(No Model.) 2 Sheets—Sheet 1.

J. & W. HORTON.

CLIP FOR TENTERING, STRETCHING, AND DRYING MACHINERY.

No. 592,707. Patented Oct. 26, 1897.

FIG. 1.

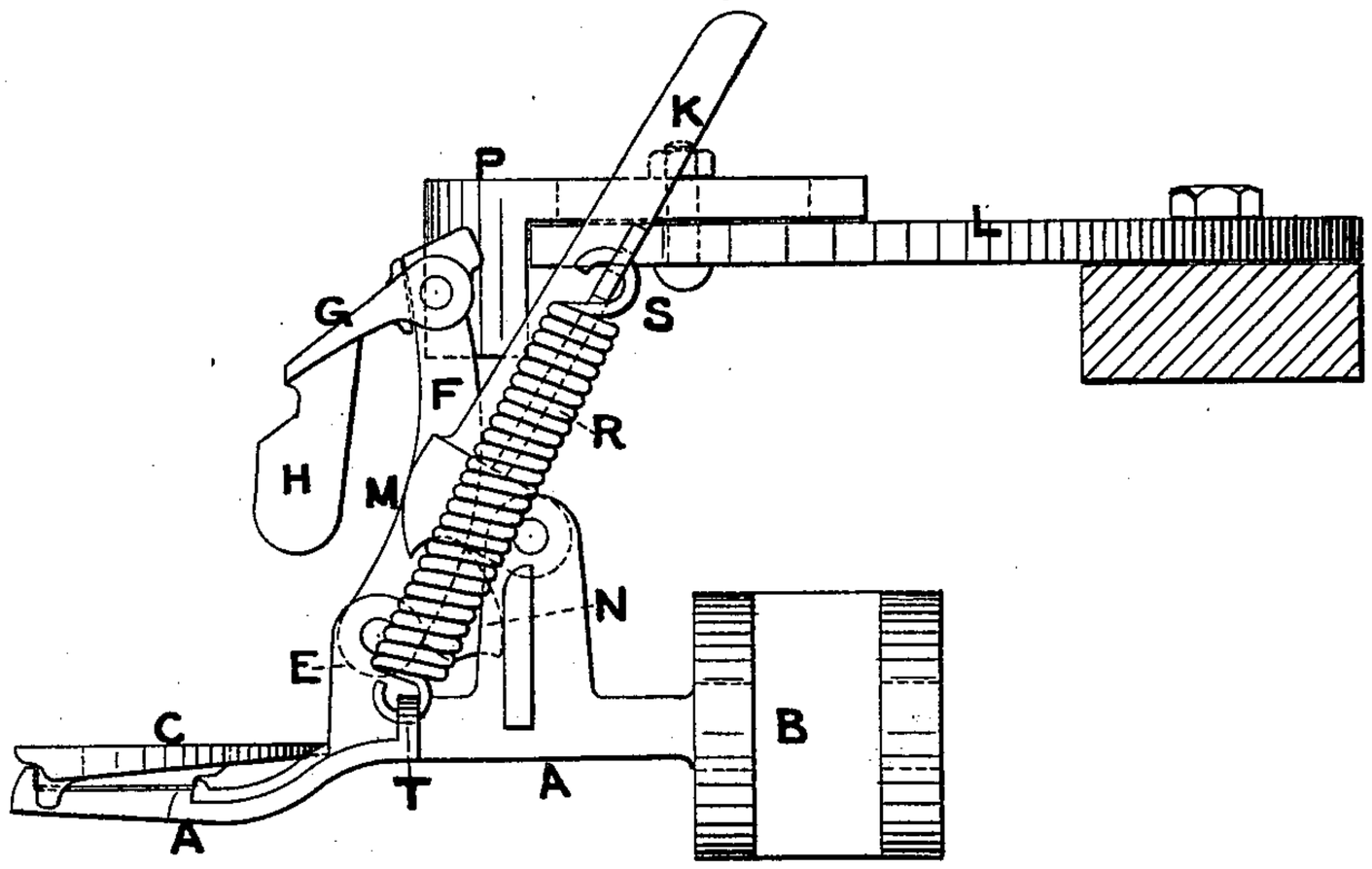
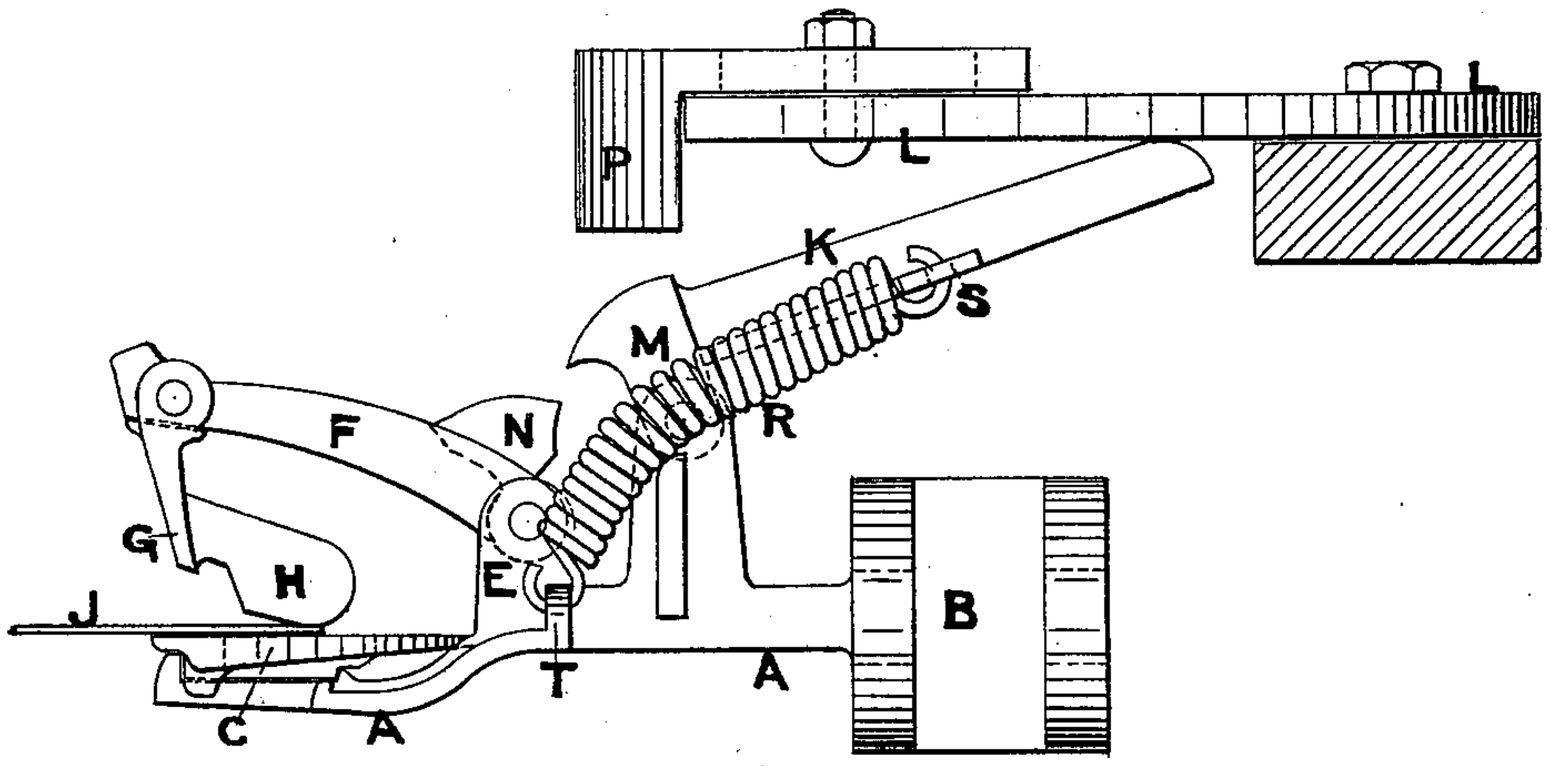


FIG. 2.



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(No Model.) 2 Sheets—Sheet 2.

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No. 592,707. Patented Oct. 26, 1897.

FIG. 3.

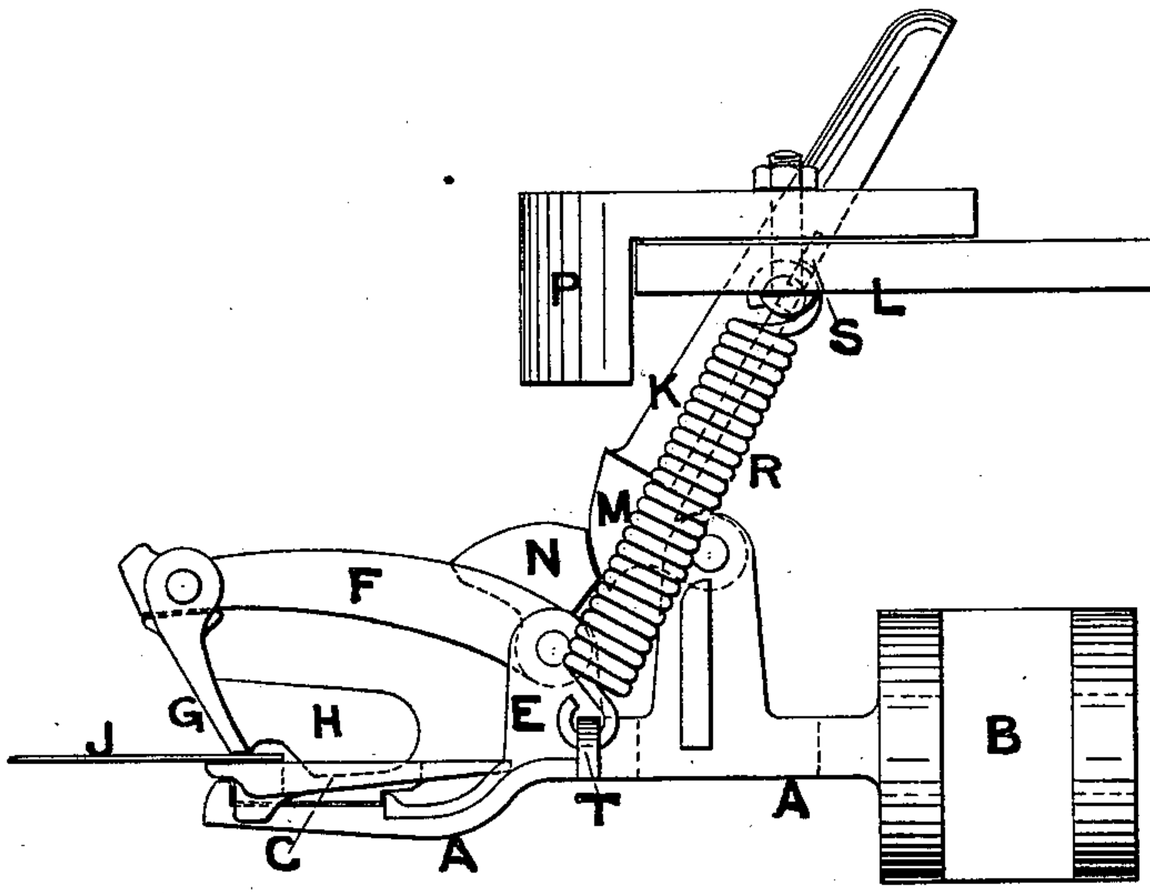


FIG. 5.

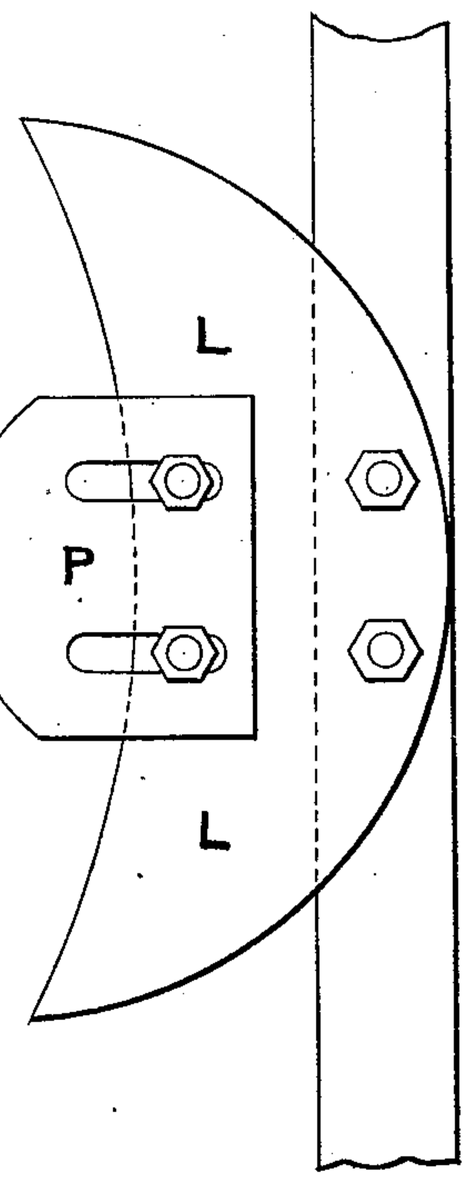
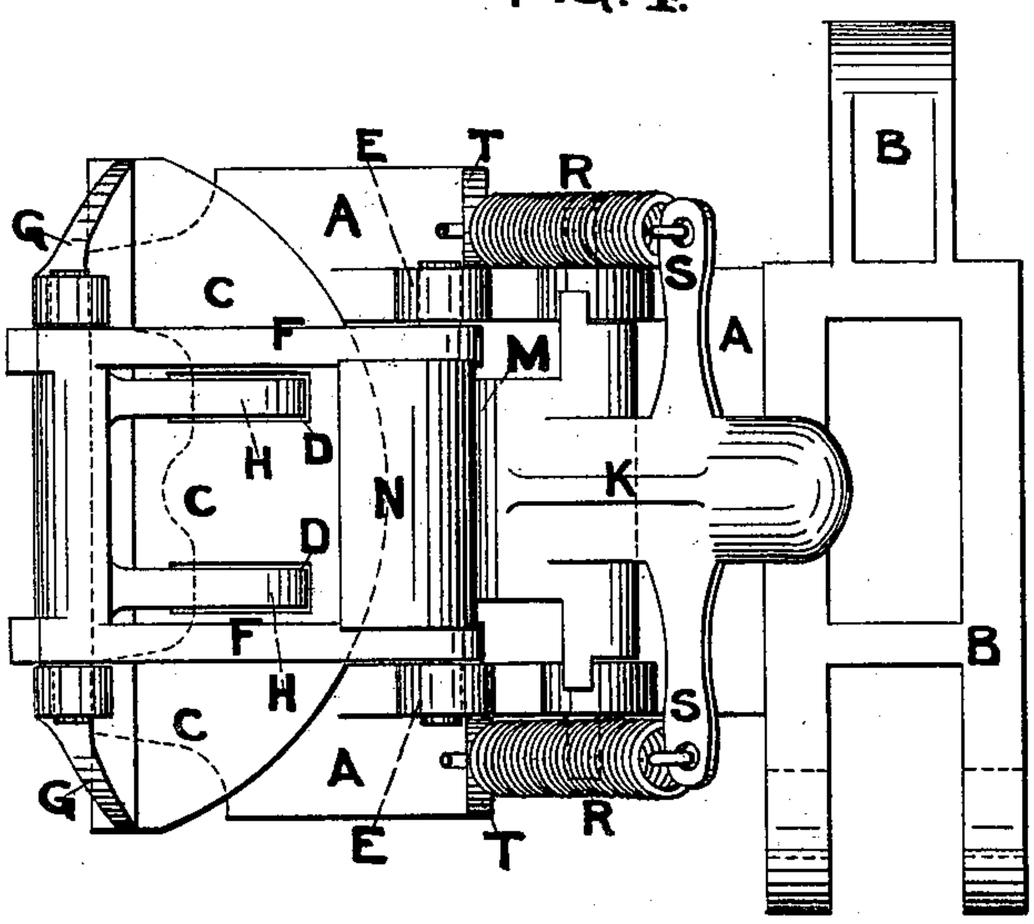


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH HORTON AND WILLIAM HORTON, OF WEST VALE, ENGLAND, ASSIGNORS OF ONE-HALF TO CHARLES HEAP AND WILLIAM TWEEDALE HEAP, OF ROCHDALE, ENGLAND.

CLIP FOR TENTERING, STRETCHING, AND DRYING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 592,707, dated October 26, 1897.

Application filed June 7, 1897. Serial No. 639,640. (No model.) Patented in England August 25, 1896, No. 18,762.

To all whom it may concern:

Be it known that we, JOSEPH HORTON and WILLIAM HORTON, subjects of the Queen of Great Britain, residing at West Vale, near Halifax, in the county of York, England, have invented a new and useful Improvement in Clips for Tentering, Stretching, and Drying Machinery, of which the following is a specification.

A patent for this invention has been obtained in England, No. 18,762, dated August 25, 1896.

The object of our invention is to construct a safe locking-clip which overcomes all vibration when traveling the length of the machine and retains its firm grip upon the cloth whether tight or slack. It also automatically gages the proper distance from the edge of the piece, so making a straight selvage. Further, our improved clip automatically closes upon the edge of the piece when feeding and automatically opens and releases the piece at the end of its travel. The clips are suitable either for a return-machine or for a machine which allows the piece to be taken off at the opposite end of the machine.

In the drawings, Figure 1 is a side view of our improved clip, showing the same open and locked. Fig. 2 is a side elevation of our improved clip, showing the faller-grip and gage resting upon the cloth and the locking-arm depressed and passing under a semicircular plate. Fig. 3 is a side elevation of our improved clip, showing position of same when the grip-jaw has taken hold of the cloth or fabric and locked. Fig. 4 is a plan of Fig. 3. Fig. 5 shows mechanism for automatically locking and unlocking the clip, on a reduced scale, also for operating upon or knocking the faller over onto the cloth.

Upon the arm A of each link B of the chain we attach a plate C with slots D. Pivoted upon this arm A in suitable brackets E is a faller consisting of arms F, to which is attached or pivoted a grip-jaw or clip G and gage H, the gage H passing into the slots D before named, and so gages the proper distance for gripping the edge of the piece J.

At the back of this clip is a spring-pivoted locking arm, wedge, or key K, which is operated upon automatically by a semicircular plate L, attached to the machine-frame, as the said clip travels with the piece for releasing and locking the clip either open or closed. This locking arm or key K is also pivoted upon the arm A and has at one end a rounded heel M, which when the clip G is opened drops behind a similar heel N upon the boss of the grip-jaw or clip-arms F and locks the clip G in this position. (See Fig. 1.)

When the locking-arm K is depressed, (see Fig. 2,) the clip G is released and comes in contact with a second bracket or plate P, which causes the said clip to fall upon the cloth, the cloth being gradually withdrawn until the gage H drops within the recess D in the plate C, (see Fig. 3,) when the grip or clip immediately takes a firm hold of the cloth, and is then locked by means of the rounded face of the heel M engaging with a similar concave recess upon the heel of the clip. Tension is put upon the locking-arm by spiral springs R, attached to wings S upon the locking-arm K and projections T upon the arm A.

The action is as follows: In an ordinary tentering-machine the piece J is placed forward on the plate C, the clip G being open and locked, as shown at Fig. 1. The pivoted locking-arm K then comes in contact with the semicircular plate L, which depresses it until it passes under the plate, as shown at Fig. 2, so releasing the clip G, which is knocked over onto the piece by the plate P, (this plate is preferably adjustable to the position of the faller, so as to operate upon the same in an effectual manner,) and as the chain is traveling the piece is gradually withdrawn from the clip until the edge is in the required position, when the gage H drops within the recesses D in the plate C and the clip takes a firm hold of the piece or cloth. This is accomplished after the locking-arm K has passed under the plate L, so that when the clip takes hold of the cloth the rounded heel M of the locking-arm immediately engages with the concave recess on the heel N of the clip and locks it. (See Fig. 3.) Owing to the shape of the plate L the locking-arm K is gradually depressed and gradually resumes its original position, so preventing any unusual or sudden strain upon the working parts.

For automatically releasing the piece underneath the machine a second semicircular plate, similar to the one before described, is

fixed upon the machine-frame in such a position that the plate acts upon the locking-arm K, as before described. When the said arm K is passing under the plate, the clip G is released and opens by gravitation, and as the arm passes from under the plate it rises and locks it.

The clip is held open until the next piece is put in, when it is automatically released, takes hold of the cloth, and is again locked, as before described.

In machines for releasing the piece on the top we preferably depress the locking-arm K by means of a semicircular sheet or cover placed around one side of each chain-wheel. The edge of this cover projects so that as the chain passes over the wheel the locking-arm comes in contact with the plate and is depressed until the clip opens, as before described. The arm then passes underneath and out of contact with the plate and locks the clip in position.

What we claim as the invention, and desire to secure by Letters Patent, is—

1. The combination, with the arm A, and a substantially horizontal plate C carried thereby and provided with slots; of arms F pivoted to the plate A and provided at their free ends with a grip-jaw and a gage H, said gage permitting the grip-jaw to engage with the cloth when the gage falls into the said slots; a heel N carried by the said arms near their pivot; and a spring-operated locking-arm pivoted to the arm A and normally holding the said arms F in their raised position, substantially as set forth.

2. The combination, with the traveling arm A, a substantially horizontal plate C carried by it, arms F pivoted to the plate A and provided at their free ends with a grip-jaw and having a heel N near their pivot, and a spring-operated locking-arm pivoted to the arm A and normally holding the said arms F in their raised position; of stationary plates arranged in the path of the said locking-arm and the arms F, and operating first to depress the locking-arm and release the arms F and then to force the arms F downward, substantially as set forth.

JOSEPH HORTON.
WILLIAM HORTON.

Witnesses:
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ABEN REED.