

(No Model.)

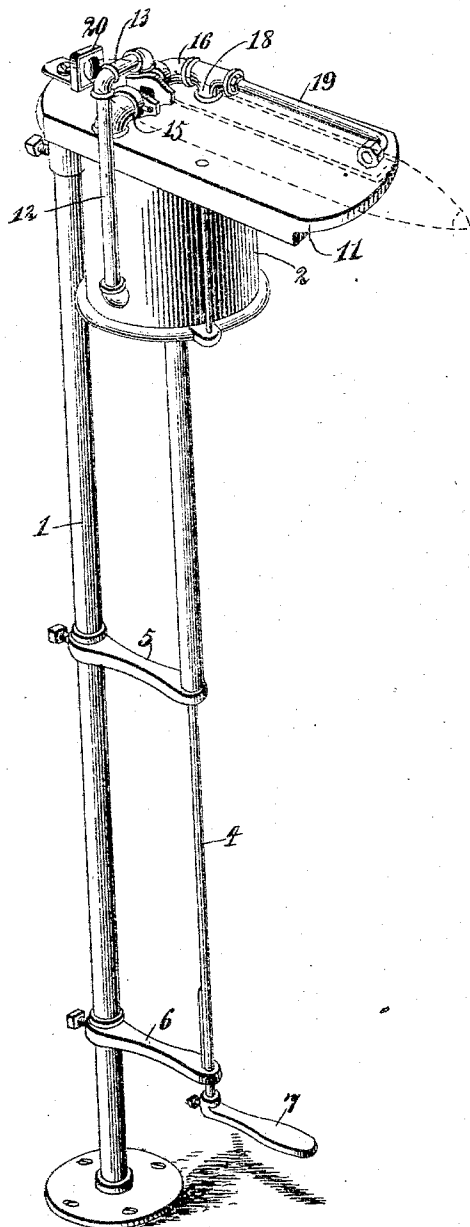
2 Sheets—Sheet 1

R. BRODEUR.
SHUTTLE THREADER.

No. 569,853.

Patented Oct. 20, 1896.

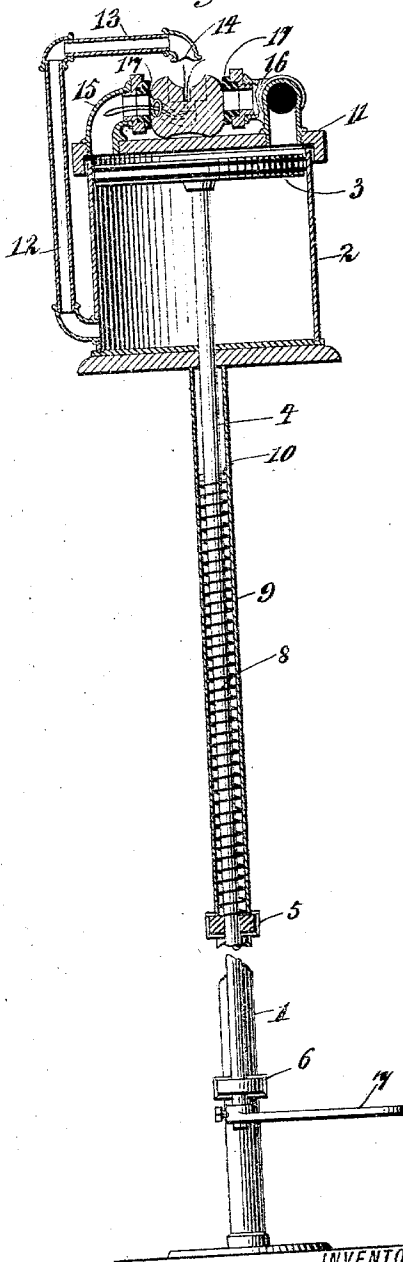
Fig: 1.



WITNESSES:

J. A. Rennie
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Fig: 2.



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ATTORNEYS.

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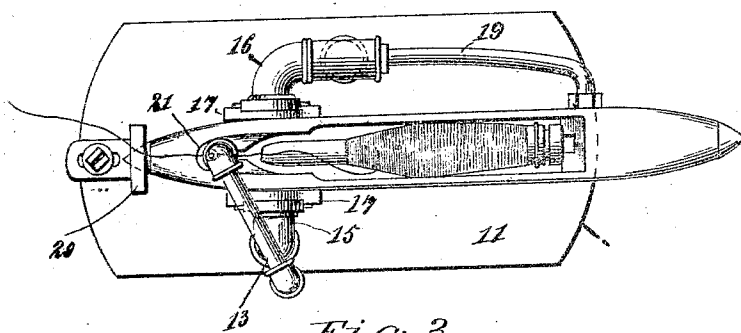


Fig: 3.

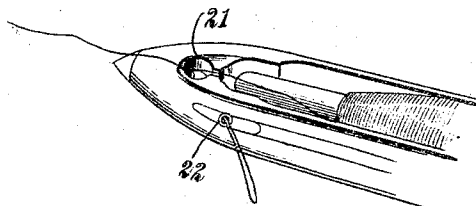


Fig: 4.

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UNITED STATES PATENT OFFICE.

RÉMI BRODEUR, OF FALL RIVER, MASSACHUSETTS.

SHUTTLE-THREADER.

SPECIFICATION forming part of Letters Patent No. 569,853, dated October 20, 1895.

Application filed April 18, 1895. Serial No. 588,125. (No model.)

all whom it may concern:

Be it known that I, RÉMI BRODEUR, of Fall River, in the county of Bristol and State of Massachusetts, have invented a new and Improved Shuttle-Threader, of which the following is a full, clear, and exact description.

This invention relates to machines for threading loom-shuttles, the object being to provide a machine by means of which the thread at the end of a bobbin within a shuttle may be quickly drawn through the eye of the shuttle, whether the same be extended through the right or the left hand side of the shuttle. It has heretofore been the practice in threading shuttles for a person to place his mouth over the eye of the same and then draw in the breath, thus drawing the thread through the eye. This is a dangerous practice, inasmuch as the lungs become filled with dust and portions of cotton from the threads.

I will describe a machine embodying my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a vertical section thereof. Fig. 3 is a plan view; and Fig. 4 is a perspective view of the end of a shuttle, showing the construction of the eye.

The machine comprises the standard 1, designed to be secured at its lower end to the floor and supporting at its upper end a piston-cylinder 2, within which operates a piston 3. The piston 3 has a stem 4, extended downward through the bottom of the cylinder and through guides 5 6, vertically adjustable on the standard 1. Below the guide 6 the stem 4 is provided with an outwardly-extended arm 7, adapted to be engaged by the foot of an operator to force the piston downward. The piston 3 is moved in its upward direction, upon releasing the arm 7, by means of a spring 8, surrounding the stem, as here shown within a tube 9. The lower end of the spring 8 bears upon the guide 5 and at its upper end engages a pin 10, extended transversely through the stem.

The upper side of the cylinder 2 is provided with a table 11 of sufficient length to accom-

modate a shuttle. This table also forms a top closure for the cylinder. A blowpipe 12 communicates with the interior of the cylinder 2 below the piston 3, and this blowpipe at its upper end has a portion 13 extended over the table 11 and provided with a downwardly-extended mouth or outlet 14. Suction-tubes 15 16 communicate with the interior of the cylinder 2 above the piston 3, and the upper ends of these suction-tubes are turned inward toward the longitudinal center of the table 11. The outlets of these suction-tubes are provided with washers 17 of yielding material, such, for instance, as soft rubber, adapted to engage with the side of the shuttle around the eye thereof, so as to prevent the drawing in of the outer atmosphere.

The suction-tube 16 is adapted to swing laterally, so that a shuttle may be clamped closely between the two tubes during the operation of threading the shuttle. This tube 16 is pivotally connected with the table 11 at the point 18, and it has a rearwardly-extended arm portion 19, adapted to engage with the side of the shuttle near its end opposite that containing the eye.

Forward of the blowpipe and suction-tube a guide or receiver for the end of a shuttle is adjustably mounted on the table 11. This guide or receiver comprises a plate having a vertical portion 20, provided with an opening to receive the end of a shuttle, and a horizontal portion provided with a slot through which a screw passes to an engagement in a tapped hole in the table. Obviously this guide or receiver may be adjusted toward or from the tubes, as may be required, to bring the eye portion of a shuttle within proper alignment with the tubes.

As indicated in Fig. 4, the eye of a shuttle extends downward through the top portion near the end, as indicated at 21, and then outward through the side, as indicated at 22, and of course in looms shuttles are employed, one having the eye opening through the left-hand side, as indicated in Fig. 4, and another one having the eye opening through the right-hand side. Therefore the machine embodying my invention is provided with two suction-tubes, as described.

The operation is as follows: After placing the bobbin in the shuttle the end of the thread

is laid over the eye portion 21, and then the shuttle is placed on the table 11, with its end in engagement with the guide or receiver 20. When in this position, the portion 21 of the eye will be underneath the outlet of the blow-pipe 12, and the lateral opening 22 of the eye will be opposite the mouth of the suction-tube 15. The opposite end portion of the shuttle will engage against the arm 19, and then by moving said end laterally the suction-tube 16 will cause the shuttle to engage closely against the mouth of the suction-tube 15. Then by placing the foot on the arm 7 and pressing downward the downward movement of the piston 3 will force the air through the tube 12, and at the same time a vacuum will be created in the cylinder above the piston, causing a suction through the tube 15. The force of air through the tube 12 will blow the thread through the portion 21 of the eye, and the suction through the tube 15 will draw the thread outwardly through the opening 22 of the eye, as indicated in Fig. 4, and while the piston is still in its lowered position the shuttle may be removed and the thread grasped by the fingers and drawn out. Of course when the eye extends outward through the right-hand side of a shuttle the suction will be through the tube 16.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A shuttle-threader, comprising a blow-tube, a suction-tube, and means for forcing air through said blow-tube and at the same time causing a suction through said suction-tube whereby the blowing and suction will operate jointly to thread a shuttle, substantially as specified.

2. A shuttle-threader, comprising a cylinder, a piston operating therein, a blow-tube communicating with the cylinder below the piston and having an outlet above the cylinder, a suction-tube communicating with the cylinder above the piston and having an inlet above the cylinder, and means for clamping a bobbin against said suction-tube, substantially as specified.

3. A shuttle-threader, comprising a cylinder, a piston operating therein, a blowpipe communicating with said cylinder below the piston and having an outlet above the cylinder, opposite suction-tubes communicating with the cylinder above the piston and having their inlets above the piston, and yielding material in the mouths of said suction-tubes, substantially as specified.

4. A shuttle-threader, comprising a cylin-

der, a piston operating therein, a blow-tube communicating with the cylinder below the piston, a suction-tube communicating with the cylinder above the piston, and another suction-tube opposite the first-named suction-tube and communicating with the cylinder above the piston, the said last-named suction-tube being adapted to swing laterally to clamp a bobbin between the two suction-tubes, the said blow-tube being arranged to act jointly with either one of the suction-tubes to thread a shuttle, substantially as specified.

5. A shuttle-threader, comprising a cylinder, a piston operating therein, a blow-tube communicating with the cylinder below the piston and having an outlet above the cylinder, a suction-tube communicating with the cylinder above the piston and having an inlet above the cylinder, another suction-tube opposite the first-named suction-tube and communicating with the cylinder above the piston, the said last-named suction-tube being adapted to swing laterally to clamp a bobbin between the two suction-tubes, and an adjustable guide or receiver for the end of the shuttle, substantially as specified.

6. A shuttle-threader, comprising a cylinder, a piston operating therein, a table on the cylinder, a blow-tube communicating with the cylinder below the piston and having an outlet over the table, suction-tubes arranged at opposite sides of the table and communicating with the tube at the end of the cylinder, one of said suction-tubes being mounted to swing laterally, an arm extended rearward from said swinging tube and adapted to engage a shuttle, and a guide or receiver for the end of a shuttle; mounted on the table, substantially as specified.

7. A shuttle-threader, comprising a standard, a cylinder mounted thereon, a piston within the cylinder, a stem extended outward from the piston, guides adjustably mounted on the standard and through which the piston-stem extends, an arm extended outward from the lower end of said stem, a spring for moving the piston upward, a blowpipe communicating with the interior of the cylinder below the piston and having its outlet above the cylinder, and a suction-tube communicating with the said cylinder above the piston and having its inlet above the cylinder, substantially as specified.

RÉMI BRODEUR.

Witnesses:

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F. W. HANAFORD.