

(No Model.)

T. B. KIRKWOOD.
GRAIN ADJUSTER.

No. 410,979.

Patented Sept. 10, 1889.

Fig. 5.

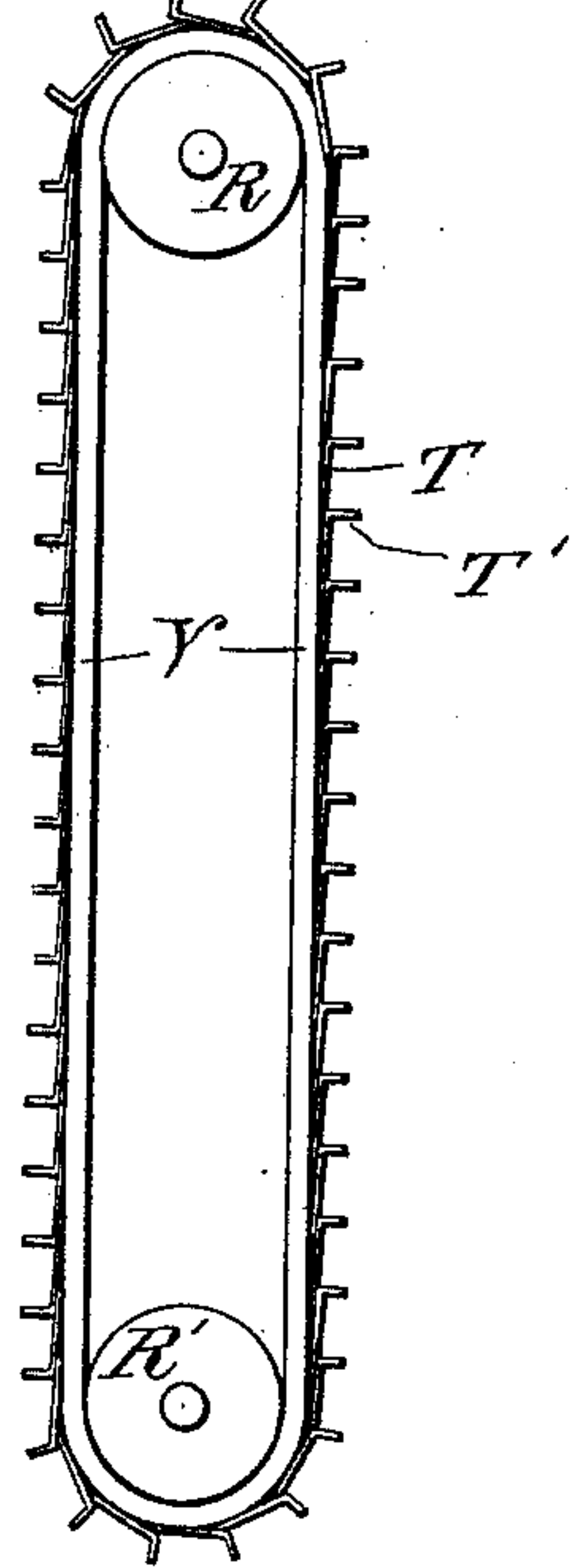


Fig. 4.

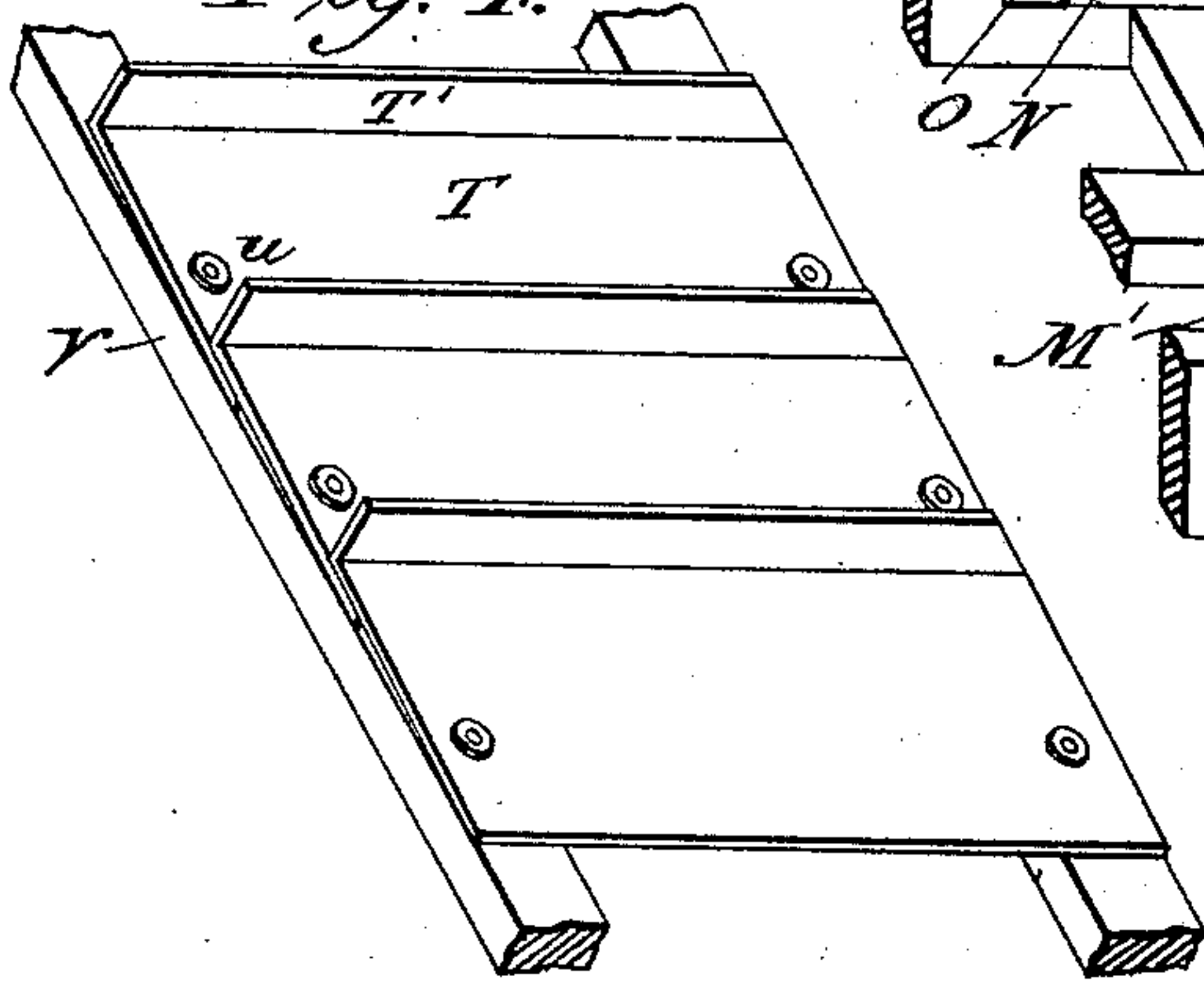


Fig. 6.

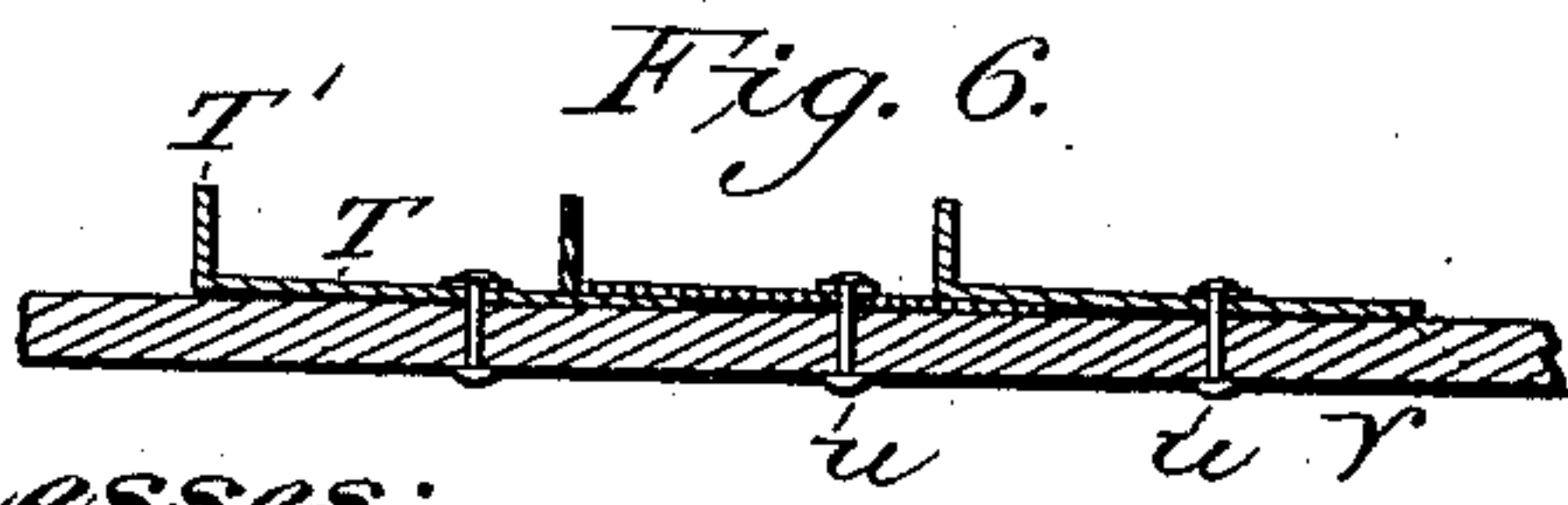


Fig. 1.

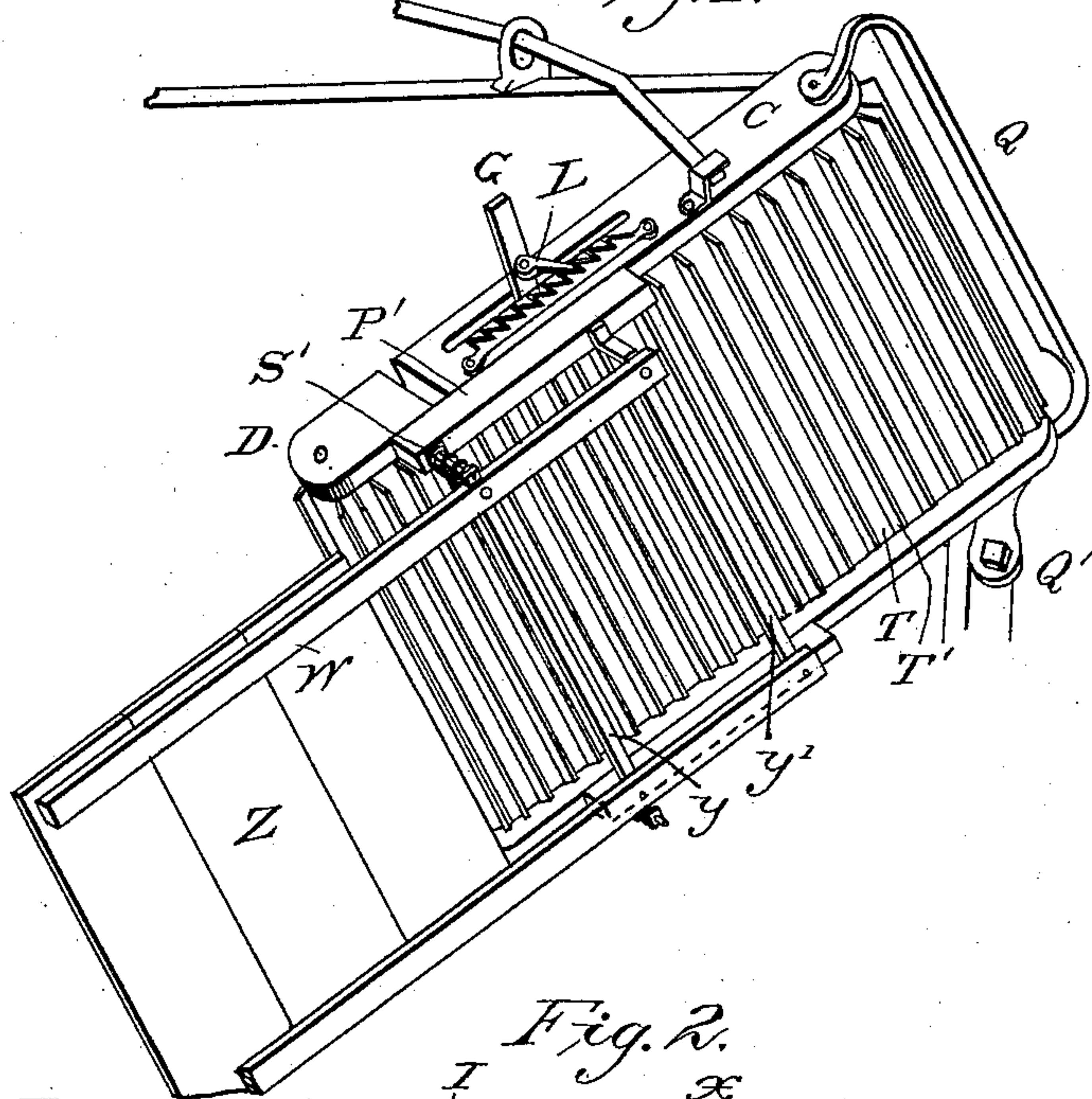


Fig. 2.

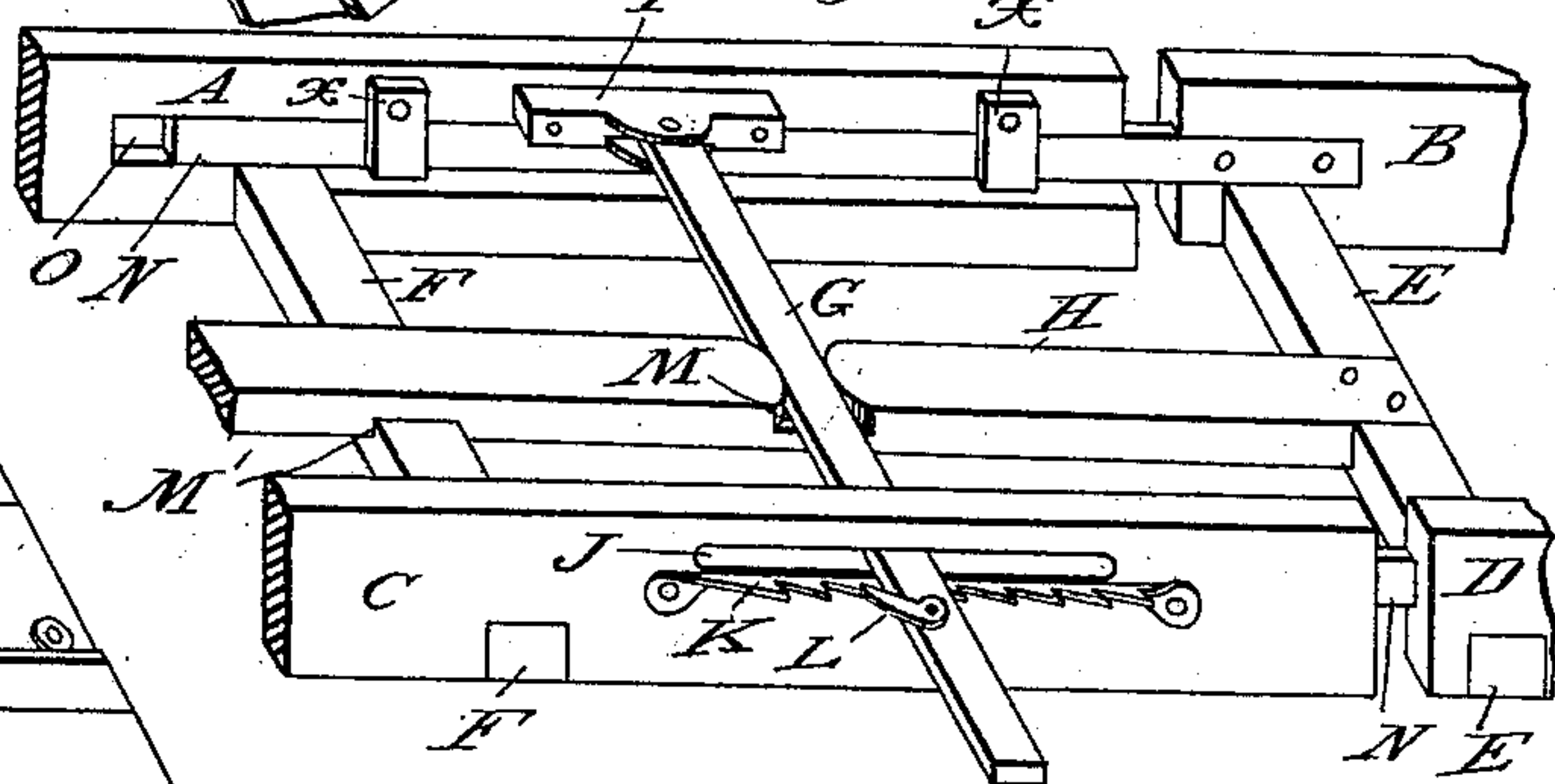
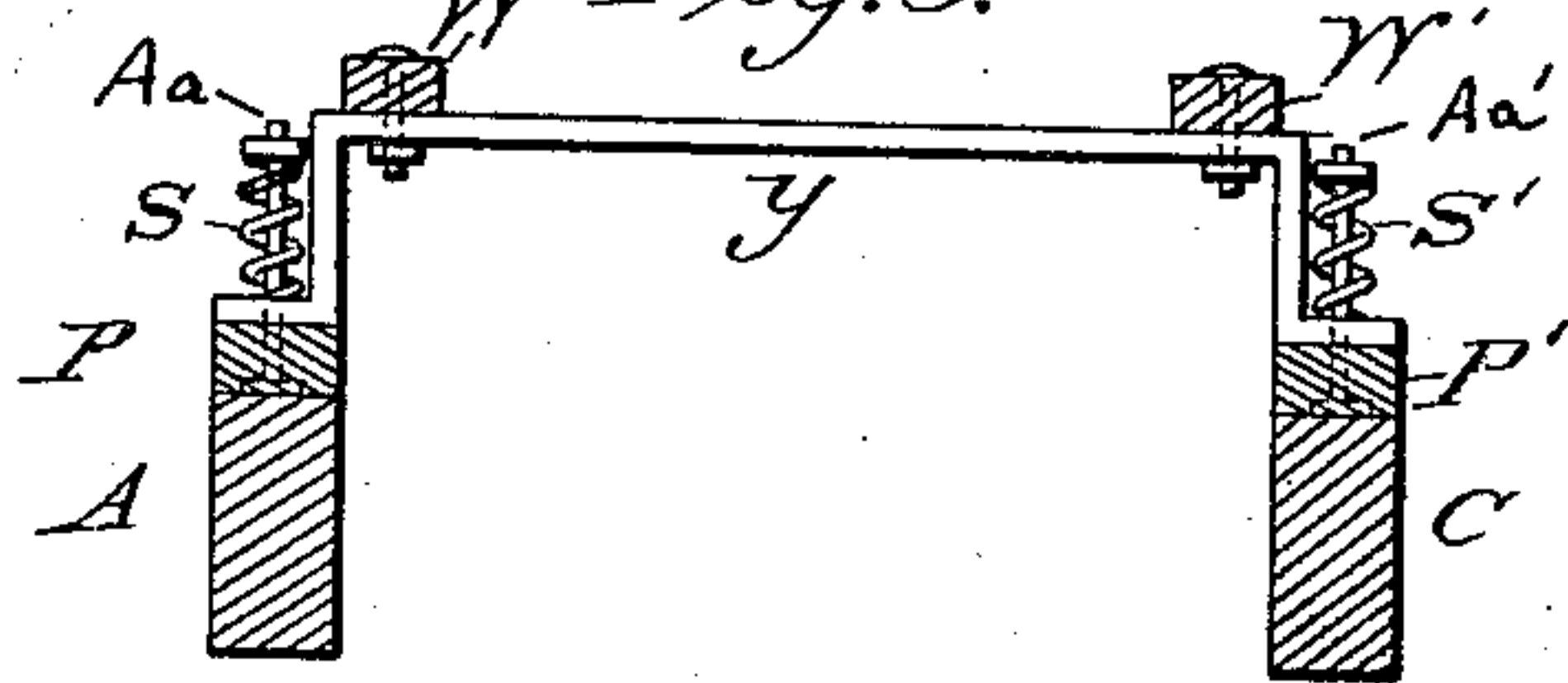


Fig. 3.



Witnesses:

E. A. Vaughan
J. M. Nikels

Inventor:

Thomas B. Kirkwood by
Thos. B. Redding, his
Attorney in fact.

UNITED STATES PATENT OFFICE.

THOMAS B. KIRKWOOD, OF MILTON, INDIANA, ASSIGNOR OF ONE-HALF TO
HENRY STOKES, OF SAME PLACE.

GRAIN-ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 410,979, dated September 10, 1889.

Application filed January 23, 1888. Serial No. 261,706. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. KIRKWOOD, a citizen of the United States, residing at Milton, in the county of Wayne and State of Indiana, have invented a new and useful Grain-Adjuster for Use in connection with Reaping-Machines and Means for Giving Same Sufficient Tension, of which the following is a specification.

My invention relates to an improvement in grain-adjusters for use upon reapers and the means for giving the same such tension as may be desired, and has for its object the construction of a grain-adjuster of metal and leather strips in form of an endless apron upon a frame that may be extended and contracted at will, which is to be attached to the reaper in the usual and ordinary manner of attaching grain-adjusters thereto. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the adjuster as attached to a reaper. It also shows part of the mechanism for procuring extension of the frame upon which apron works, and shows the supplemental board-adjuster for short straw. Fig. 2 is a view of parts of the frame upon which the apron of the adjuster works, and the means for shortening or lengthening the frame so as to give tension to apron. Fig. 3 shows an elevation of the supplemental adjuster through the rear bearings, and shows the coiled springs keeping same in place, &c. Fig. 4 shows the leather straps V and the metal strips T, forming the continuous apron, and the rivets fastening the metal strips to leather bands. Fig. 5 is an elevation of the metal apron and leather straps to which the metal strips are attached as a continuous apron upon the rollers R R' of the grain-adjuster frame. Fig. 6 shows two metal strips attached to the leather bands and the flanges on the metal strips, showing mode of attachment.

Similar letters refer to similar parts throughout the several drawings.

A B C D is a frame with its rollers R R', such as is ordinarily used for carrying the apron of a grain-adjuster, (except the appliances used for procuring extension of same,)

and is attached to a reaping-machine and is operated upon the machine, so far as position is concerned, in the usual way that other grain-adjusters are operated.

I construct the endless apron for my grain-adjuster as follows: I take two leather bands V V, of sufficient length and width, and lay these parallel to each other, so that the outer edges shall be apart equal to the length of the metal strips T. To these leather bands V, on upper side, I rivet the strips T T T, having their flanges T', so that the flat edge of each strip shall pass under the bent edge about one-fourth of an inch. The rivets are inserted about midway between the edges of the strips, as shown at *u*. The leather strips V are united at their ends, (when the metal strips are all attached,) so as to form a continuous band, as in Fig. 5. The metal strips T are about two inches wide, and are made of galvanized sheet-iron, and are of length to suit the frame—say about nine inches. On one edge the strip is turned up a distance of about one-third of an inch at right angles to the other part of strip, as shown at T'. When the metal strips T, with upturned edges T', are riveted at their ends to the leather bands V V at *u u*, and all the strips are attached the full length of the leather bands, the ends of each strap are brought together, and the rivets in the two end metal strips are also passed through the two ends of each leather band and a circle or continuous band formed. These bands are thus united over the rollers R R' in the frame A B C D, as shown in Figs. 1 and 5. When all the metal strips are in place upon the leather bands, they form a continuous apron, with metal uprights about one-third of an inch high at a distance of about one and one-eighth inch apart, which, as it revolves and is carried forward by the motion of the rollers R R', catches the butt-ends of the straws of grain and carries all in proper position and evens them for binding. The apron is carried and moved upon the rollers in usual manner of other adjusters.

To make the frame A B C D adjustable, the sides A B and C D are cut in two about six inches from the rear end of each side piece.

On the inner side of each of these side pieces, about midway, is worked a longitudinal groove O for receiving a metal slide N. This metal slide is secured in the grooves of the two side pieces B and D by screws, and slides in the grooves O in the pieces A and C, so that the surface of the slide N shall be flush with the inner face of A, B, C, and D. These slides N are kept in place in their grooves in A and C by metal strips X X, fastened transversely across the grooves to the side pieces A and C. E and F are two cross-pieces connecting, respectively, B and D and A and C, with their upper surfaces coming up to the lower edge of grooves O.

To the middle of the cross-piece E is attached one end of the extension-bar II, with a notch M in the upper face thereof for receiving the lever G. This bar II lies midway between the side A B and the side C D of frame. Its rear end works in a shallow notch M' in the upper surface of the cross-piece F.

To the inner surface of the side piece A at I is attached a metal bearing or fulcrum for the lever G, which is pivoted therein. This lever rests in the notch M of the bar II and extends through the side piece C through the slot J, at right angles to the surface of C. By moving this lever to the left its edge presses against the left side of the notch M and pulls upon the cross-piece E, and brings the ends B and D of the sides closer to the ends of the side pieces A and C until they are in touching distance. By pushing the lever in the opposite direction the cross-piece E is pushed to the right and carries with it the sides B and D and separates A and B and C and D, effecting extension, the slides N N moving back and forth in the grooves O O and keeping all parts in proper relations.

The lever G has at L a pawl which engages with a ratchet-bar K and retains lever G in any desired position, so that the frame is maintained in such extension or contraction as the lever G gives it. The ratchet K is fastened to side of C by screws or bolts.

The supplemental adjuster consists of two bars W W, of sufficient length, with boards

fastened to so much thereof, as at Z, as extends beyond rear of the metal apron of adjuster, and is attached to the grain-adjuster so as to be parallel with it, but back of it about three inches. The supplemental adjuster is attached to the back of the grain-adjuster by bolts, attaching the two bars W W at the right-hand end to a cross iron bar y' , which is bent at each end, as shown in Fig. 3, y' , with two right angles on each end, first at right angles to the bar and then at right angles to these arms, extending outward, so as to serve as bearings upon and attachment to bars P P', bolted to back edges of the sides A and C, as shown in Fig. 3.

In Fig. 3 a bolt A^a A^{a'}; with a coil-spring S, is shown, passing up through the lower ends of the bars P P'. In the end of the bar y' are holes which slip over this bolt, and then the coil-spring is put in place and secured by the nut, and the bars W W are bolted to bar at W W', Fig. 3. The bar y' is bolted to the bars P P', so as to be firm. The bar y' , being only held in place by the coil-spring S, allows a certain degree of motion back and forth to the supplemental adjuster. This adjuster is used to aid in short straw in making even bundles or sheaves.

I am aware that grain-adjusters have been used having frames with rollers carrying endless aprons and attached to reapers, and I do not claim the same, broadly; but

What I do claim as my invention, and for which I desire to secure Letters Patent, is—

In a grain-adjuster, the metal strips T, with edges T', bent at right angles, fastened by rivets u to leather bands V V, the lever G, bearing I, extension-bar II, with notch M, the cross-pieces E F, connecting the sides of the frame A B C D, the pieces A C and B D being formed with slot J in side piece C for receiving lever G, and with grooves O O in side pieces A B C D of frame, and the slides N N, working therein, substantially as and for the purposes therein named.

THOMAS B. KIRKWOOD.

Witnesses:

JOHN REA,
ELIJAH D. RUTLEDGE.