

No. 682,445.

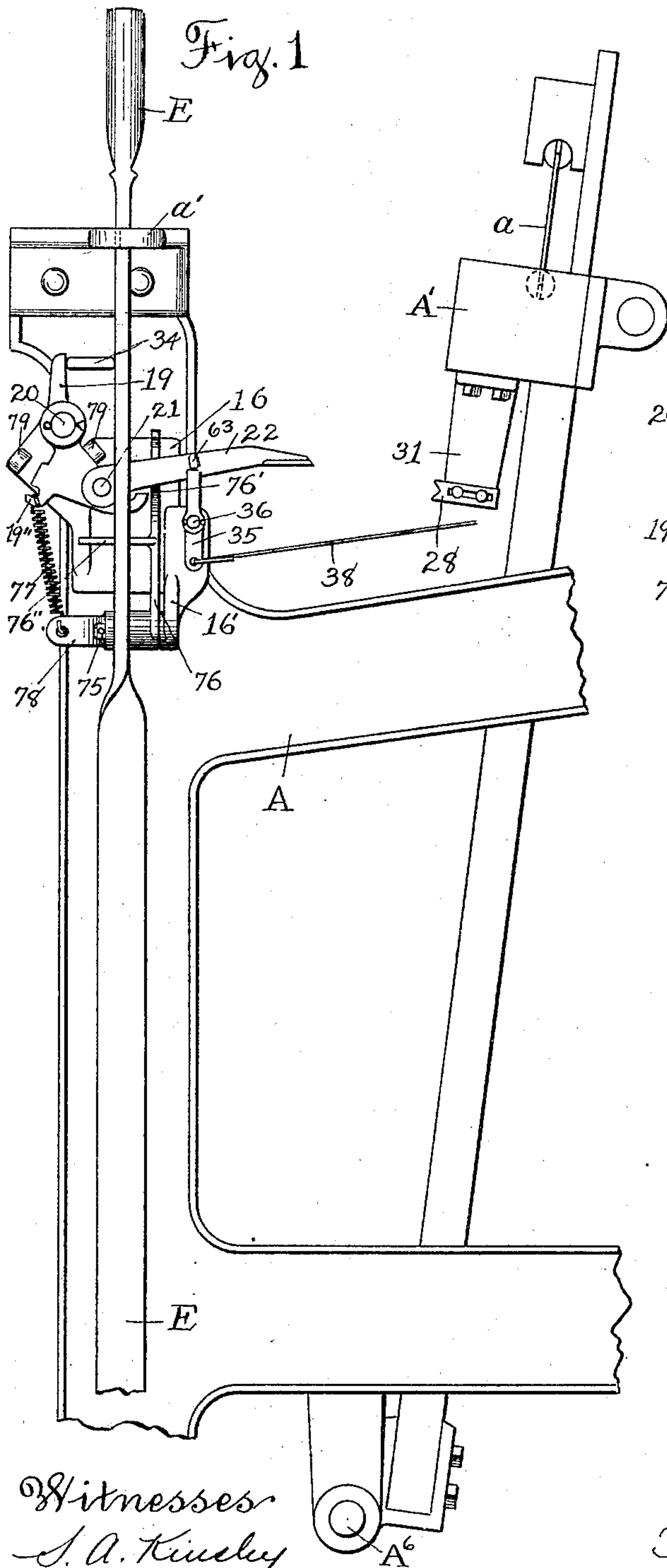
Patented Sept. 10, 1901.

H. WYMAN.
STOP MOTION FOR LOOMS.

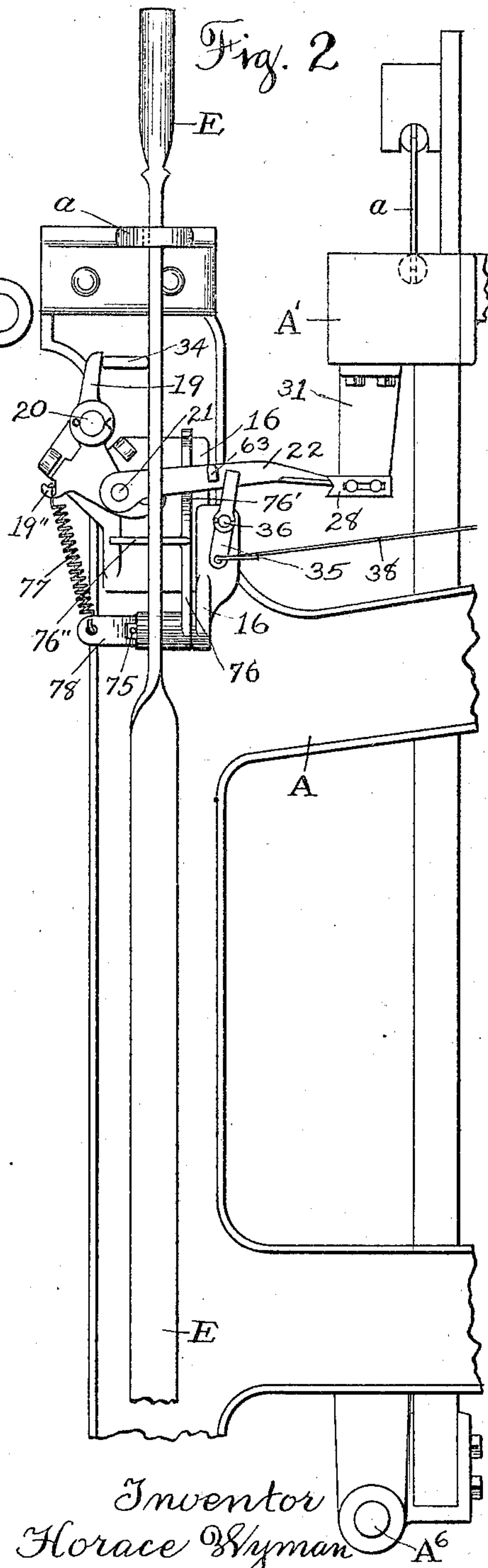
(Application filed June 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
S. A. Kinsley
M. Haas.



Inventor
Horace Wyman

By John C. Dewey Atty

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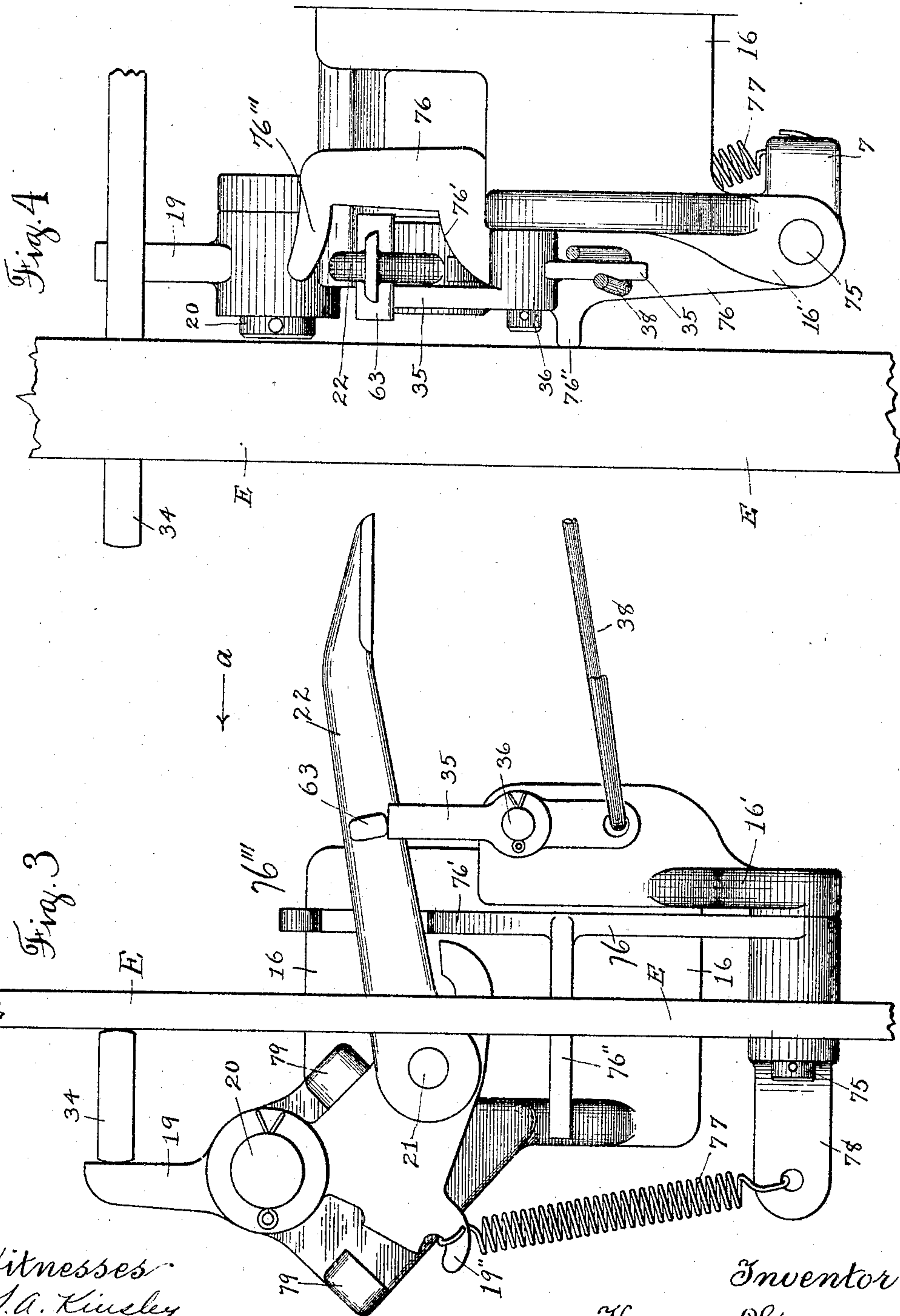
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M. Heas.

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UNITED STATES PATENT OFFICE.

HORACE WYMAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
CROMPTON & KNOWLES LOOM WORKS, OF SAME PLACE.

STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 682,445, dated September 10, 1901.

Application filed June 7, 1901. Serial No. 63,586. (No model.)

To all whom it may concern:

Be it known that I, HORACE WYMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Stop Mechanism for Looms, of which the following is a specification.

My invention relates to stop mechanism for looms, and more particularly to an improvement in the warp stop mechanism shown and described in my United States Letters Patent No. 665,713, dated January 8, 1901.

The purpose of a warp stop mechanism for looms, as is well known, is to instantly stop the loom when the warp breaks or becomes too slack.

The object of my invention is to improve upon and simplify that portion of the warp stop mechanism shown and described in said Patent No. 665,713, which is located at the front part of the loom on the frame to operate the shipper-handle, and more particularly the construction and operation of the main dagger-lifter (lettered 26) in said patent.

My invention consists in certain novel features of construction of my improvements in warp stop mechanism for looms, as will be hereinafter fully described.

I have only shown in the drawings sufficient portions of the warp stop mechanism shown in the drawings of said Patent No. 665,713, with my improvements applied thereto, to enable those skilled in the art to which my invention belongs to understand the construction and operation of the same.

Referring to the drawings, Figure 1 is a right-hand side elevation of the front portion of a loom with my improvements applied thereto and showing the lay in its backward position. Fig. 2 corresponds to Fig. 1, but shows the lay in its forward position and the stop mechanism in its opposite position. Fig. 3 shows, on an enlarged scale, parts of the stop mechanism shown in Fig. 1; and Fig. 4 is a rear view of the parts shown in Fig. 3 looking in the direction of arrow *a*, same figure.

I have used in the drawings the same letters and figures of reference as are used on the corresponding parts in said Patent No. 665,713.

In the accompanying drawings, A is a por-

tion of the loom-frame; A', the lay, pivoted at A⁶ and carrying the usual reed *a* and actuated in the usual way through connectors from the crank-shaft. (Not shown.) E is the shipper-lever, working in a slot in an extension *a'*, notched at one side on one end of the breast-beam (not shown) in the usual way. All of these parts are of the ordinary construction.

I will now describe the warp stop mechanism with my improvements applied thereto.

A stand 16 is secured to the side frame A of the loom, and a dagger-carrier 19 is mounted to turn on the pivot-stud 20 in the stand 16. The lower end of said dagger-carrier 19 has jointed to it at 21 the dagger 22. The lower part of the stand 16 has an extension 16' thereon, which has fast therein a stud 75, on which is mounted the main dagger-lifter 76, which has a cam-surface 76' thereon (see Fig. 4) to engage the under side of the dagger 22 and hold the same out of range of the bunter 28, which is attached to the lower end of a stud 31, secured upon the under side of the lay, (see Fig. 1,) while the loom is not running or while it is being operated by the hand of the weaver. The raising of the dagger 22 by the cam-surface 76' also permits the readjustment of the dagger-support 35 after the dagger 22 has been operated to stop the loom, as will be hereinafter described. The dagger-lifter 76 moves in a plane at right angles to the plane of movement of the dagger 22 and parallel with the plane of movement of the shipper-lever E and has a side extension 76'' thereon extending in the path of and engaged by the shipper-lever E when the shipper-lever E is in its operative position to start the loom. The upper end of the dagger-lifter 76 has an extension 76''', Fig. 4, which extends over the dagger 22 and prevents the operator from throwing back the dagger 22 to render the stop-motion inoperative.

A spring 77 is connected at one end to an extension 78 on the hub of the dagger-lifter 76 and at its other end to a hook or extension 19'' on the dagger-carrier 19. The dagger-carrier 19 at its upper end engages and operates a stop-lever 34, pivoted at the under side of the breast-beam, (said stop-lever 34 being commonly actuated to unlock the

shipper-handle whenever a shuttle fails to be properly boxed in the ordinary way,) moving said lever 34 and moving the shipper-handle E out of its retaining-notch, so that it will
 5 spring into its inoperative position when the dagger 22 is engaged by the bunter 28, as shown in Fig. 2.

In connection with the main dagger-lifter 76 the second dagger-support 35 is provided,
 10 centrally pivoted on a stud 36 in the stand 16, with its upper end adapted to extend under and engage a projection 63 on the dagger 22. The lower end of the second dagger-support 35 has attached to it a connection 38,
 15 leading to the warp stop mechanism (not shown in the drawings, but fully shown and described in Patent No. 665,713, above referred to) and through which the operation of the dagger-support 35 is controlled to move
 20 from under the projection 63 on the dagger 22 and allow the dagger 22 to drop into the position shown in Fig. 2 to be engaged by the bunter 28 on the forward movement of the lay.

When through the breaking of a warp-
 25 thread or a warp-thread becoming too loose the second dagger-support 35 through connection 38 is moved into the position shown in Fig. 2, the dagger 22 will drop into the position shown in said Fig. 2 to be engaged by
 30 the bunter 28 on the forward stroke of the lay, the dagger-lifter 76 being held in its backward position out of engagement with the dagger 22, as shown in Fig. 4, by the engagement of the shipper-lever E with the side
 35 extension 76'' on said dagger-lifter 76. The engagement of the bunter 28 with the dagger 22 will move the dagger-carrier 19 on its pivot 20 to cause it to actuate the stop-lever 34 to move the shipper-lever E out of its retaining-
 40 notch in the extension α' and allow it to spring back and operate to ship the belt to stop the loom in the usual way.

Upon the movement of the shipper-lever E, as above described, the spring 77 immedi-
 45 ately acts to rotate the dagger-lifter 76 on its supporting-stud 75 and move the cam-surface 76' under the dagger 22 to raise said dagger and move it out of the path of the bunter 28, as shown in Fig. 1. At the same time
 50 the spring 77 acts to move the dagger-carrier 19 on its pivot-stud 20 into the position shown in Fig. 1 away from the stop-lever 34. A stop 79 on the stand 16 limits the movement of the dagger-carrier 19. The dagger 22 is thus
 55 put into a position where it cannot be struck a second time by the bunter 28 and also into a position where the second dagger-support 35

can be moved under the dagger 22 to support it, as shown in Fig. 1. The movement of the shipper-lever E by the hand of the op- 60
 erator to put the loom into operation will cause it to engage the extension 76'' on the dagger-lifter 76 and move the dagger-lifter 76 out of engagement with the dagger 22 and into the position shown in Fig. 4, while the 65
 second dagger-support 35 immediately returns to its normal upright position, as shown in Fig. 1, thus leaving the parts in an operative position.

The advantages of my improvements will 70
 be readily appreciated by those skilled in the art. I simplify the construction of the parts shown in said Patent No. 665,713 and do away with the device shown in said patent attached to the shipper-lever. 75

It will be understood that the details of construction of my improvements may be varied, if desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters 80
 Patent, is—

1. In a loom, the combination with a dagger, and the shipper-lever, of a dagger-lifter, moving in a plane at right angles to the plane of movement of the dagger, and operative to 85
 engage and hold the dagger in its inoperative position, and having an extension in the path of the shipper-lever, to be engaged thereby, and moved out of engagement with the dagger, substantially as shown and described. 90

2. In a loom, the combination with a dagger, and the shipper-lever, of a dagger-lifter, having a cam-surface thereon to engage the under side of the dagger and hold it in its in- 95
 operative position, and having an extension in the path of the shipper-lever, to be engaged thereby, and moved out of engagement with the dagger, substantially as shown and described.

3. In a loom, the combination with a dag- 100
 ger, and the shipper-lever, of a dagger having a cam-surface thereon to engage the under side of the dagger and hold it in its inoperative position, and having an extension in the path of the shipper-lever to be engaged 105
 thereby, and moved out of engagement with the dagger, and also an extension over the dagger, to prevent the dagger being raised out of its position, substantially as shown and described.

HORACE WYMAN.

Witnesses:

J. C. DEWEY,
 M. HAAS.