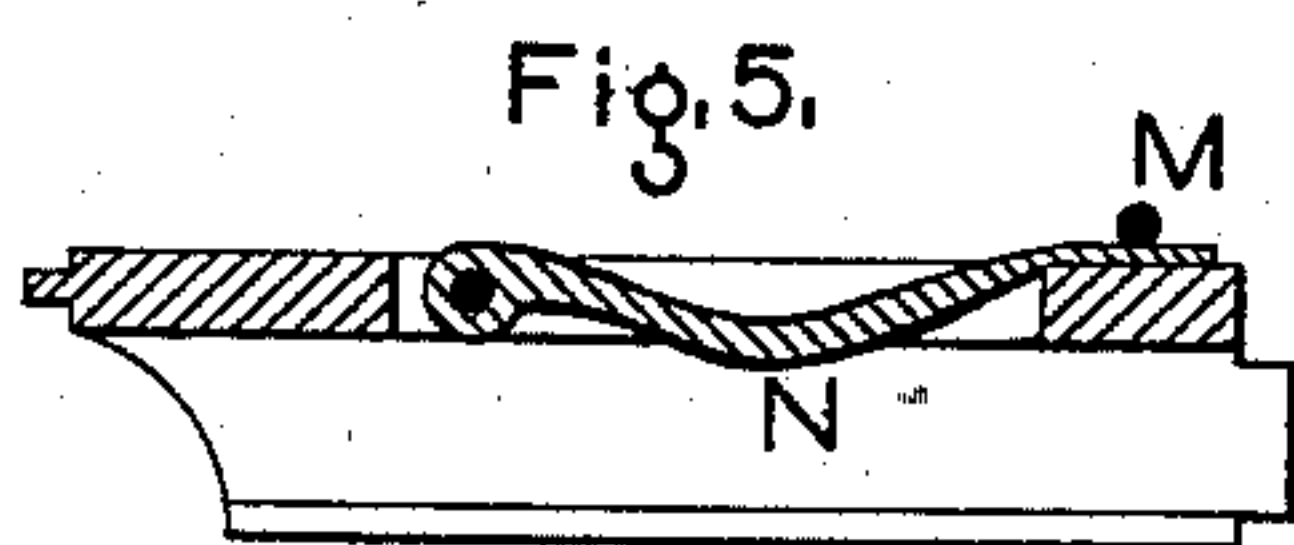
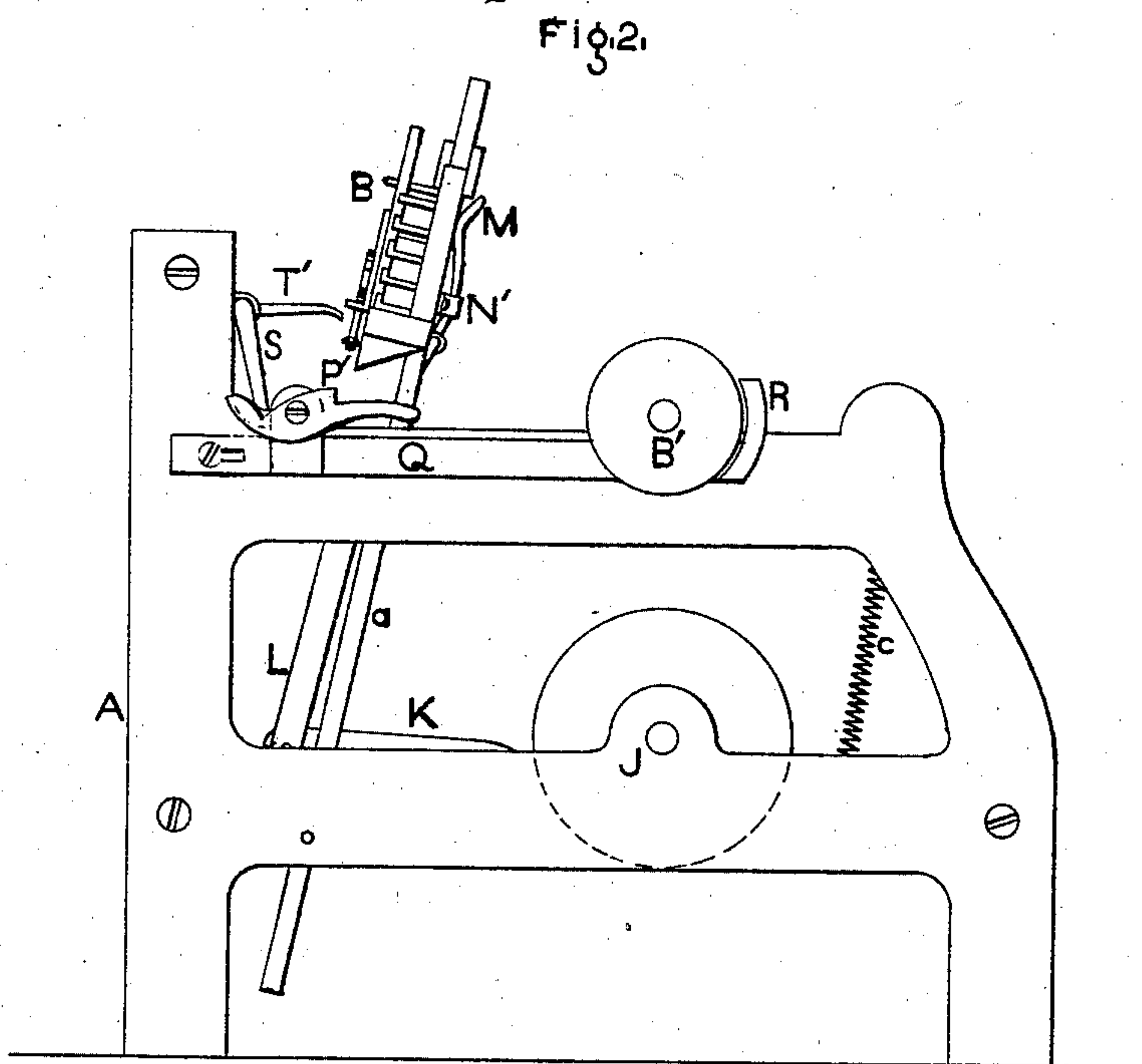
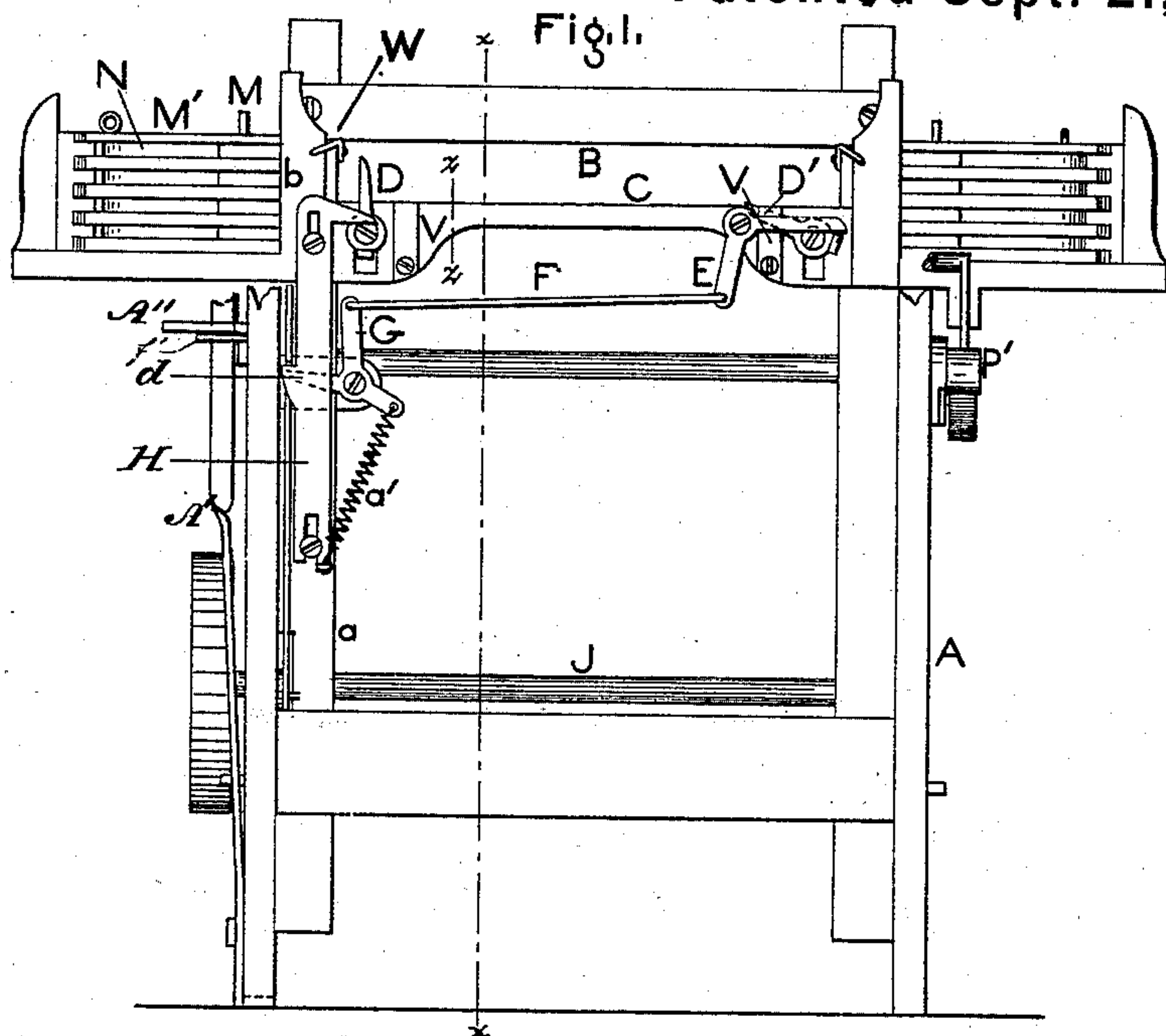


R. B. GOODYEAR.
Stop Motion for Looms.

No. 232,485.

Patented Sept. 21, 1880.



Witnesses:

No. P. Grant,
H. D. Kircher

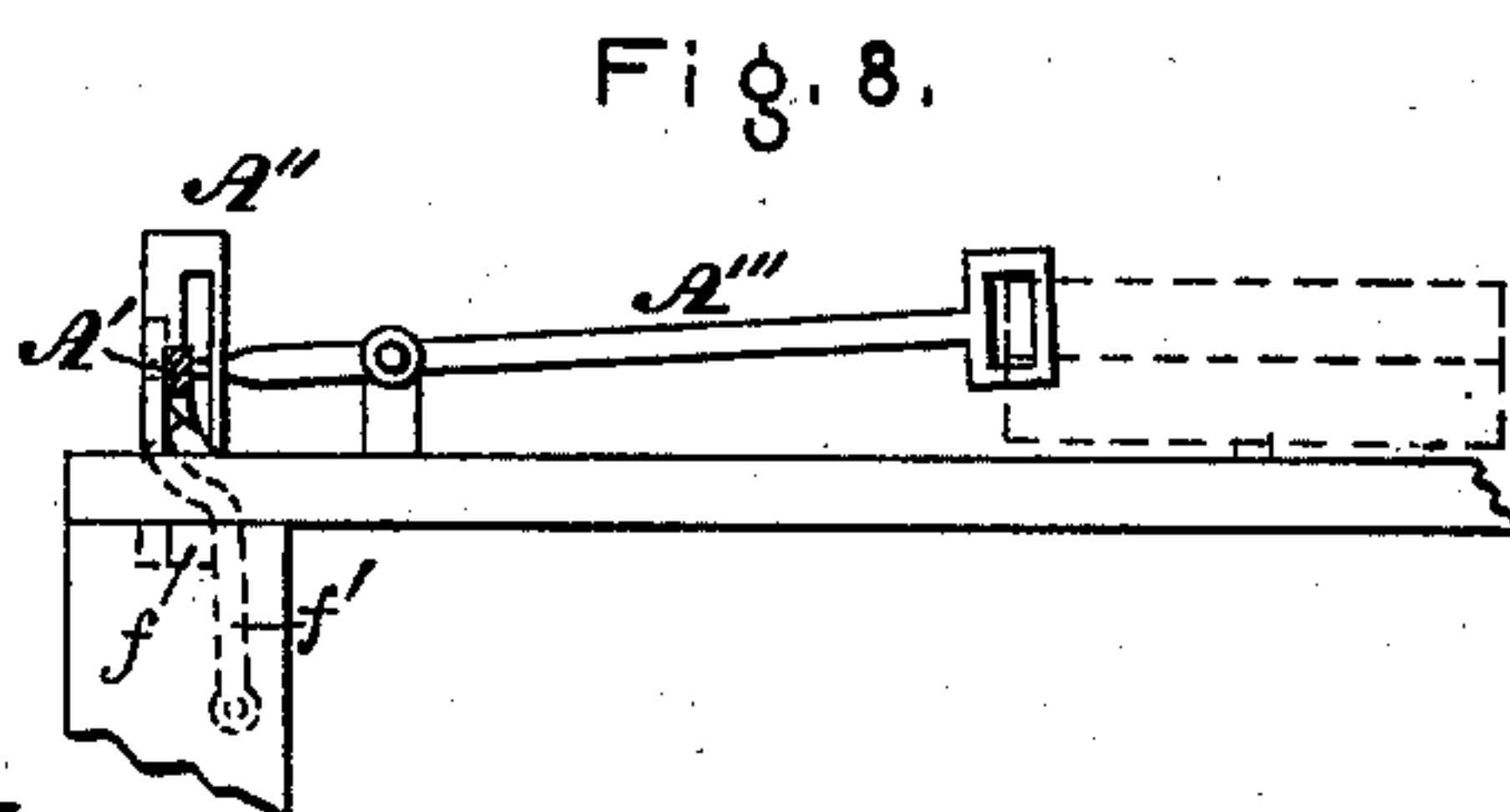
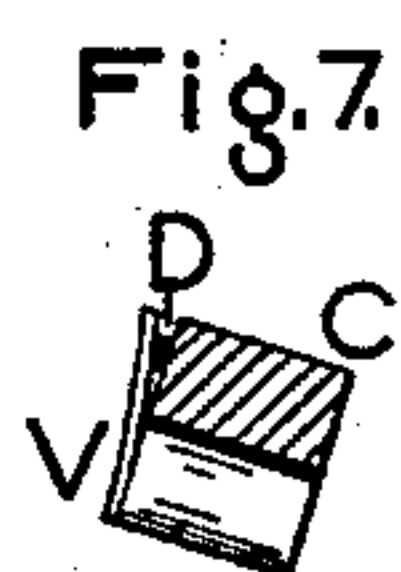
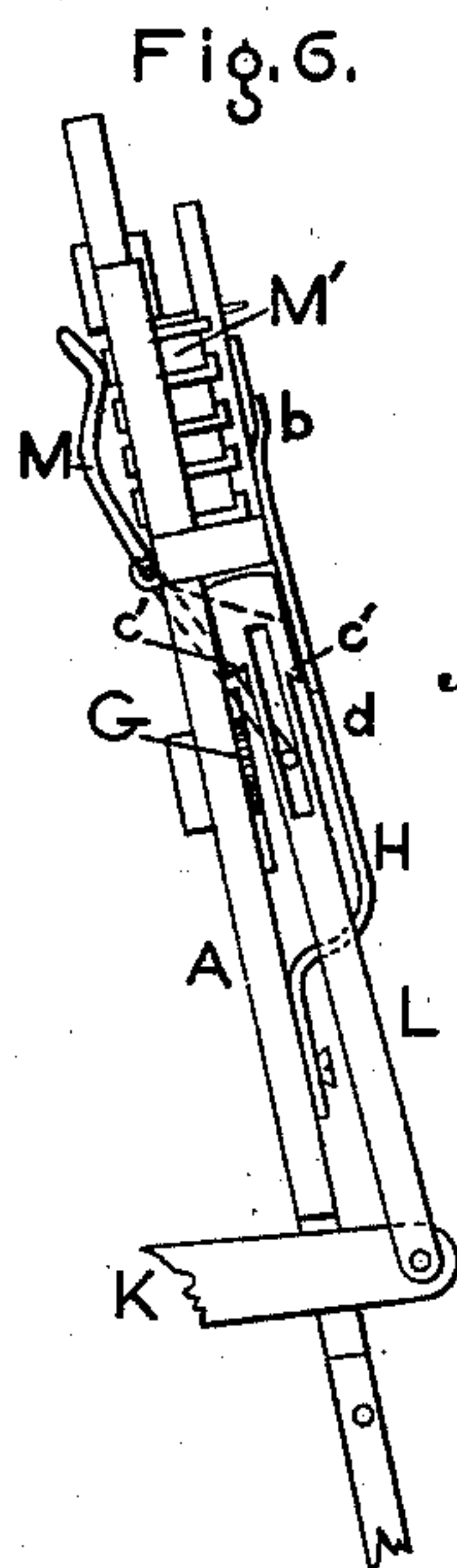
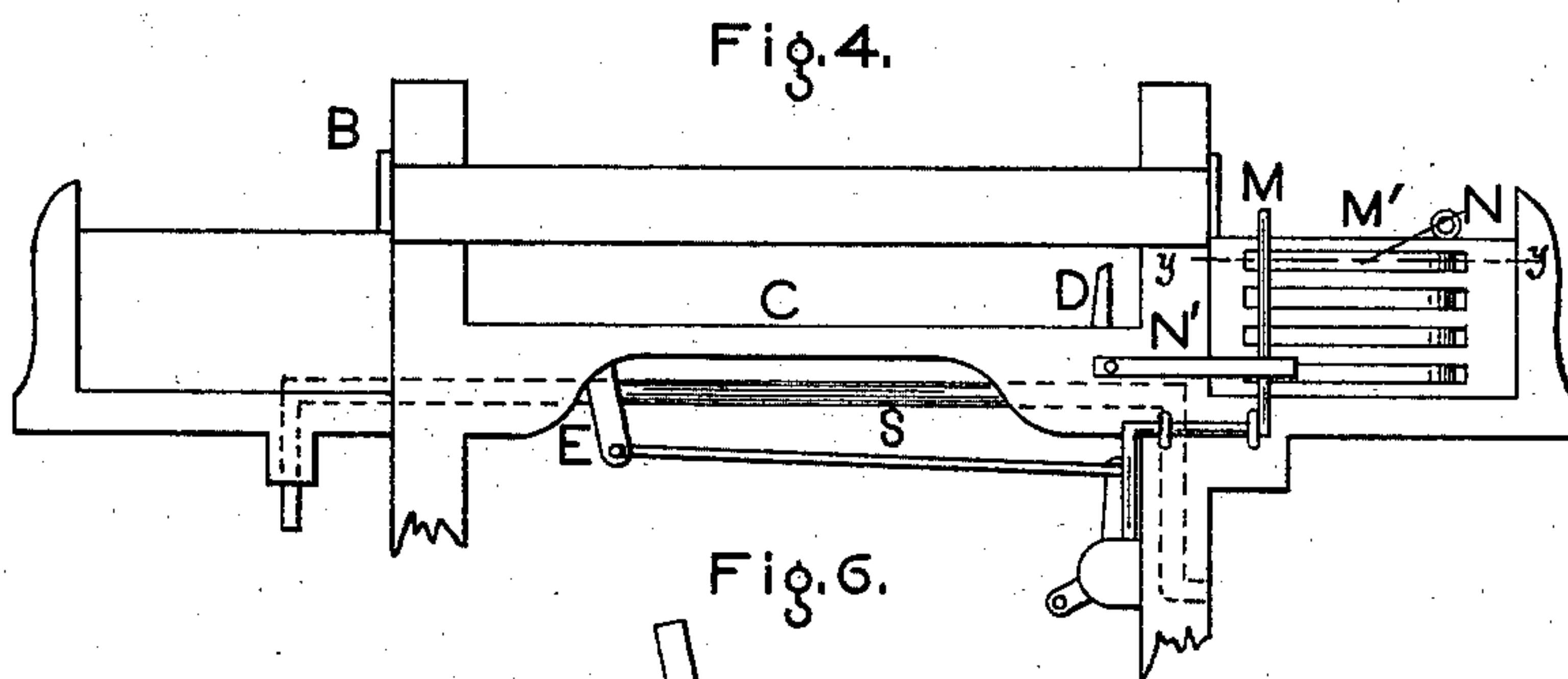
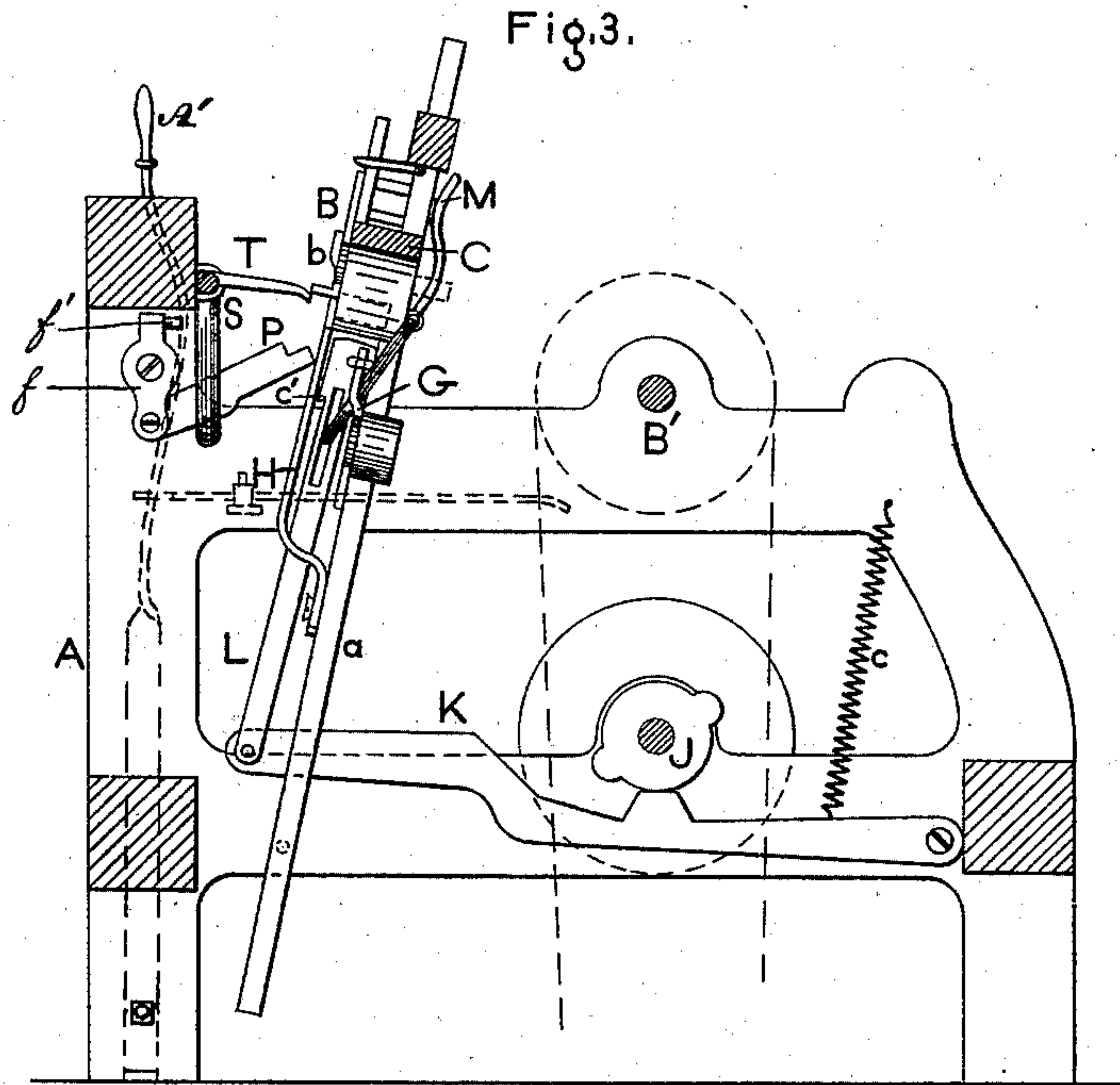
Inventor:

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ATTORNEY.

UNITED STATES PATENT OFFICE.

ROBERT B. GOODYEAR, OF PHILADELPHIA, ASSIGNOR OF ONE-HALF OF
HIS RIGHT TO WOLFENDEN, SHORE & CO., OF CARDINGTON, PA.

STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 232,485, dated September 21, 1880.

Application filed October 17, 1879.

To all whom it may concern:

Be it known that I, ROBERT B. GOODYEAR, of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in
5 Stop-Motions for Looms, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front view of so much of a loom as is necessary to illustrate my invention.
10 Fig. 2 is a side elevation thereof. Fig. 3 is a vertical section thereof in line *x x*, Fig. 1. Fig. 4 is a rear view of a portion thereof. Fig. 5 is a horizontal section of a portion in line *y y*, Fig. 4. Fig. 6 is a side elevation of
15 a detached portion. Fig. 7 is a vertical section in line *z z*, Fig. 1. Fig. 8 is a top view of the belt-shifter and connected lever.

Similar letters of reference indicate corresponding parts in the several figures.

20 My invention relates to improvements in stop-motions for looms; and it consists in automatically causing the alternate operation of the weft-feelers on opposite places of the lay by the action of the shuttles and intermediate
25 mechanism, so that said weft-feelers are properly set for the engagement of the thread.

It also consists of friction-springs for holding the feelers depressed until ready to be elevated.

30 It further consists of an arm or shaft operated by the feelers and operating a stop block or blocks and a brake shoe or head, whereby the loom may be quickly thrown off and stopped.

35 Referring to the drawings, A represents the frame of a loom, and B the lay thereof, which is operated by the shaft B', as well known.

To opposite sides of the lay, beneath the race-board C, are pivoted weft-feelers D D',
40 whose heels project toward the breast-beam; and to the lay is also pivoted an elbow-lever, E, the upper arm of which is adapted to strike the heel of the feeler D', and its lower arm is connected to one end of a rod, F, whose other
45 end is connected to an elbow or armed lever, G, which, located beneath the feeler D, is pivoted to the sword *a* of the lay, and has attached to it a spring, *a'*, whereby said elbow-lever G is caused to assume its normal posi-
50 tion. To the sword *a* is also attached the

lower end of a vertical slide, H, whose upper end is attached to the lay B, and is formed with a head, *b*, for engagement with the heel of the weft-feeler D, said slide being caused to assume its normal or elevated position by
55 the action of the spring *a'*.

J represents the cam-shaft, which, mounted on the frame A beneath the shaft B', depresses a lever, K, one end of which is pivoted to the frame A, its rising motion being occa-
60 sioned by a spring, *c*, suitably applied. The other end of the lever is pivoted to an upright oscillating bar, L, which extends in front of the sword *a* of the lay, and has on its front and rear, near the top, shoulders *c' c'*, one of
65 which is adapted to engage with a projection, *d*, of the slide H, and the other one with an arm of the elbow-lever G, for which purpose said bar is permitted to play between said
70 projection and arm, so as to alternately engage with the slide and lever, and it is operated by a bent arm or lever, M, whose bearings are on the lay. The upper end of said
75 lever stands upright in the rear of the boxes M' of the loom, and bears against binders N, which are hinged to the boxes, one for each shuttle, and of curved, cam, or swelled form, whereby as each shuttle enters its box it
80 presses against the finger thereof, and thus forces rearward the upper end of the lever M, so that by the action of the lower end of said lever the bar L is moved forward in position
85 to engage with the shoulder of the slide H. A spring, N', is secured to the lay, and bears against the upper end of the lever M, so that when the binders N are inactive the lever M
90 returns to its normal position and carries the bar L to the engaging-arm of the elbow-lever G.

P P' represent stop-blocks, one of which is pivoted to a swinging arm, *f*, connected to one
95 side of the frame A beneath the breast-beam, and the other block, P', is pivoted to a sliding arm, Q, fitted to the side of the frame opposite to the block P, and carrying a brake-head, R, which engages with the pulley of the crank-
shaft B', or the shaft itself, for the purpose of stopping the rotation thereof.

To the rear of the breast-beam is pivoted a horizontal shaft, S, whose ends extend down-
ward so as to engage with the stop-blocks P 100

P', and from its middle portion project rearward curved or tapering arms T T', which are so disposed that when occasions require it they will be struck by the heels of the weft-
 5 feelers D D', so as to elevate the stop-blocks, the normal positions whereof are horizontal and down, so as not to interfere with the beats of the lay.

The operation is as follows: The loom is set
 10 in motion and the shuttles are thrown as usual. While the thread from the shuttle is intact it draws against the elevated feeler D and lowers it so that its heel is clear of the arm T. The bar L now lowers, owing to the action of the
 15 cam-shaft J and lever K, and its rear shoulder, c', engages with one arm of the elbow-lever G, so as to draw the rod F and operate the elbow-lever E, the upper arm of which presses against the heel of the feeler D' and
 20 places the latter in an upright position, whereby when the thread returns it draws against said feeler and lowers it, so that the heel thereof is clear of the arm T'. As soon as the shuttle enters its box it presses out the binder
 25 N, which operates the bent lever M, the action whereof throws the bar L forward and causes its front shoulder, c', to engage with the projection d of the slide H, which is thereby lowered, and its head b strikes the heel of the
 30 feeler D and places it in an upright position, ready for the next shoot of the weft-thread. When the finger is relieved of the shuttle the bar L returns to its normal position and again engages with the elbow-lever G, thus setting
 35 the feeler D'. The alternate setting of the feelers D D', harmonizing with the beats of the lay, continues with the running of the loom, and the shaft S remains passive and the stop-blocks P P' inoperative. Should, how-
 40 ever, the thread break, the feeler with which it should have first come in contact remains elevated, and its heel strikes the respective arm T or T' of the shaft S, whereby the ends

of the latter elevate the stop-blocks and cause their shoulders to receive the impact of the
 45 lay. This imparts motion to the sliding arm Q and forces the brake-head R against the crank-shaft B', stopping the loom. When the feelers D D' are thrown down they are forced against upright spring-plates V, which are se-
 50 cured at their lower ends to the lay and flare at their upper ends, (see Figs. 1 and 7,) whereby the accidental rebound of the feelers is prevented by the friction of said plates.

Secured to the lay above the race-board, and
 55 adjacent to each feeler, is a guard, W, the object of which is to cause the proper engagement of the thread with the feeler or prevent it passing over the same.

When swinging arm f is brought into service
 60 by block P being struck it throws lever A' from the notch of its keeper A'', and, owing to the elasticity of the lever, the latter is moved laterally and carries with it the end of the pivoted lever A'', said end fitting loosely in a notch
 65 in the lever. The shipper thus moves the belt onto the pulley and stops the loom.

Having thus described my invention, what I claim as new, and desire to secure by Let-
 70 ters Patent, is—

1. The oscillating bar L, in combination with lever K, the actuating devices of said lever, lever M, the elbow-lever G, slide H, the weft-
 75 feelers D D', and mechanism connected therewith, substantially as and for the purposes set forth.

2. The combination, with lay B, feelers D D', and mechanism to actuate them, as described, of shaft S, arms T T', stop-blocks P P', and a
 80 brake or loom-shipping device adapted to be operated by said stop-blocks, substantially as set forth.

ROBERT B. GOODYEAR.

Witnesses:

JOHN A. WIEDERSHEIM,
 A. P. GRANT.