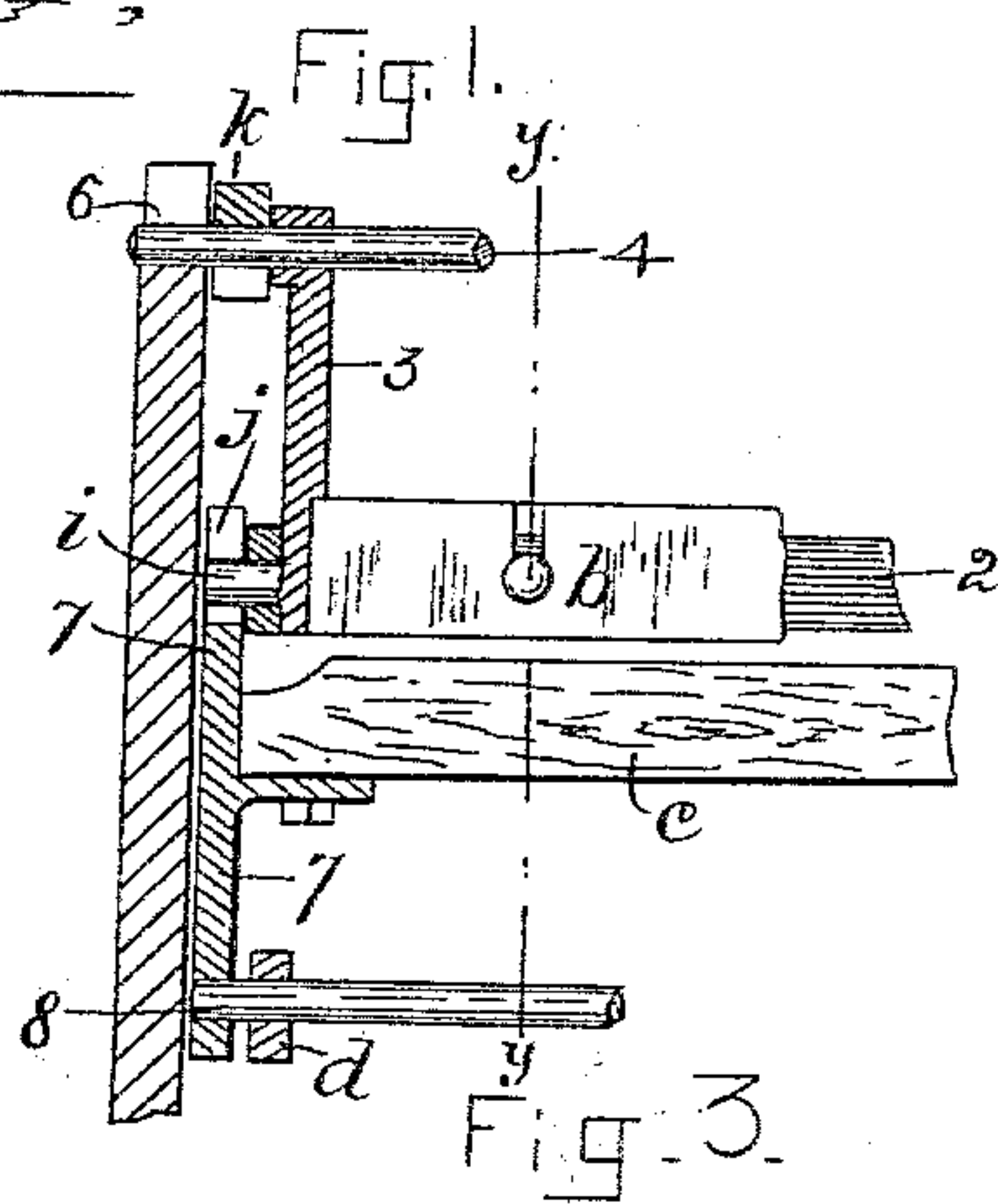
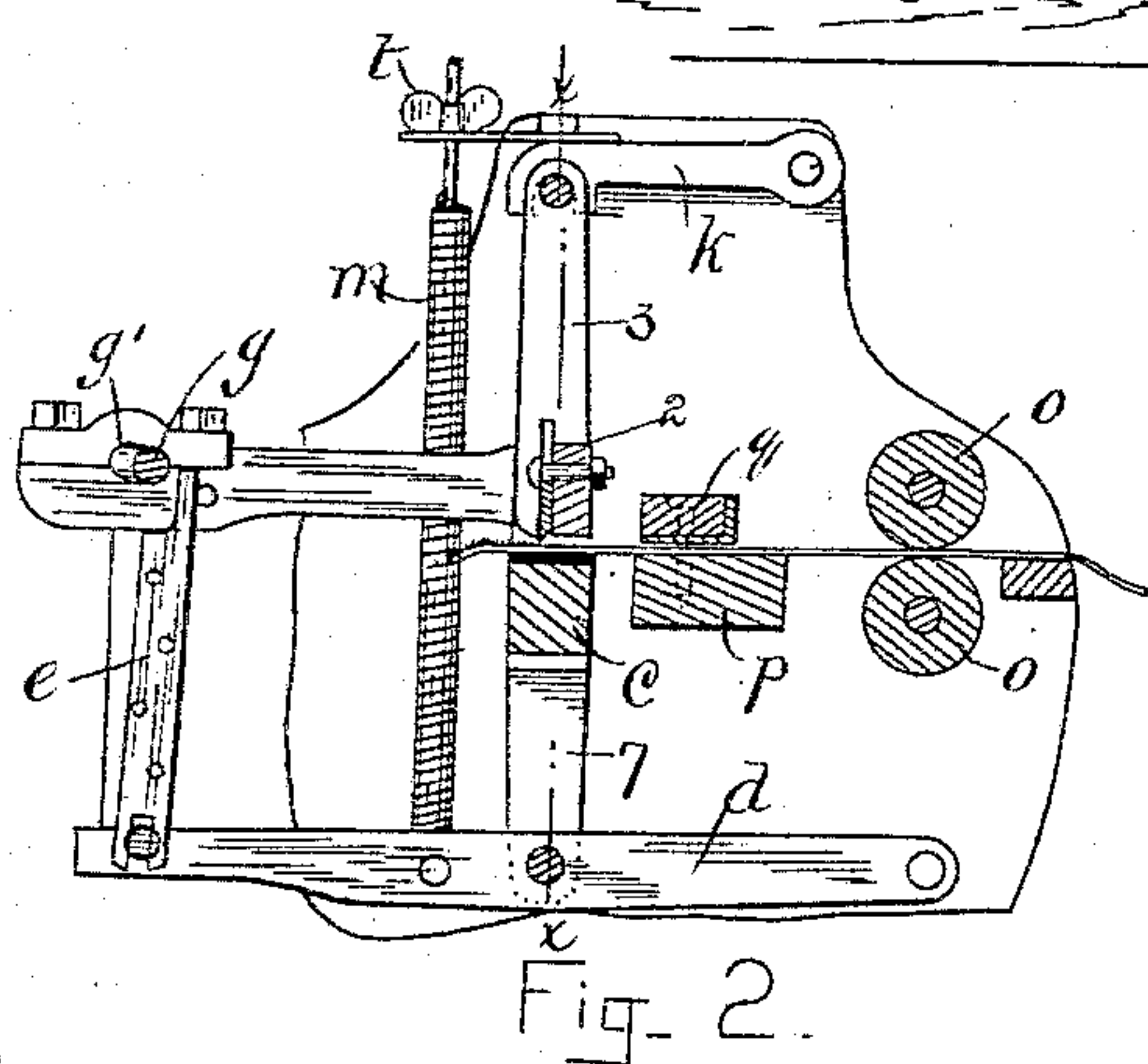
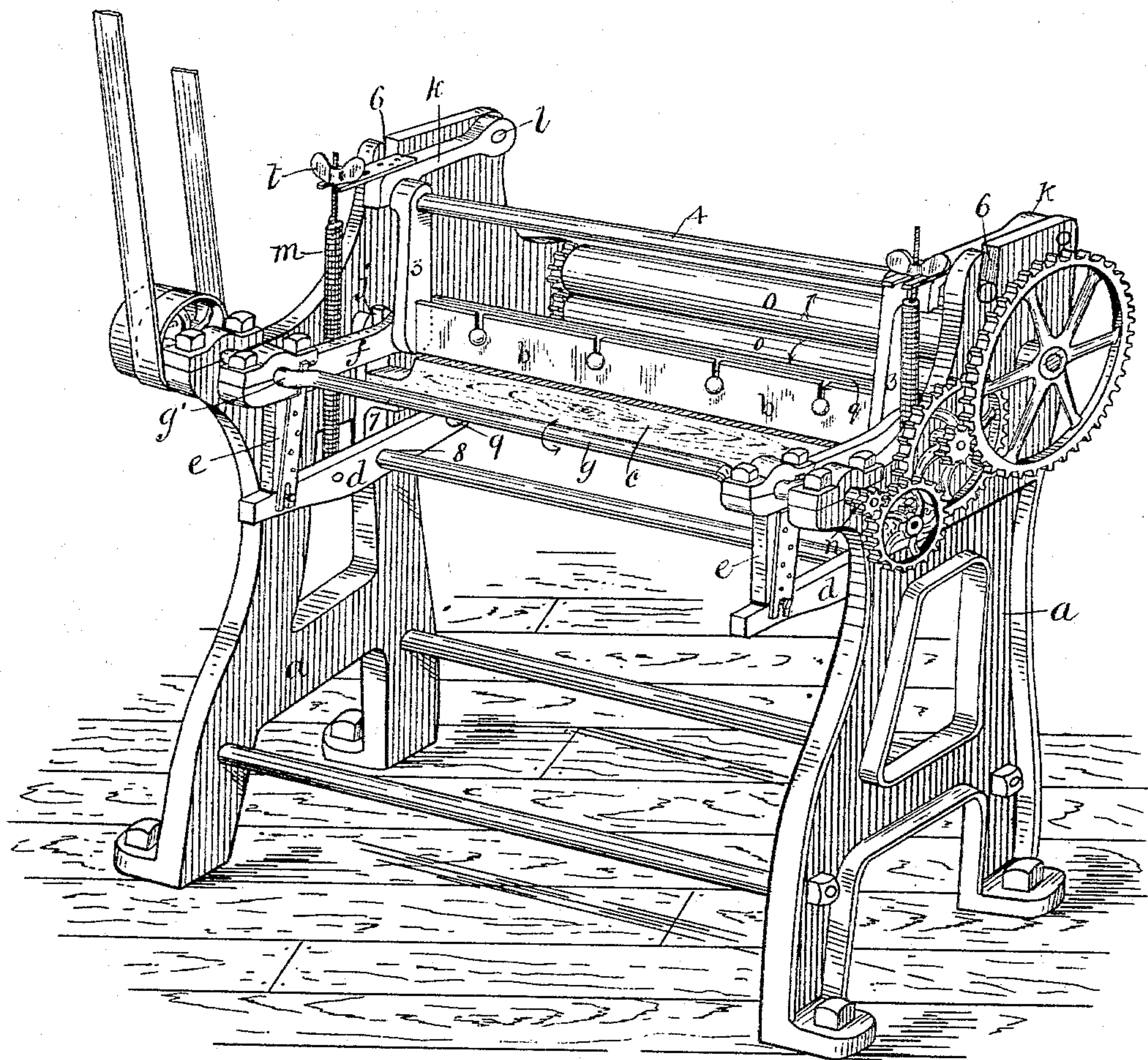


(No Model.)

J. WEBSTER.
LINT MAKING MACHINE.

No. 321,409.

Patented June 30, 1885.



WITNESSES:
Chas. S. Gooding.
A. L. M. L.

INVENTOR:
J. Webster
by Wright & Brown
Attys

UNITED STATES PATENT OFFICE

JUSTUS WEBSTER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GROSVENOR
& RICHARDS, OF SAME PLACE.

LINT-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 321,409, dated June 30, 1885.

Application filed September 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, JUSTUS WEBSTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Lint Machines, of which the following is a specification.

This invention relates to that class of lint-making machines in which a reciprocating scraping-knife is employed, which, when moving in one direction, scrapes over the surface of a web or piece of cloth held on a bed under it and raises or pulls out portions of the fibers at one side of the fabric, means being employed to separate the knife from the fabric during its return or backward movement.

The invention has for its object to provide certain improvements in the mechanism for operating the knife and bed; and to this end the invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of my improved machine. Fig. 2 represents a transverse vertical section of a portion of the machine on line *y y*, Fig. 3, looking toward the left-hand end in Fig. 1. Fig. 3 represents a section on line *x x*, Fig. 2.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the supporting-frame of the machine. *b* represents the scraping-knife, which is secured to an oscillating frame composed of a cross-bar, 2, and two arms, 3 3, hung so as to oscillate on a rod or bar, 4, the ends of which rest removably in slots or bearings 6 6 in the frame *a*. *c* represents the supporting-bed on which the fabric rests while being scraped. Said bed is provided with a covering of firm leather or other suitable material on its cloth-supporting surface, and is provided at its ends with arms 7 7, the lower ends of which are pivoted at 8 to two levers, *d d*. These levers are pivoted at 9 to the frame *a*, and are connected at their swinging ends by rods *e e* with arms *f f*, through which pass cranks *g' g'* on a driving-shaft, *g*, journaled in the frame *a*. The rods *e e* are pivotally connected at their opposite ends to the levers *d d* and arms *f f*. The arms *f f* are connected with the arms 3 3 of the knife-frame by

means of pivot-pins *i i*, (one of which is shown in Fig. 3,) said pivots entering vertical slots *j* in the upper ends of the arms 7 on the bed *c*, the connection afforded by said pins and slots causing the knife and bed to reciprocate together laterally, but permitting the bed to rise and fall independently of the knife, as hereinafter described.

k k represent levers pivoted at *l l* to the frame *a*, and bearing at their outer ends on the bar 4 of the knife-frame.

m m represent springs secured to the outer ends of the levers *k k* and to the bed-supporting levers *d d*. Said springs hold the bed upwardly and causes it to press the fabric against the knife during the scraping operation and allow the bed to recede from the knife to release the fabric, as hereinafter described.

The crank-shaft *g* is driven by a belt or otherwise, and has at one end a pinion, *n*, which communicates motion through a train of gearing (shown in Fig. 1) to one of the arbors of a pair of rubber-covered feed-rolls, *o o*, between which the fabric passes on its way to the scraping-knife. Said rolls are geared together, so that both are positively rotated and caused to feed the fabric forward at a suitable rate.

p represents a fixed bed, over which the fabric passes between the rolls and the bed *c*; and *q* represents a pressure-bar, bearing by its own weight on the fabric over the bed *p*, to keep the fabric smooth and free from wrinkles.

The rotation of the crank-shaft *g* causes the cranks *g' g'* to reciprocate the arms *f f*, thus oscillating the knife-supporting frame and knife, the movement thus imparted to the knife being substantially horizontal. The engagement of the arms 7 7 of the bed *c*, by means of the slots *j* and pins *i*, as above described, causes the bed to reciprocate with the knife laterally, while the connection of the arms *f f* with the bed-supporting levers *d d*, by means of the rods *e e*, causes said levers *d d* to oscillate vertically, and thus alternately raise and lower the bed *c* while it is being moved horizontally with the knife. The vertical movements of the bed are so timed that the bed is raised and caused by the springs *m* to press the fabric against the knife with the desired

degree of pressure while the knife and bed are moving forward or away from the feed-rolls, and lowered and separated from the knife while the knife and bed are moving toward the feed-rolls. The fabric is therefore alternately grasped and released by the knife and bed, and is scraped by the knife while thus grasped. The positively-rotated feed-rolls hold the fabric so that the scraping movement of the knife cannot pull it along, the feed movement of the fabric being slower than the scraping movement of the knife.

The springs *m m* may be detached from the levers *k k*, which hold down the oscillating knife-frame, said springs having rods at their upper ends which are inserted in slots in the levers *k k*, and have thumb nuts *t* bearing on the upper sides of said levers. When the springs are detached, the levers *k* may be thrown back and the knife-frame removed from the slots *6 6* and turned to expose the edge of the knife, so that the knife can be readily sharpened. The degree of pressure imparted by the springs *m* may be regulated by turning the nuts *t t*.

I claim—

1. In a lint-machine, the combination of the pivoted knife-frame and its knife, the vertically and laterally movable supporting-bed under the knife, the crank-shaft, and intermediate mechanism, substantially as described, whereby the knife is reciprocated laterally and the bed is reciprocated both laterally and vertically, whereby the laterally-reciprocating knife and bed are caused to alternately grasp and release the fabric, as set forth.

2. In a lint-machine, the combination of the knife, the oscillating frame supporting the knife, the vertically-movable supporting-bed oscillated by a connection with the knife-frame, and mechanism, substantially as described, whereby the knife-frame is reciprocated horizontally and the supporting-bed vertically, as set forth.

3. In a lint-machine, the combination of the supporting-bed, mechanism, substantially as described, for moving said bed both laterally and vertically, the pivoted knife-supporting frame and mechanism for reciprocating said knife-frame, and the springs arranged to draw the bed upwardly toward the knife, as set forth.

4. The combination of the pivoted oscillating knife-frame, the arms *k k*, bearing upon said frame, the springs *m m*, holding up the bed, the bed *c*, having slotted arms engaged with pins on the knife-frame, the levers *d d*, supporting said bed, the crank-shaft *g*, and connecting devices, substantially as described, whereby the movements of the cranks on the crank-shaft are communicated to the knife-frame and the bed-supporting levers *d d*, as set forth.

5. The combination of the pivoted knife-frame, the bed *c*, having slotted arms *7*, engaged with pins *i* on the knife-frame, the pivoted levers *d d*, supporting the bed, the crank-shaft *g*, and the rods *e e* and arms *f f*, whereby the movements of the cranks on the crank-shaft are communicated to the levers *d d* and the knife-frame, as set forth.

6. In a lint-machine, the combination of the oscillating knife and bed, the crank-shaft and intermediate mechanism, substantially as described, whereby the knife and bed are reciprocated and caused to alternately grasp and release the fabric, the elastic surfaced feed-rolls connected by gears, and a train of gearing connecting one of the arbors of said rolls with the crank-shaft, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of September, 1884.

JUSTUS WEBSTER.

Witnesses:

C. F. BROWN,
A. L. WHITE.