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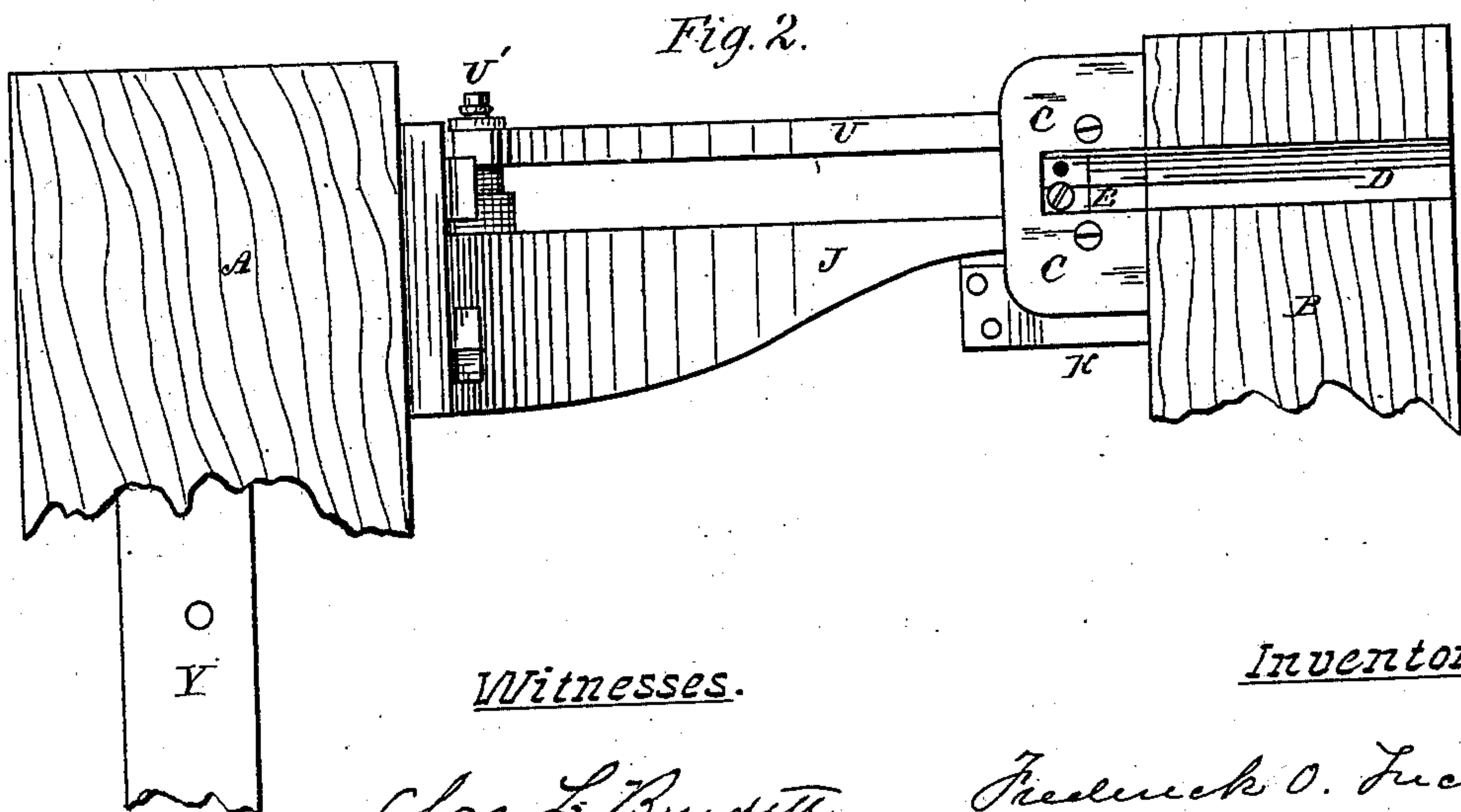
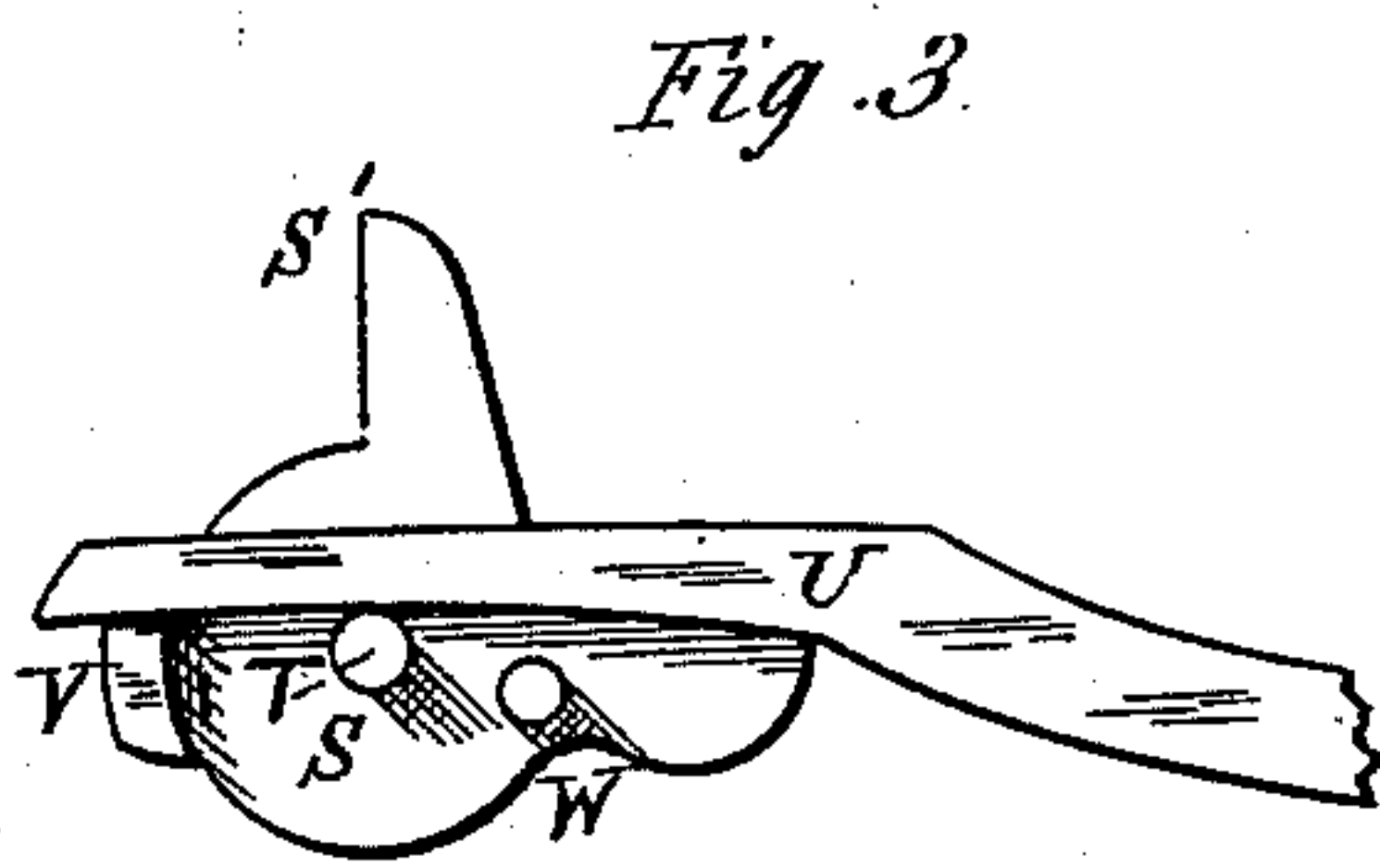
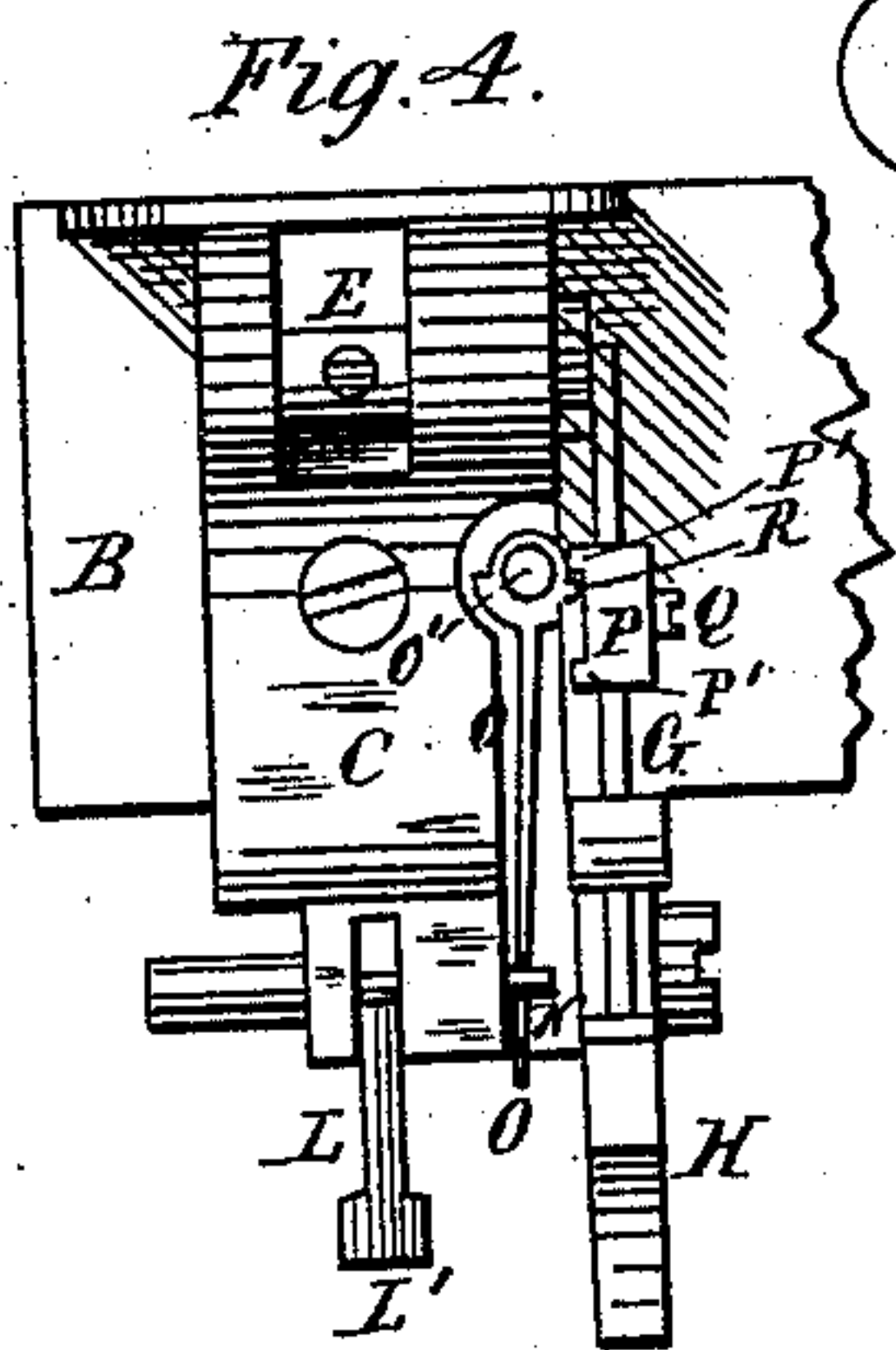
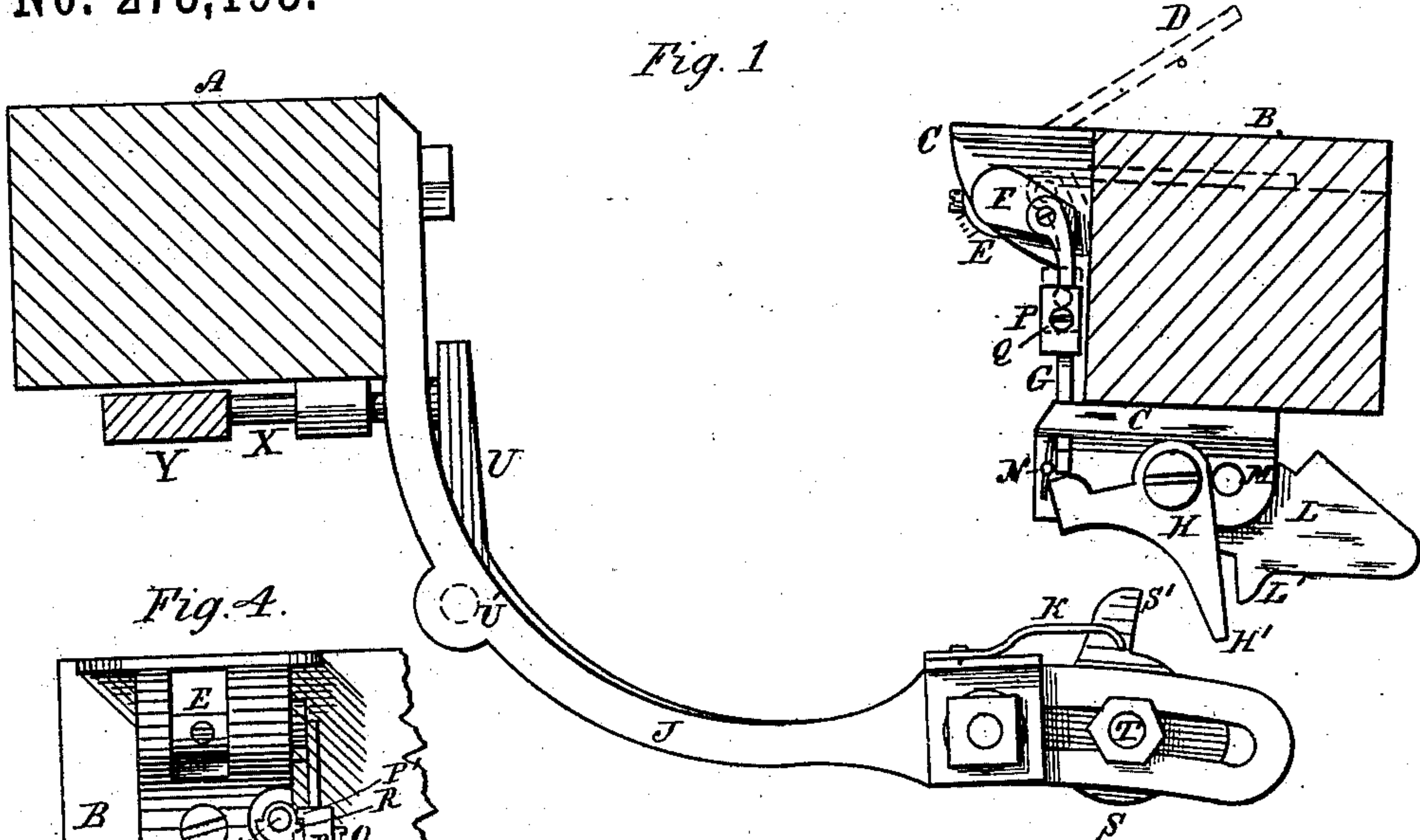
2 Sheets—Sheet 1.

F. O. TUCKER.

WEFT STOP MOTION FOR LOOMS.

No. 273,193.

Patented Feb. 27, 1883.



Witnesses.

Inventor.

Chas. L. Bunker.  
L. H. Gager

Frederick O. Tucker  
by Theo. G. Ellis, Attorney

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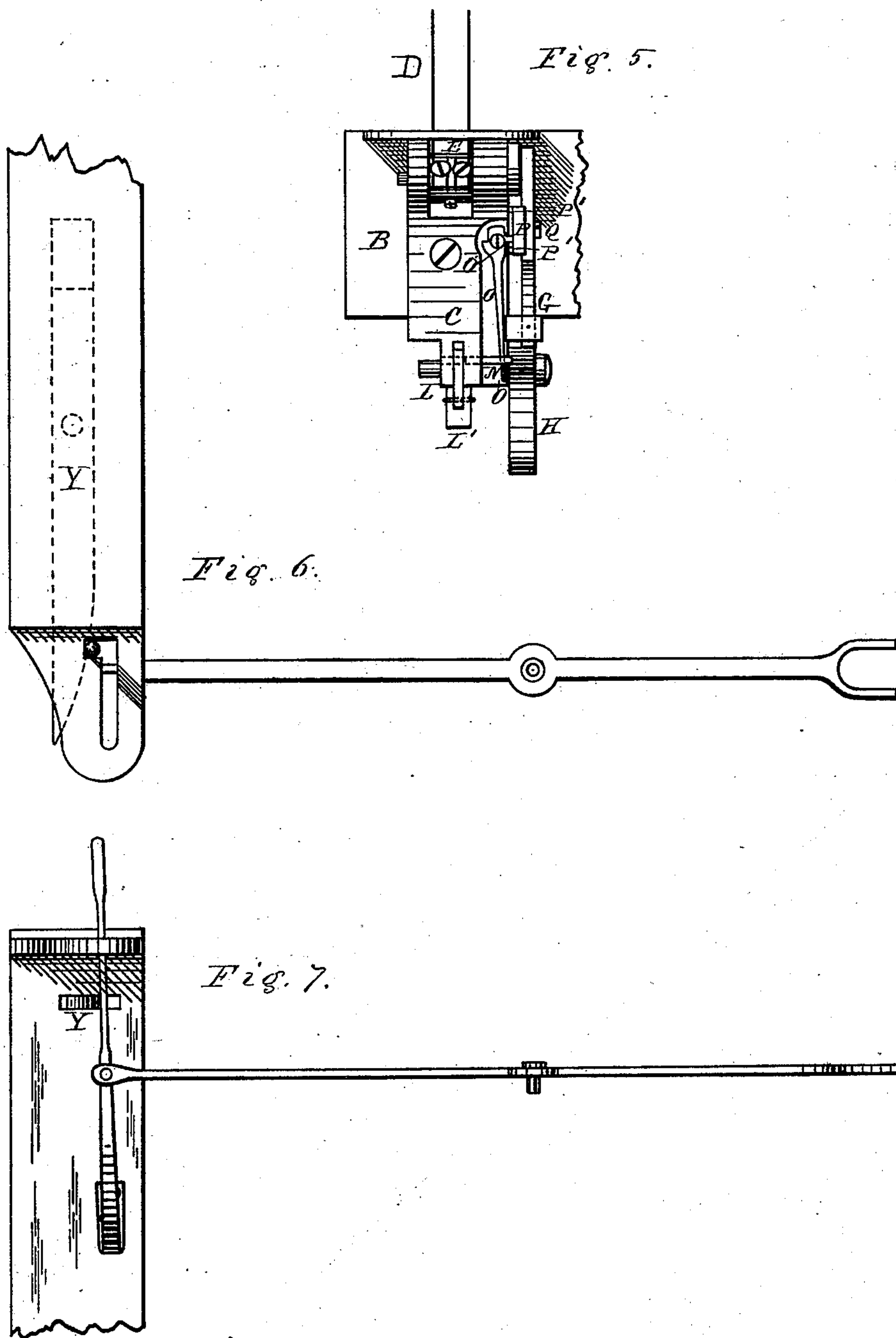
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Witnesses.

Inventor.

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Frederick O. Tucker  
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# UNITED STATES PATENT OFFICE.

FREDERICK O. TUCKER, OF HARTFORD, CONNECTICUT.

## WEFT STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 273,193, dated February 27, 1883.

Application filed January 16, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK O. TUCKER, of Hartford, in the county of Hartford and State of Connecticut, have invented certain  
5 new and useful Improvements in Weft Stop-Motions for Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled  
10 in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to stop-motions or  
15 devices placed upon looms for the purpose of stopping them when the weft-thread is absent. A great many devices and mechanisms have heretofore been in use for this purpose; and the object of my invention is to provide a stop-  
20 motion which shall operate more perfectly and avoid some of the objections to existing devices.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view, showing the breast-beam and lay of a loom in section  
25 with my improvement attached. Fig. 2 is a top view of the same, showing only a portion of the breast-beam and lay. Fig. 3 is a view of the end of the "knock-off" lever and the tumbler which operates it from the opposite  
30 side of the machine from that shown in Fig. 1. Fig. 4 is a front view of that part of the stop-motion which is attached to the lay. Fig. 5 is a front view of that part of the stop-motion attached to the lay with the rod G and the feel-  
35 ers raised and the pin N withdrawn to release the dagger. Figs. 6 and 7 are a top and side view of one arrangement for connecting the bar Y with the shipping lever and belt for stopping the loom.

40 A is the breast-beam.

B is the lay.

C is the frame or plate of the stop-motion, to which the several working parts connected with the lay are attached. This frame is se-  
45 cured to the lay in the customary manner and is commonly made of cast metal.

D are the feelers. They are attached to a rocking shaft, E, which turns in bearings in the frame C.

50 F is a crank at the end of the shaft E for operating it.

G is a lifting-rod attached to the pin of the crank F at its upper end and passing through a guide in the frame C at its lower end.

H is a bent lever, which operates to push up 55 the rod G.

J is a fixed cam stand or arm projecting from the breast-beam. Upon its end is the cam K for encountering and raising the lower arm of the bent lever H, so as to push up the rod G. 60 This cam has a set-screw, and can be adjusted to its proper position in the usual manner.

L is the dagger or part serving the purpose of the ordinary dagger. It is pivoted to the frame C by means of the pin M. Its rear end 65 is slightly the heaviest, so that its forward end rests upward against the frame C unless depressed.

N is a pin, which slides horizontally in bearings in the frame C, and serves to lock the for- 70 ward end of the dagger in its upward position. It is moved in and out, so as to lock or unlock the dagger, by the arm O, which swings on a pivot, O', in the frame C.

P is a sliding block upon the rod G, which 75 can be adjusted to its proper position and firmly held in place by the set-screw Q. The block P has two projections, P', which engage with a projection, R, upon the side of the arm O when the rod G is moved to its highest and 80 lowest positions for the purpose of operating the arm O and the pin N, which locks the dagger.

S is a tumbler upon which the dagger operates to stop the loom. This tumbler turns 85 freely upon a pivot, T, attached to the arm J, which can be adjusted by a nut and slot in the usual manner, as shown in the drawings. It has its forward end weighted, and is provided with a projection, S', which engages with the 90 projection L' on the dagger.

U is the knock-off lever for stopping the loom. It is pivoted to the arm J at U', and its rear end rests on the pin T, upon which the tumbler S turns, said pin being prolonged through the 95 tumbler, as shown in Fig. 3.

V is a dog for raising the lever U when the tumbler is pushed by the dagger.

W is a pin in the tumbler to limit its movement by striking against the bar U when the 100 top is pushed to the rear by the returning dagger.



X is a bolt, which is pushed by the lever U against the shipping-lever Y, which it moves and causes the unshipping of the belt of the machine in any customary manner.

5 The operation of my invention is as follows: The position of parts in the full lines in Fig. 1 of the drawings is that when the weft-thread is absent and the lay to the rear. The dagger is then locked by the dropping of the block P,  
10 moving the arm O, and pushing in the pin N, and operates to stop the loom by striking against the tumbler S, raising the rear end of the lever U, pushing the bolt X, and thus stopping the loom. In the example of shipping  
15 mechanism shown in Figs. 6 and 7 of the drawings the shipping-lever Y unlocks the shipping-handle, which springs outward and moves a rocking bar provided with a fork embracing the belt. Any other shipping device  
20 may be used, however. When the weft-thread is present the feelers are held raised in about the position shown by the dotted lines in Fig. 1. This keeps elevated the rod G, and the block P operates upon the arm O to keep withdrawn  
25 the pin and leave the dagger free. In this position the dagger passes freely back and forth without pushing the tumbler S out of its position. When the dagger moves forward it tilts and rises over the projection S', as it is not  
30 held by its pin N, and when it returns it tilts the tumbler back by raising its weighted forward end, the pin W preventing its going too far. The feelers are thrown upward at each rearward movement of the lay by the arm H'

mounting upon the cam K. This pushes up 35 the rod G. After the arm H' has passed over the cam the forward end of the lever H falls away from the rod G, if the weft-thread is present and holds up the feelers. If the weft-thread is absent, the rod G follows the lever 40 down. On the return of the lay the arm H' passes over the cam K.

I do not claim in this application the guard connected with the frame C, as shown in the drawings, this being the subject-matter of Let- 45 ters Patent granted to me October 17, 1882, No. 265,997.

What I claim as my invention is—

1. The combination of the dagger L, having a projection, L', the rocking tumbler S, having a projection, S', and a dog, V, and the lever 50 U, with a locking and unlocking device for said dagger, and suitable supports adapted to be mounted upon the breast-beam and lay of a loom, substantially as described. 55

2. The combination of the lever H, the rod G, the block P, having projections P', the arm O, having the projection R, and the pin N, with suitable supports, and a cam, K, for operating said locking device, substantially as described. 60

3. The combination of the tumbler S, having the dog V and pin W, and the lever U, with the fixed arm J, adapted to be attached to the breast-beam, substantially as described.

FREDERICK O. TUCKER.

Witnesses:

EDWIN F. DIMOCK,  
THEO. G. ELLIS.