J. REGAN.

WARP STOP MOTION.

APPLICATION FILED DEC. 23, 1909.

988,387.

Patented Apr. 4, 1911.

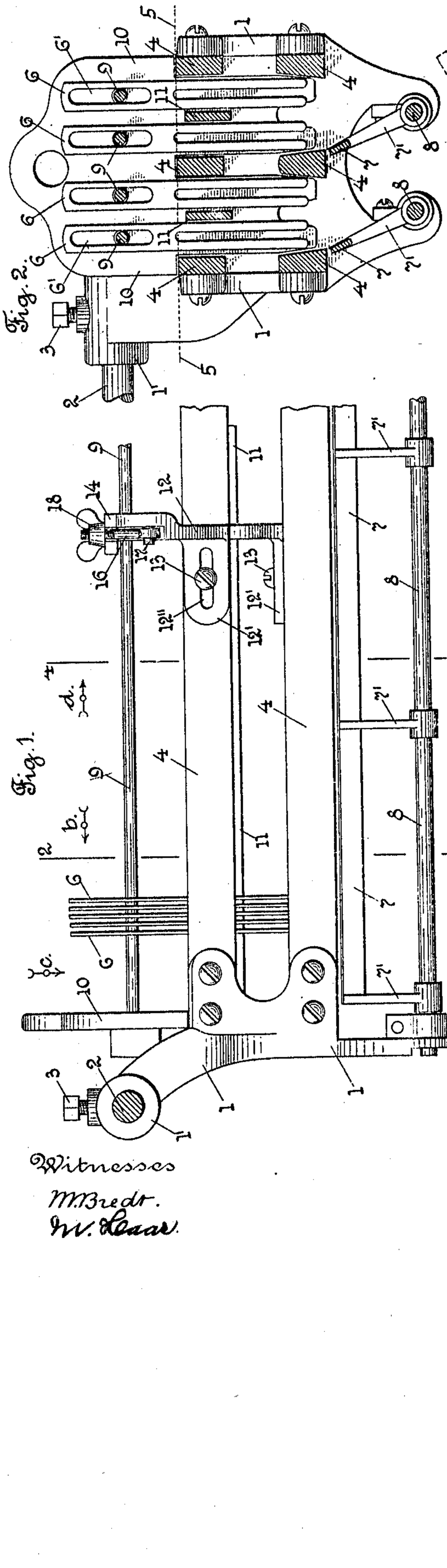

Fig. 1.

Fig. 2.

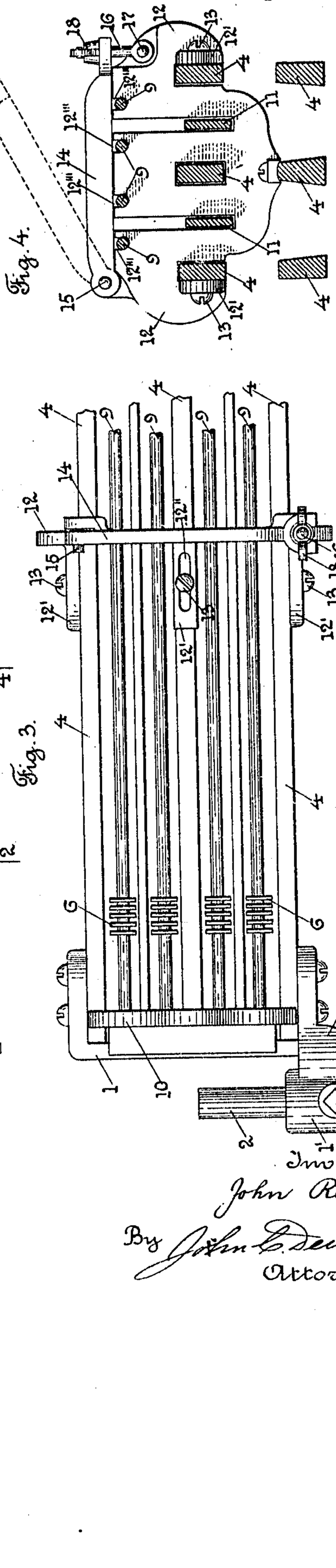

Fig. 4.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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WARP STOP-MOTION.

988,387. Specification of Letters Patent. **Patented Apr. 4, 1911.**

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To all whom it may concern:

Be it known that I, JOHN REGAN, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Warp Stop-Motions, of which the following is a specification.

My invention relates to warp stop motions, and particularly to a mechanical warp stop motion of the class in which there are two end frames, connected by two or more bars extending in the direction of the width of the loom, which end frames and bars are removable and adapted to be lifted out of the loom, and in which two or more sets of drop devices, consisting of thin metal blades with open end slots in their lower portion, and elongated closed slots in their upper portion, are used, the warp threads passing through the open end slots in their lower portion, and the drop devices supported on said warp threads, and a rod or wire passing through the elongated slot in the upper part of the drop devices, there being one wire or rod for each set of drop devices, said rod or wire acting to limit the downward movement of a drop device, in case of the breaking of a warp thread on which the drop device is supported.

In the class of warp stop motions above referred to, in case of a loom of considerable width, it is necessary to use one or more braces or supports for the wires or rods extending through the openings in the upper parts of the drop devices to hold them in proper alinement. These braces or supports are rigidly attached to stationary bars attached to the loom frame, and are not removable with the drop device.

In the assembling of the warp stop motion of the class referred to, it is the ordinary practice to place the drop devices on the warp threads, and then to insert a rod or wire through the slot or opening in the upper portion of each drop device in a set, and then to insert the ends of the rod or wire into an opening in the removable end frames, to attach it thereto. The rods or wires passing through the upper part of the drop devices extend in slots or recesses in the upper part of the supports or braces intermediate the ends of the warp stop motion, and there is a liability of said rods or wires being accidentally, or intentionally removed from these openings or recesses and cause a disarrangement of the drop devices.

The object of my invention is to provide means for preventing the accidental, or intentional removal of the wires or rods from the braces or supports in the class of warp stop motions referred to, and at the same time to allow the ready removal of said rods or wires from the slots or recesses in said supports or braces, when desired, and the withdrawal of said wires or rods, by disconnecting their ends from the end frames, without removing the end frames or the drops on the warp threads. At the same time the wires or rods may be removed with the end frames and with the drop devices supported on said wires or rods.

My invention consists more particularly in combining with the braces or supports, intermediate the ends of the warp stop motion, a removable cap, which may be connected with, or disconnected from the brace or support, and which acts to hold the wires or rods in position in the openings in the braces or supports, all as will be hereinafter fully described.

I have shown in the drawing a detached portion of a four bank mechanical warp stop motion with my improvements applied thereto, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawing:—Figure 1 is a front view of one end of a mechanical warp stop motion, looking in the direction of arrow *a*, Fig. 3. Fig. 2 is a section, on line 2, 2, Fig. 1, looking in the direction of arrow *b*, same figure. Fig. 3 is a plan view of the parts shown in Fig. 1, looking in the direction of arrow *c*, same figure, and, Fig. 4 is a section, on line 4, 4, Fig. 1, looking in the direction of arrow *d*, same figure, and showing a brace and the removable cap.

In the accompanying drawing, 1 is the end frame of the warp stop motion, having the boss 1′ thereon, into which extends a rod 2, secured in said boss by a set screw 3; said rod 2 is secured to some stationary part of the loom and acts to rigidly support the warp stop motion frame and other parts. There is a corresponding frame 1 on the opposite end of the warp stop motion, not shown, which is also supported in the same way.

Extending between the two end frames are the transverse bars 4, in this instance six in number, which are secured to the end frames. The three upper transverse bars 4 form in this instance the rests for the warp threads 5, shown by broken lines in Fig. 2. The drop devices 6 have in this instance open end slots in their lower portions, and rest upon the warp threads. In case of the breakage of a warp thread, or too great slackness of a thread, a drop device 6 will drop into the path of a reciprocating blade 7, supported on an arm 7′ fast on a rock shaft 8, to stop the loom, through intermediate connections, not shown, in the usual way. The drop devices 6 are in this instance arranged in four series, and have in their upper portions elongated slots 6′, through which the rods or wires 9 extend. The rods or wires 9 are secured at each end to an end piece 10. The end piece 10 is removably held at each end of the warp stop motion between the transverse bars 4, see Fig. 2. Two transverse guide bars 11 are attached to the end pieces 10, to be removed therewith.

A brace or support 12 has side extensions 12′ thereon, which have slots 12″ therein, see Fig. 1, through which extend screws 13 by which said brace or support 12 is secured to the transverse bars 4. The brace or support 12 has open end slots in its upper edge, see Fig. 4, to loosely receive the rods or wires 9. The rods of wires 9 are retained in place in the open end slots 12‴ in the upper edge of the brace or support 12, in this instance by a bar or cap 14, which has one end hinged or pivotally mounted on a pin 15, and has its other end slotted to receive a bolt 16, which is pivotally mounted at its lower end on a pin 17, and carries on its threaded end a thumb nut 18, which acts to secure the cap 14 in place.

By means of the cap 14, combined with the brace or support 12, the rods or wires 9 are held in position, and in case it is desired to remove the wires, the cap 14 is raised, as shown by broken lines in Fig. 4. The wires 9 are then disconnected at their ends and drawn out from the slots 6′ in the upper ends of the drop devices 6.

In assembling the warp stop motion, the drop devices may be first placed upon the wires or rods 9, and then the cap 14, on the brace or support 12, raised, and the removable end pieces 10 put into position, with the wires 9 extending in the slots 12‴, in the upper edge of the brace or support 12, and then the cap 14 moved down and fastened in place, to hold the wires or rods 9 in position.

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:—

In a warp stop motion, the combination with a stand or brace adjustably secured in the direction of the length of the warp stop motion to bars extending in the direction of the length of the warp stop motion, and having open end slots in its upper edge for the wires or rods which extend through openings in the drop devices, of a cap or bar hinged to said brace or stand, and adapted to be raised at its free end, and means for securing its free end to said stand.

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Witnesses:
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