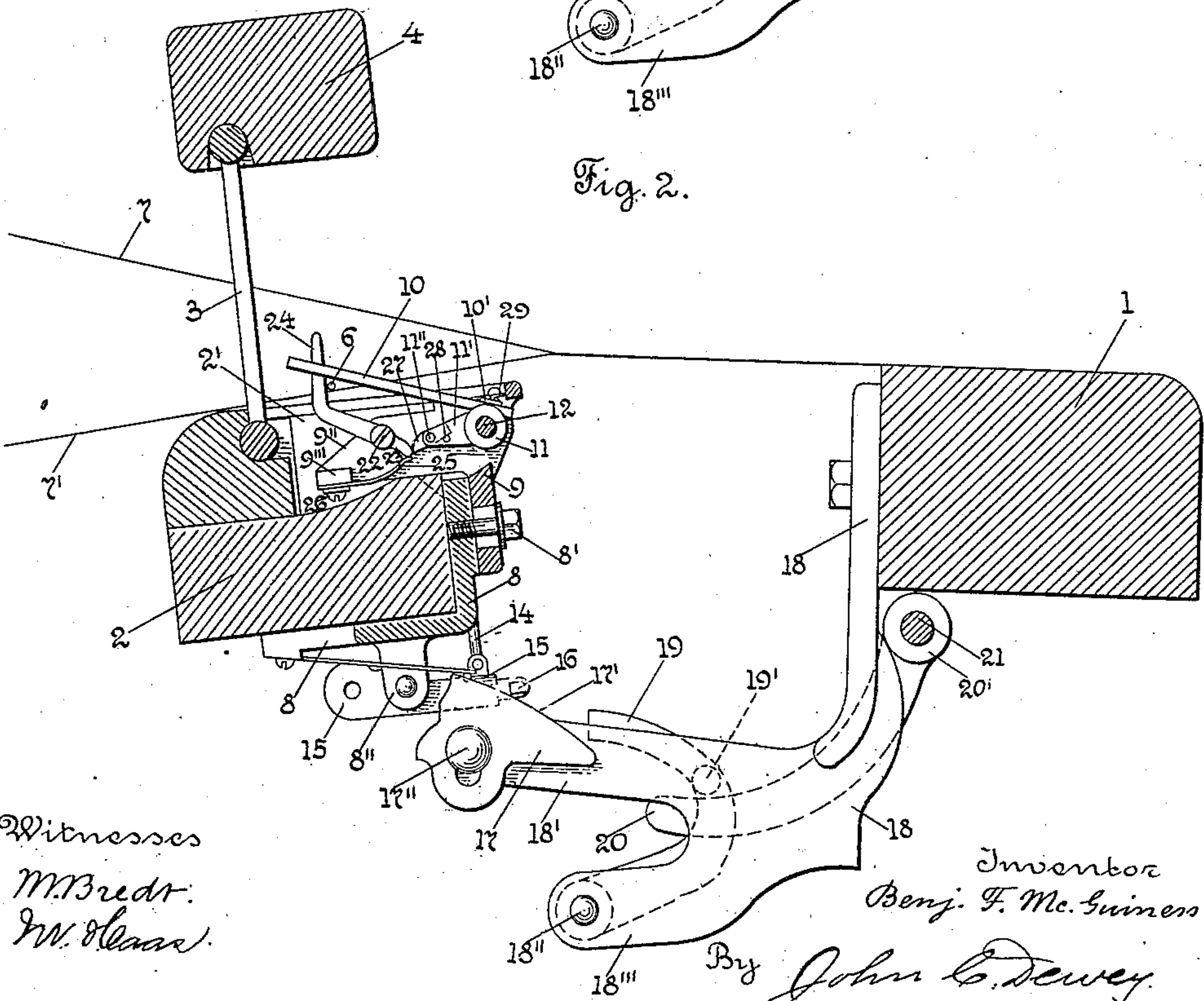
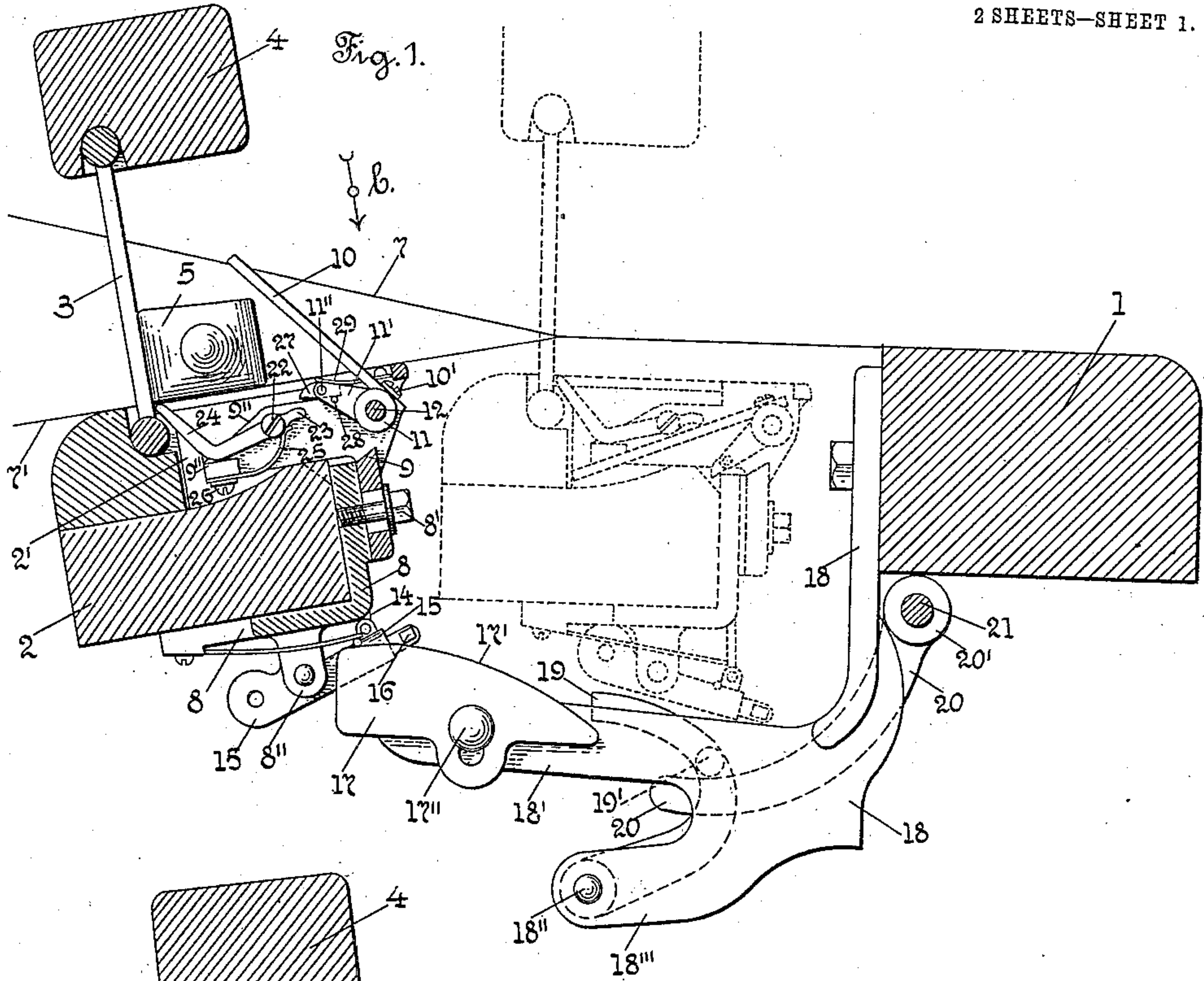


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 CENTER FILLING STOP MOTION FOR LOOMS.  
 APPLICATION FILED NOV. 21, 1908.

917,644.

Patented Apr. 6, 1909.  
 2 SHEETS—SHEET 1.



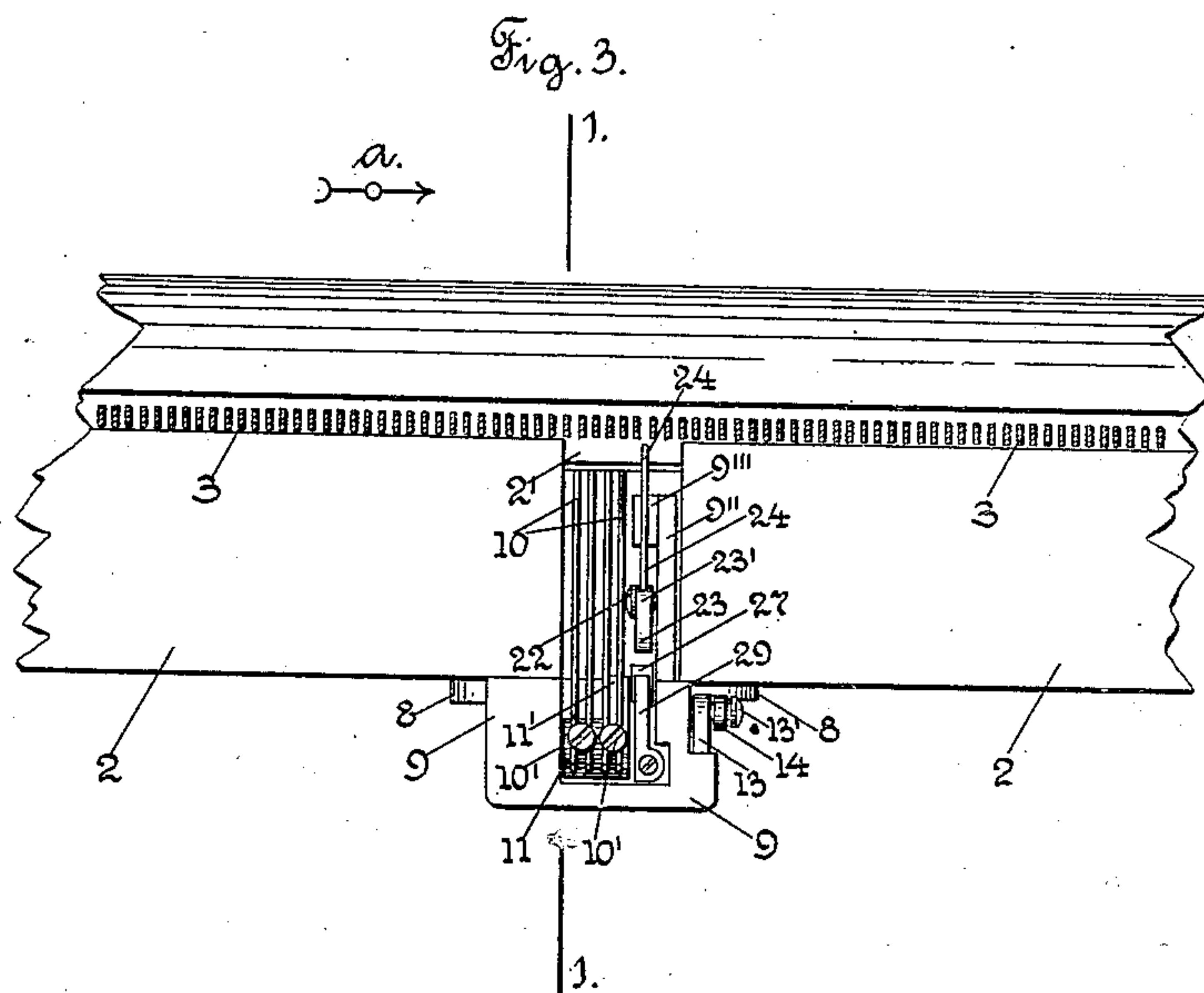
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2 SHEETS--SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## CENTER-FILLING STOP-MOTION FOR LOOMS.

No. 917,644.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed November 21, 1908. Serial No. 463,788.

*To all whom it may concern:*

Be it known that I, BENJAMIN F. McGUINNESS, 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 Center-Filling Stop-Motions for Looms, of which the following is a specification.

My invention relates to a center filling stop motion for looms, which acts to stop the loom, when a filling, or weft thread breaks.

In looms with center filling stop motions, and particularly in weft replenishing looms with center filling stop motions, when a new bobbin is inserted in the running shuttle, and the shuttle is picked from the magazine end of the loom to the opposite end of the loom, and the end of the filling is held by any ordinary means connected with the magazine, to cause the shuttle to be properly threaded, the filling in its passage through the shed may take a position near the reed so that although the lay and reed will beat up the filling in the proper manner, the fingers or wires of the center filling stop motion will not reach and touch the filling, but as the lay beats up, the filling fork will pass under the filling and not be engaged thereby, and will consequently drop down into its operative position, and act to stop the loom, in the same manner as if there had been no filling laid in the shed, or as if the filling was broken.

The object of my invention is to prevent the action of the filling fork of the center stop motion to stop the loom, in the manner above described, and more particularly to provide mechanism, preferably located adjacent to the filling fork of the center stop motion, for moving the filling or weft thread ahead of the reed as the lay beats up, to carry it under the filling fork, and prevent the dropping down of the filling fork into its operative position, to stop the loom, in case the filling or weft thread remains intact.

In my improvements I provide mechanism for moving the filling or weft thread ahead of the reed as the lay beats up, for the purpose above stated, which mechanism preferably consists of a blade or lever pivotally supported beside the filling fork of the center stop motion, and when the filling fork of the center stop motion moves downwardly toward the race-plate of the lay, the said blade or lever will be engaged by a trip

finger on the filling fork, to cause the blade or lever to be raised, and positively engage the filling, after the shuttle has been picked through, and carry the filling toward the front of the lay, and under the filling fork of the center stop motion, to prevent said fork from dropping down, and operating to stop the loom, all as will be hereinafter fully described.

I have only shown in the drawings a detached portion of a lay, and breast beam, with the center filling stop motion thereon, and my improvements combined therewith, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawings:—Figure 1 is a cross section through the breast beam and lay, at a point indicated by line 1, 1, Fig. 3, looking in the direction of arrow *a*, same figure. The broken lines show the lay and the parts thereon, in their front position. Fig. 2 corresponds to Fig. 1, but shows the lay in a different position, and the filling carried under the filling fork. Fig. 3 is a plan view of the central portion of the lay with the center stop motion thereon, looking in the direction of arrow *b*, Fig. 1.

In the accompanying drawings, 1 is the breast beam, 2 is the lay, 3 the reed, 4 the hand rail, 5, in Fig. 1, is a shuttle, which is represented as passing through the shed between the warp threads 7, and 7', which form the shed in the usual way, and carrying the filling or weft thread 6, shown in Fig. 2.

Secured on the lay beam 2 is a plate 8, which extends upon the front side and the bottom of the lay beam. On the plate 8 is adjustably secured, by a bolt 8', the stand 9 of the center filling fork. The center filling fork consists in this instance of four wires or fingers 10 secured by screws 10' on a sleeve or collar 11, which is mounted on a short shaft 12 on the stand 9. The wire or fingers 10 are adapted to move down into a recess in the race-way of the lay. One end of said shaft 12 is provided with a crank lever 13, see Fig. 3, which has a pin 13' thereon, on which is pivotally mounted the upper end of a connector 14. The lower end of the connector 14 is pivotally attached to a lever 15, which is pivotally mounted in ears 8'' on the lower part of the stand 8. The lever 15 carries a dagger 16 extending out from one side



thereof, which rests upon and slides over a curved or cam-shaped surface 17' on a plate 17, which is adjustably mounted, by a bolt 17'' on a forwardly extending arm 18' of a bracket 18, secured to the front of the breast beam 1.

On the forward movement of the lay, the dagger 16 moves along the cam-shaped surface 17' on the plate 17, and is adapted to engage the end of and operate a lever 19, which is pivotally mounted on a stud 18'' on the extension 18''' on the stand 18, and move said lever toward the lay beam, or the front of the loom, and cause a pin or stud 19' on said lever 19 to engage the upper side of a lever 20 which has its hub 20' fast on a rock shaft 21, and rotate said shaft, and operate the shipper lever, not shown, in the usual way, to stop the loom.

When the filling has been laid in the shed, as shown in Fig. 1, the dagger 16, as the lay moves forward, is held, through connector 14 and crank arm 13 on the collar 11, at a sufficient distance above the lever 19 to be out of the path of said lever 19, and to pass by said lever as the lay moves forward to its extreme position, as shown by broken lines in Fig. 1.

All of the above mentioned parts may be of the usual and well known construction in center filling stop motions.

I will now describe my improvements, which are combined with the parts above described. The stand 9 has in this instance the rearwardly extending projection 9'', on which is a pin 22. On the pin 22 is loosely mounted the hub 23' of a lever 23, see Fig. 3. A blade 24 is attached to the hub 23' of the lever 23 and extends rearwardly therefrom. The blade 24 is preferably bent in angular shape, as shown in Figs. 1 and 2, and is adapted to extend downwardly in the transverse recess 2' in the upper surface of the lay beam 2, with its inclined upper end extending toward the reed, as shown in Fig. 1. A spring blade 25 is secured at one end, by a screw 26, on a side projection 9''' on the projection 9'', and its other end is adapted to press lightly against the lever 23, to move downwardly the blade 24, below the plane of the lower warps 7', and until the blade 24 rests upon the projection 9'', as shown in Fig. 1. The collar or sleeve 11 has extending rearwardly therefrom, an arm 11', on the end of which is loosely mounted, on a pin 11'', a trip finger 27, which extends in the path of, and is adapted to engage the lever 23. On the downward movement of the filling or weft thread wires 10, as shown in Fig. 2, the end of the trip finger 27 is adapted to engage the lever 23, and move downwardly said lever, and move upwardly the blade 24, to cause it to engage the filling 6 and carry the filling forward toward the front of the lay, and under the thread wires 10. The

finger 27 rests upon a pin 28 on the arm 11' of the collar or sleeve 11, and on the upward movement of said arm 11', the finger 27 slides by the lever 23, against the action of a leaf spring 29, which bears at its free end against the end of the lever 27, and is secured at its other end on the stand 9.

The operation of my improvements, combined with the center filling stop motion shown in the drawings and above described, will be readily appreciated by those skilled in the art.

In the normal operation of the loom, the passage of the filling 6 under the wires 10, will prevent said wires from dropping down, and will hold the dagger 16 out of engagement with the lever 19, so that the loom will continue to operate, until an exhausted or broken thread allows the wires 10 to drop down, and the dagger 16 to engage the lever 19, to operate the lever 20, and stop the loom in the usual way. In case the filling is not broken or exhausted, and does not extend under the wires 10, in the normal operation of the loom, to hold said wires in their raised position, the dropping down of the wires will cause the trigger 27 to engage the lever 23, and raise the blade 24 and cause it to engage the filling 6, which may be between the reed and the ends of the wires 10, and move said filling forward under the wires 10, as the lay beats up, to hold said wires in their raised position, and also the dagger 16, to prevent the stopping of the loom. The continued raising of the wires 10 by the filling 6, as the lay beats up, will cause the trigger 27 to pass by the lever 23, and allow the spring 25 to act, to return said lever 23 and the blade 24 to their normal position, shown in Fig. 1.

The advantages of my improvements will be readily appreciated by those skilled in the art.

I combine with a center filling stop mechanism of ordinary construction, a supplemental mechanism, by means of which the filling, or weft thread is moved forward and carried under the wires of the filling fork, to prevent the same from dropping down and causing the stopping of the loom, in case the filling is present, but is not in a position to extend under the wires of the filling fork.

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 Patent is:—

1. In a loom, the combination with a center filling stop motion, of means located adjacent the filling fork of the center stop motion, for moving the filling ahead of the reed, as the lay beats up, to carry the filling under the fork of the center filling stop motion, said means comprising a blade or arm



mounted on and movable with the lay, and connections intermediate said blade or arm and the filling fork.

2. In a loom, the combination with a center filling stop motion, having a pivotally mounted filling fork adapted to move down into a recess in the race-way of the lay, of means adjacent said filling fork, and adapted to engage the filling near the central portion of the lay, and move the filling ahead of the reed as the lay beats up, to carry the filling under said fork.

3. In a loom, the combination with a center filling stop motion, of a pivotally mounted blade or arm, carried on the lay, adjacent the filling fork of the center filling stop motion, and connections intermediate said blade or arm and the filling fork, to cause,

on the downward movement of the filling fork, the raising of said blade or arm to engage and move the filling or weft thread, and carry it under the fork of the center filling stop motion as the lay beats up.

4. In a loom, the combination with a center filling stop motion, of a pivotally mounted blade or arm, of angular shape, and adapted to extend into a recess in the race-way, a spring for moving said arm in one direction, and a connection intermediate said arm or blade and the filling fork, said connection comprising a pivotally mounted trigger, and a spring for yieldingly holding said trigger.

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