No. 673,338. Patented Apr. 30, 1901.

W. F. DRAPER.

WARP STOP MOTION APPARATUS FOR LOOMS.

(Application filed Jan. 21, 1901.)

(No Model.)

Fig: 1.

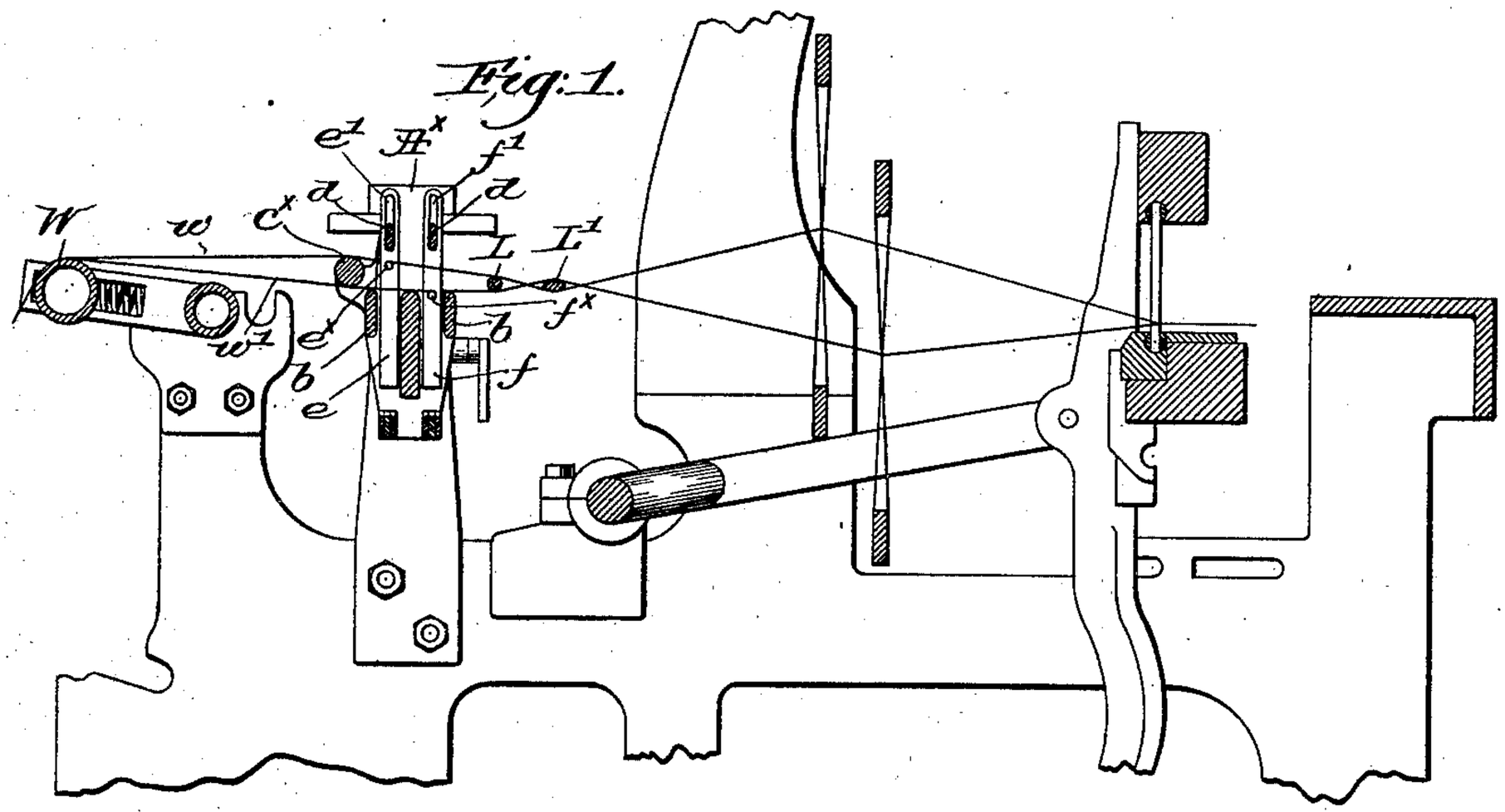


Fig: 2.

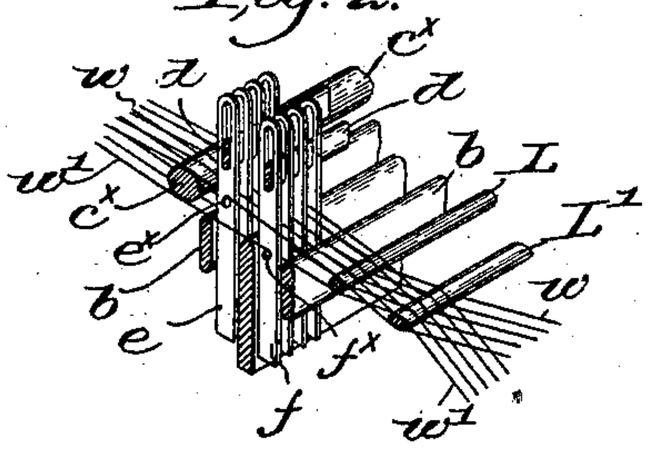
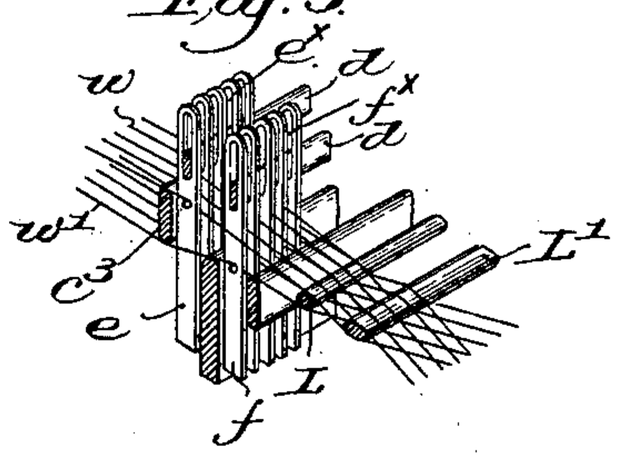


Fig: 3.



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UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

WARP-STOP-MOTION APPARATUS FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 673,338, dated April 30, 1901.

Application filed January 21, 1901. Serial No. 44,027. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. DRAPER, a citizen of the United States, residing at Hopedale, in the county of Worcester and State of Massachusetts, have invented an Improvement in Warp-Stop-Motion Apparatus for Looms, 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 looms, and it has more especial reference to warp-stop-motion apparatus therefor whereby the formation of bunches or ropes of lint at the detectors is obviated. The threads in passing through the warp-eyes of the detectors are more or less scraped, and the lint so collected falls and has a tendency to clog the detectors, and when a bunch or knot is encountered the thread may be broken. Such collection of lint or breakage of the threads is very much more likely to occur if the warp-eyes of the detectors are in the same plane than if they are separated in different horizontal planes, the detectors usually being arranged in a plurality of banks or series.

In my present invention I have provided simple means for separating the warps into a plurality of divisions, one above the other, before they pass to the detectors, so that the warp-eyes of the detectors in the several series will be located in different horizontal planes.

Figure 1 is a cross-sectional view of a sufficient portion of a loom to be understood, with one embodiment of my invention applied thereto. Fig. 2 is a perspective detail of a part of the mechanism shown in Fig. 1, and Fig. 3 is a similar view of a modification to be referred to.

Referring to Fig. 1, the whip-roll W and lease-rods L L′ are and may be of usual or well-known construction, and the warp-stop-motion mechanism is of the well-known type wherein controlling-detectors are normally maintained inoperative by the warp-threads. I have herein shown the detectors *e f* arranged in two parallel banks or series behind the lease-rods, the detectors having warp-eyes $e^{\times}$ $f^{\times}$ and longitudinal slots *e′ f′*, respectively, supporting-bars *d* being extended through the slots and mounted in brackets $A^{\times}$ on the loom sides. The detectors *e* are controlled by one of the divisions of the warp and the detectors *f* by the other division, said divisions constituting the warps which form the planes of the shed, and in order to separate the warp into such divisions before the threads pass to the detectors I have extended a clearer $c^{\times}$ transversely through the warps back of the detectors. This clearer, which in Figs. 1 and 2 is shown as a round rod, is supported at its ends in the brackets $A^{\times}$, and it serves as a rest for the upper division *w* of warps which pass through the detectors *e*, and it also serves to depress the lower division *w′* of the warps, which are provided with rests *b*. By maintaining the divisions one above the other it will be manifest that the eyes of one bank of detectors will not be located in the same horizontal plane as are the eyes of the other bank no matter whether the shed be closed or open, the threads remaining unchanged as to their relative position between the clearer $c^{\times}$ and the lease-rods. The collection of rolls or ropes of lint is thus obviated, and a much more open and free path for the threads is provided in their passage through the detectors.

In the structure as herein shown I have illustrated the warp-eyes of the rearmost bank of detectors as nearer the upper ends of the detectors than are the eyes of the front bank.

In Fig. 3 the clearer c^3 is shown as a thin flat bar having rounded top and bottom edges, the depth of the bar being sufficient to give the desired vertical separation to the divisions of the warp.

Inasmuch as the form of feeler to coöperate with a released detector and the means for vibrating the feeler form no part of my invention and are immaterial, I have not herein illustrated the same, as any suitable structure may be employed.

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

1. In a loom, lease-rods, separate warp-rests for the threads forming the two planes of the shed and located in different horizontal planes back of the lease-rods, and warp-stop-motion mechanism, including two series of detectors

normally supported by the two divisions of the warps, respectively.

2. In a loom, lease-rods, warp-stop-motion mechanism, including detectors normally maintained inoperative by the warp-threads and arranged in two parallel series behind the lease-rods, and means to divide the threads into two divisions, one above the other, before they pass through the detectors, one series thereof being controlled by a division, whereby the warp-eyes of the detectors in the two series will be in different horizontal planes.

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

WILLIAM F. DRAPER.

Witnesses:

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