G. K. PRESTON.

SILK DOUBLING FRAME.

No. 184,724. Patented Nov. 28, 1876.

Fig: 2.

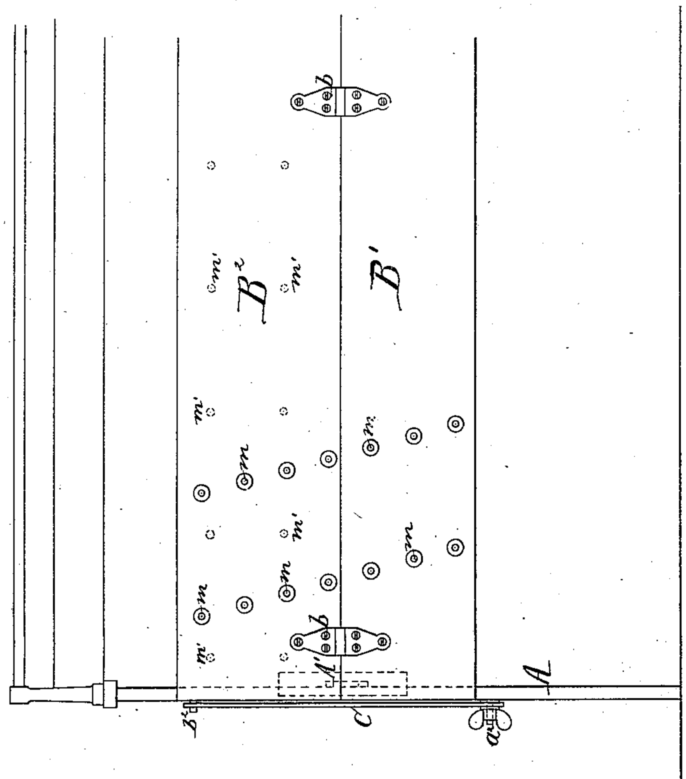
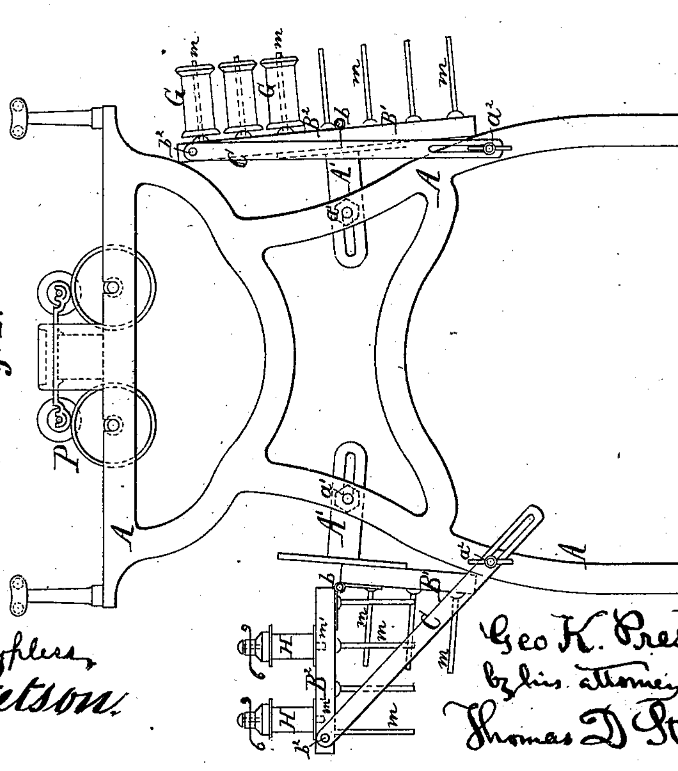


Fig: 1.



Witnesses:
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Inventor:
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by his attorney
Thomas D. Stetson.

UNITED STATES PATENT OFFICE.

GEORGE K. PRESTON, OF PATERSON, NEW JERSEY, ASSIGNOR TO THE DANFORTH LOCOMOTIVE AND MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN SILK-DOUBLING FRAMES.

Specification forming part of Letters Patent No. **184,724**, dated November 28, 1876; application filed June 5, 1876.

To all whom it may concern:

Be it known that I, GEORGE K. PRESTON, of Paterson, in the State of New Jersey, have invented certain new and useful Improvements relating to Silk-Doubling Frames, of which the following is a specification:

I employ a hinged jack of peculiar construction, which is adapted to serve either as a side jack or, by a change of position, as a flat jack. I have provided efficient and convenient means for bracing it stiffly in position.

In the silk business, it is at some stages of the treatment desired to double or apply together two or more threads by drawing them upward from freely-revolving bobbins mounted on horizontal, or nearly horizontal, axes. At other stages, or in other conditions of the material, it is desired to double by applying together two or more threads drawn upward from bobbins held stationary in upright positions. For the first method of operating, a board placed nearly on edge is required for the side jack, liberally provided with pins in the outer face, on which the hollow central bobbins may be slipped and allowed to turn easily. For the other treatment, a flat jack—nearly horizontal board—is required, with shallow holes in its upper surface, in which the projecting ends of the solid axes of a different set of bobbins may be planted.

It has always heretofore been customary to provide the frames with exchangeable boards to serve these two widely-differing uses. When the side jack had been used, and it was desired to use a flat jack, the boards which had previously extended along, standing upright on edge, were laboriously removed and laid aside, or transported to a distant part of the mill and piled up, and another set of boards adapted to lie horizontally and serve as flat jacks were applied to the frames. This proceeding not only involves the use of much material in the two sets of boards, and much labor in applying, removing, and transporting, but involves a risk of confusion and difficulty in matching together the proper boards and frames, it not being usually practicable to make the doubling-frames and the jacks accurately gaged, like a Springfield musket, so that the parts may apply indiscriminately. To insure a correct fit, each board must be adapted for a particular machine and marked.

The side jack may be wider than a corresponding flat jack. I provide a side jack made in two parts. The lower part is rigidly attached; the upper part is hinged thereto, adequately braced to maintain its position. Both parts are full of pins, to serve as a side jack when the hinged part is extended upward.

When it is desired to change my side jack to a flat jack, the bobbins are removed, but the pins on which they were mounted are allowed to remain; then the upper hinged part is turned down into the required horizontal position, and, by means of certain convenient braces and pinching-screws, firmly set in that position, care being taken in locating the pins to so place them that they may stand crosswise of each other without contact in this new position. This adjustment presents what was previously the inner or back face of the hinged part upward. In it are proper holes to receive the flat-jack bobbins, and on planting them in their proper places, with the ordinary flies or provisions for leading off the threads, the flat jack is complete.

The accompanying drawings form a part of this specification.

Figure 1 is an end elevation, and Fig. 2 is a partial side elevation, of one end of a doubling-frame.

In Fig. 1 the left-hand side shows the parts adjusted to serve as a flat jack. The right-hand side shows the parts adjusted to serve as a side jack.

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

A is the fixed frame-work, provided at the top with the ordinary mechanism, P, (only partially represented,) for drawing off and reeling up the threads of silk. A′ A′ are slotted arms, with T-shaped ends, secured adjustably to the frame A by stout set-screws a^1. B^1 B^2 are two boards, which together form an efficient side jack. They are connected together by hinges *b*. The hinged part B^2 has a pin, b^2, at each end, which connects with a brace, C, the other end of which is slotted, and engages with a thumb-screw, a^2. All of the outer face, both of the stationary part B^1 and the hinged

part B^2, is studded with pins *m*. The opposite face of the hinged part B^2 is provided with shallow holes *m'*.

Ordinary side-jack bobbins G may be placed on the pins *m*, and used in the same manner as is practiced with the usual side jacks. This use of the machine is shown on the right-hand side in Fig. 1.

When it is desired to use the flat jacks, the parts B^2 are turned down into the position shown on the left-hand side of Fig. 1, the bobbins G being, of course, removed, the parts B^2 being firmly held in this position by setting up the thumb-screws a^2. A set of different bobbins, H, is placed on the now upper, formerly the inner, face of the part B^2, being set in the sockets *m'*. The bobbins being full of silk, and the ordinary provisions by loose fliers being made for guiding off the material, it is conducted from these bobbins in the same manner as from the ordinary flat jack.

It requires but little labor or time to change the doubling-frames on any part, or the whole, of an entire floor. Little skill is required, and no possibility of mistake can arise, in matching the parts together.

I claim as my invention—

1. The turning-jack B^2, having the pins *m* in one face, and the holes *m'* in the other face, in combination with the frame A, substantially as and for the purposes herein specified.

2. The slotted braces C and holding-screws a^2, in combination with the turning-jack B^2, and with the doubling-frame A, as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 1st day of June, 1876, in the presence of two subscribing witnesses.

GEORGE K. PRESTON.

Witnesses:

JOHN J. KIERSTED,

JACOB T. BLAUVELT.