

No. 690,591.

Patented Jan. 7, 1902.

J. A. LAMB.
WARP STOP MOTION APPARATUS.

(Application filed July 20, 1901.)

(No Model.)

Fig. 1.

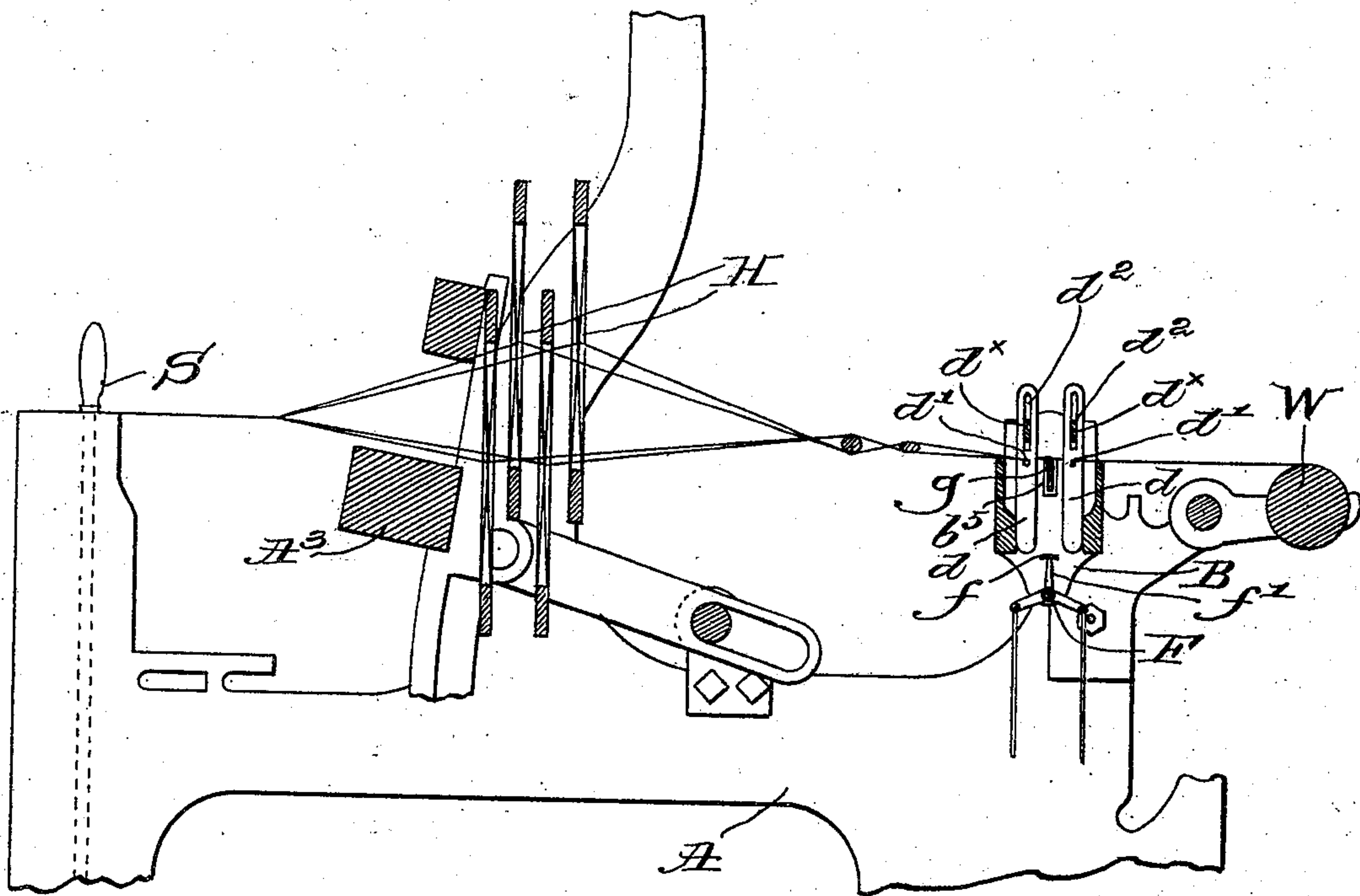
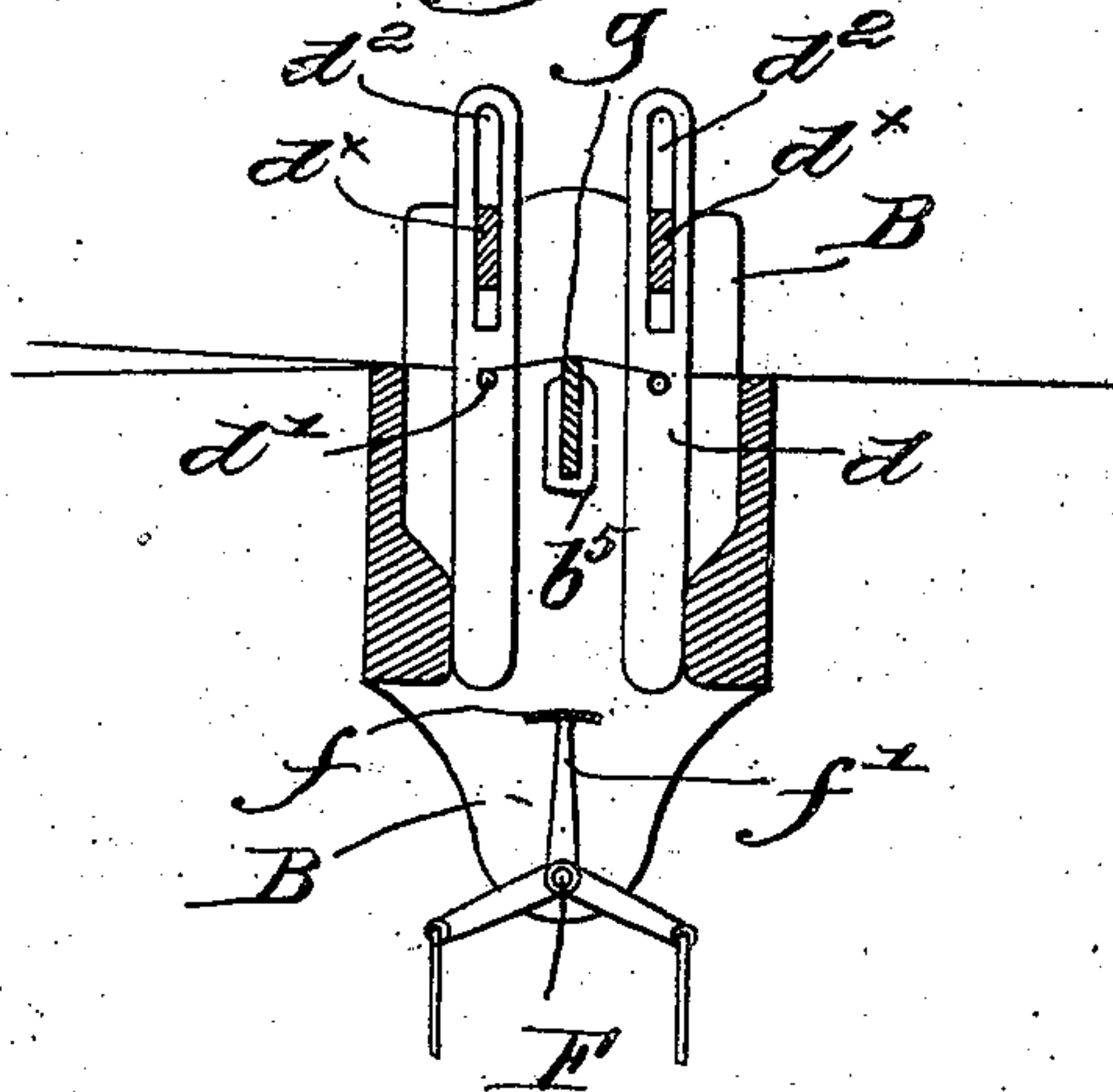


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN A. LAMB, OF GROSVENOR DALE, CONNECTICUT, ASSIGNOR TO
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WARP-STOP-MOTION APPARATUS.

SPECIFICATION forming part of Letters Patent No. 690,591, dated January 7, 1902.

Application filed July 20, 1901. Serial No. 69,016. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. LAMB, a citizen of the United States, and a resident of Grosvenor Dale, county of Windham, State of Connecticut, have invented an Improvement in Warp-Stop-Motion Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like

parts. This invention relates to warp-stop-motion apparatus wherein controlling-detectors engage and are normally maintained inoperative by intact warp-threads, release of a detector by failure or undue slackness of its warp-thread operating to effect the stoppage automatically of the loom or other mechanism to which the stop-motion is applied.

One of the objects of my present invention is to provide simple and effective means for taking up the slack of the warp-threads, and thereby obviate the objectionable feature of having the stopping mechanism operate through comparatively slight slackness of a thread.

Another object of my invention is to avoid crowding of the detectors and to present a free opening for lint to drop through, thereby preventing collection of the same about the parts of the stop-motion.

Figure 1, in cross-section, represents a sufficient portion of a loom to be understood with one embodiment of my invention applied thereto. Fig. 2 is an enlarged view of the stop-motion apparatus proper.

The loom-frame A, lay A^3 , whip-roll W, lease-rods L L', and harnesses H, Fig. 1, may be of usual construction and operating in well-known manner, and the shipper S is the only member shown of the usual stopping means.

I have herein shown controlling-detectors $d d$ as thin flat plates arranged in a plurality of parallel series, two such series being illustrated, said detectors having each a warp-eye d' , through which a warp-thread passes, and an elongated longitudinal slot d^2 , supporting-bars d^x being extended across the loom from side to side and secured at their ends to brackets B, attached to the loom

sides. The brackets are connected by cross-bars $b b'$, set on edge and arranged in front of and behind the two series of detectors, as shown, the upper edges of said bars, which constitute warp-rests, being located in the same horizontal plane. In order to prevent slack threads from sagging between said warp-rests, and so permitting their detectors to descend horizontally, to thereby effect the actuation of the stopping means, I have provided a slack take-up, which acts upon and elevates the warps between two adjacent series of detectors.

Each of the brackets B is provided on its inner face, as herein shown, with a pocket b^5 , into which pockets the ends of a thin metal plate g are inserted, the plate being set edgewise and extended transversely across the loom between the two series of detectors, as clearly shown in the drawings, the upper edge of the plate being elevated above the level of the warp-rests, so that the warp-threads are supported and elevated, as it were, between the series of detectors, the elevation of the upper edge of the bar g serving thus to take up any slackness of the threads, and so preventing descent of the detectors coöperating with such slack threads into position to coöperate with the feeler.

By making the slack take-up as a thin bar set on edge I avoid crowding the detectors at all, and the lint is given a free opportunity to drop, thereby preventing collection of the lint on the parts of the stop-motion, such collection of lint tending to clog or retard the detection of the detectors.

Any suitable feeler arrangement may be employed to coöperate with a released detector—such, for instance, substantially as shown in United States Patent No. 673,824, granted May 7, 1901, wherein a rock-shaft F is mounted in suitable bearings in the brackets B and extended between them and provided with arms f' , which support at their upper ends a normally vibratable feeler f , which normally is vibrated in a path below the lower ends of the detectors. One of the latter when released by failure of its warp-thread drops into position to engage and arrest the vibratable movement of the feeler f ,

and through suitable intermediate devices, not herein shown and which may be of any suitable construction—such, for instance, as in the patent referred to—the shipper S is automatically released from its usual holding-notch, and the loom will be stopped.

I have herein shown my warp stop-motion as applied to a loom, the latter being the mechanism with which said stop-motion will probably be most extensively used; but it is to be understood that my invention is not restricted to application thereof merely to a loom, as manifestly it may be employed in connection with other textile machinery, wherein a warp stop-motion is desirable or necessary and wherein slackness of the warps will result sometimes in the improper stoppage of the whole machine.

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

1. In a warp stop-motion, including two parallel series of controlling-detectors normally maintained inoperative by intact warps, front and back warp-rests, and means to elevate the warps, between the series of detectors, above the said warp-rests.

2. In a warp stop-motion, including two parallel series of controlling-detectors normally maintained inoperative by intact warps, front and back warp-rests, and a thin bar of slight depth mounted between the series of detectors and having its upper, warp-supporting edge above the warp-rests, to take up warp slack.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN A. LAMB.

Witnesses:

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