocating movement of the frame M and its contents may be increased or diminished by increasing the range of the crank N, as will be obvious, and the effect of increasing the vibration will be to spread the silk over a wider space on

the belts C C. The speed of the belts E may be graduated relatively to the speed of the belts C by ordinary means, and the effect will be to supply the silk in greater or less quantities on a given length of the belt C.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the drawing mechanism A and feeding-apron C, a reciprocating cross-feeding device, substantially as described, adapted to receive the fiber lying transversely and to deliver it in its proper position upon the ordinary feeding-apron, sub-

stantially in the manner and for the purpose herein set forth.

2. In combination with the drawing mechanism, the feed-apron C and a reciprocating cross-feeding mechanism, an automatic beating or loosening device acting on the fiber near the point where it is delivered from the reciprocating cross-feed to the true feeding-apron, substantially in the manner and for the purpose herein set forth.

JOHN SAULT.

Witnesses:

WILLIAM BUTLER,  
CHAS. S. CHENEY.