

No. 626,188.

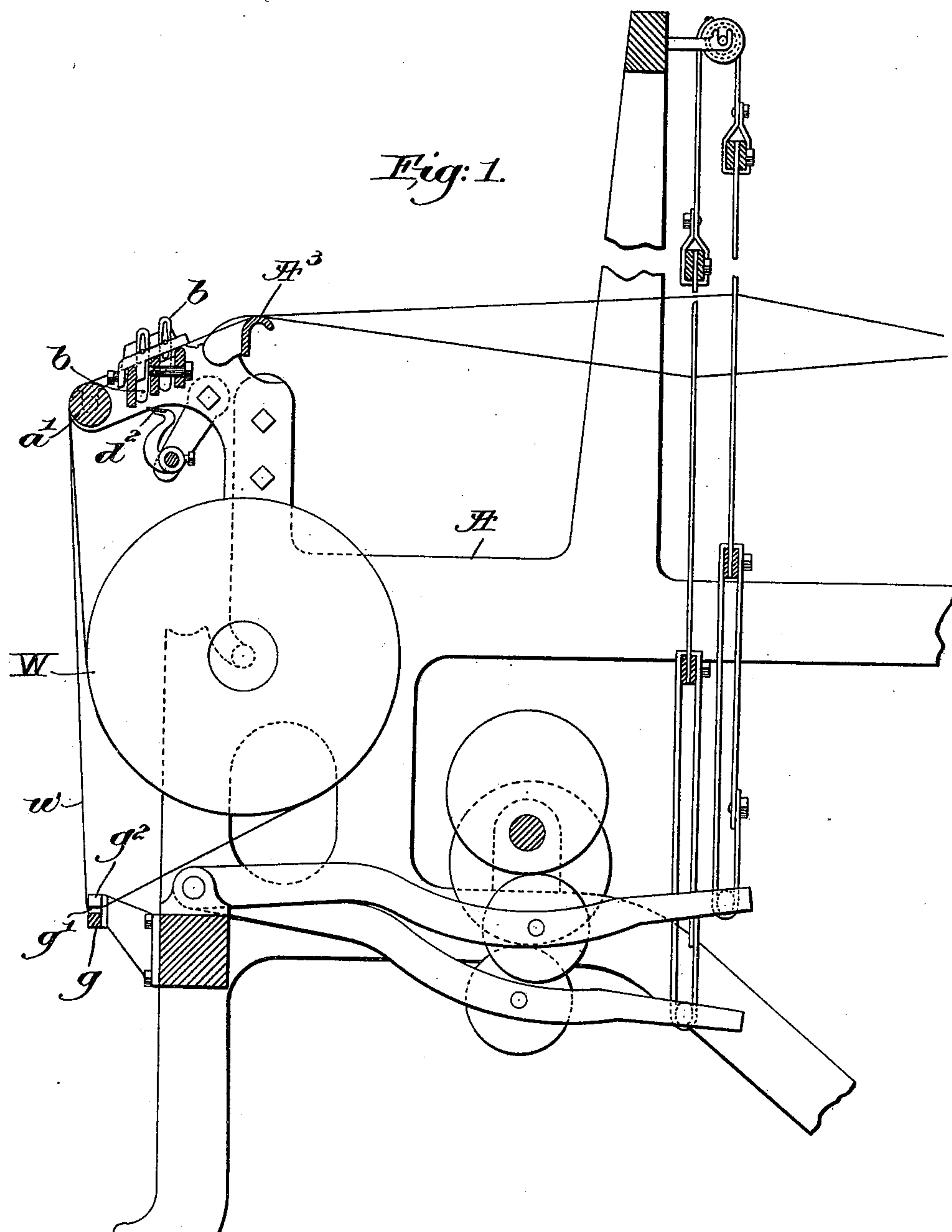
J. H. NORTHROP.
LOOM.

Patented May 30, 1899.

(No Model.)

(Application filed Oct. 17, 1898.)

2 Sheets—Sheet 1.



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Thomas F. Hammond.

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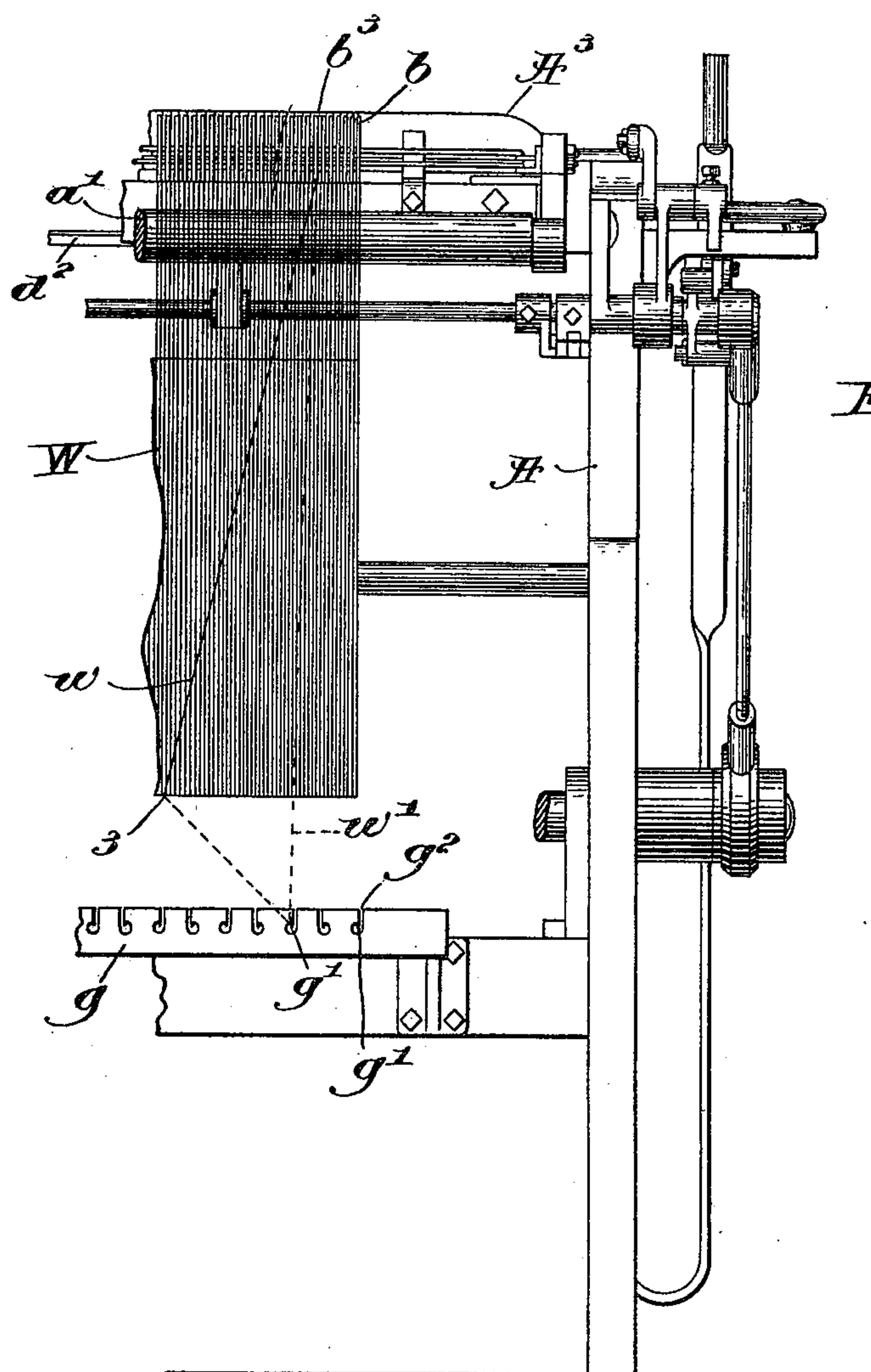
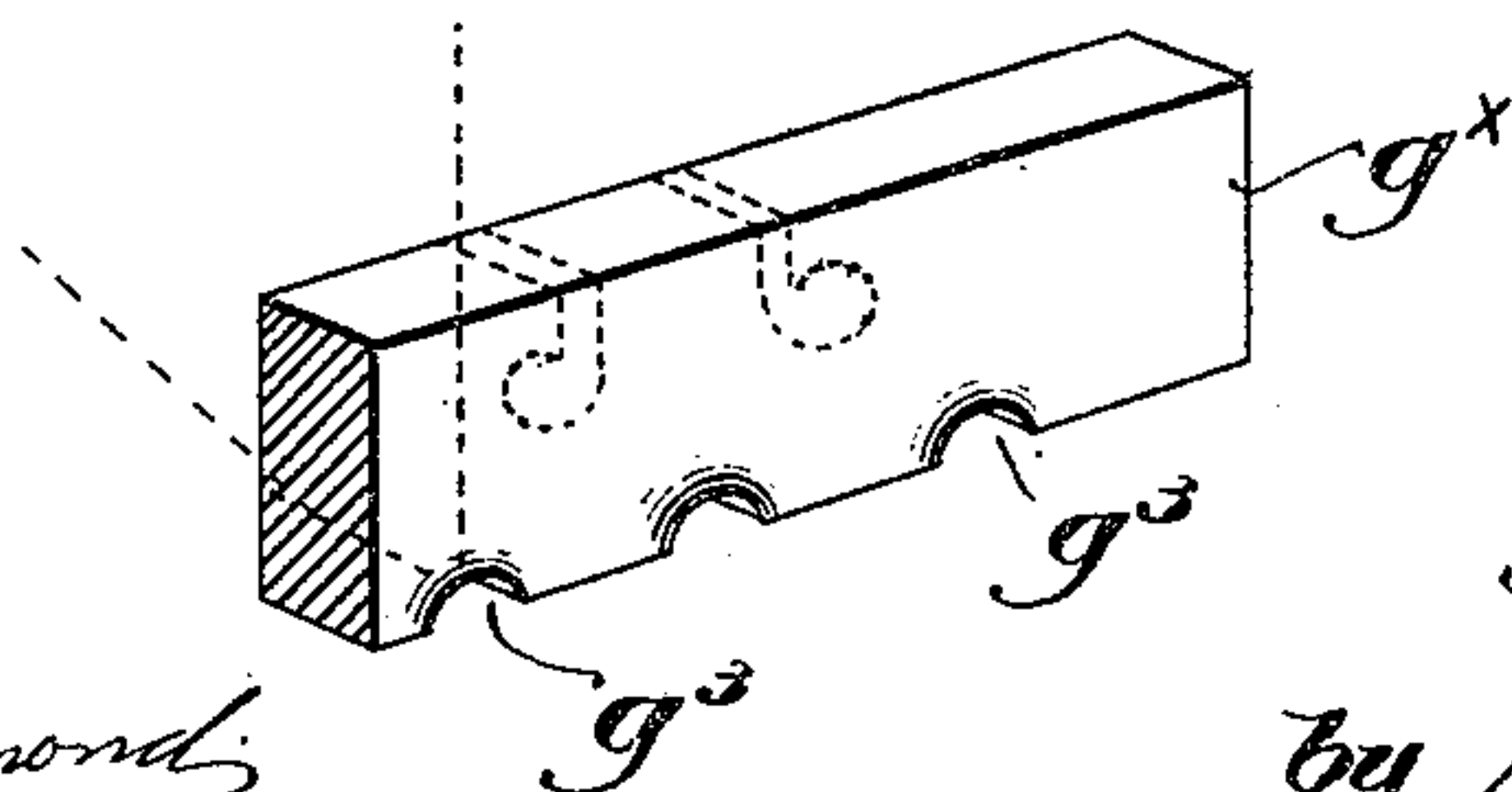


Fig: 2.

Fig: 3.



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UNITED STATES PATENT OFFICE.

JAMES H. NORTHROP, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE
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LOOM.

SPECIFICATION forming part of Letters Patent No. 626,188, dated May 30, 1899.

Application filed October 17, 1898. Serial No. 693,718. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. NORTHROP, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

It sometimes happens that the yarn wound on the warp-beam of a loom gets crossed owing to poor slashing or errors in drawing in, so that a few of the threads do not travel in a straight line from the beam to the heddles, and when a warp stop-motion is used one of these crossed threads is apt to pull its cooperating detector sidewise and cause trouble. This is particularly true when the detectors are located near the warp-beam, as in United States Patent No. 540,596, dated June 4, 1895; and my present invention has for its object the production of simple and effective means for overcoming the difficulty hereinbefore referred to.

Figure 1 is a sectional detail of a portion of a loom provided with a warp stop-motion of the character shown in the United States patent referred to with one embodiment of my invention applied to the loom. Fig. 2 is a partial rear elevation of the loom shown in Fig. 1, and Fig. 3 is an enlarged perspective detail of another form of guide for a crossed warp.

The loom-frame A, whip-roll A³, the warp-beam W, the warp-roll a', and the series of detectors or drop-plates b b, located between the warp-roll and whip-roll, may be and are all as in said patent, to which reference may be had, unbroken and properly taut warp-threads maintaining the detectors elevated above the path of a vibrator d², stoppage of the latter by engagement with a dropped detector acting through suitable mechanism to stop the loom. The detectors or drop-plates are arranged in series across the loom, and the warp-threads pass from the beam W over the roll a' and through eyes in the detectors and thence to the harnesses.

Viewing Fig. 2, it will be obvious that so long as the threads lead off from the warp-beam in substantially the same vertical planes with their detectors there will be no tendency

to draw the latter sidewise or out of place; but if a crossed thread, as w, is found which does not lead in proper manner to its detector it will tend to pull the said detector sidewise, crowding it and its fellows out of normal position and interfering very materially with their proper operation. In order to obviate this trouble, I mount on the loom-frame a guide-bar g, preferably below and back of the warp-beam, said bar having, as shown in Fig. 2, a number of transverse holes g' therein, near its upper edge, and communicating therewith entrance-slots g², which intersect the holes substantially non-radially. Supposing now that the crossed thread w is found, leaving the beam at the point 3, some distance laterally from the vertical plane of its detector b³, the thread is drawn down to that one of the guide-eyes g' most nearly directly below the detector and inserted therein through its entrance-slot g², so that the thread travels in the dotted line w' directly from the guide to the detector, it being immaterial that the thread passes at an angle from the beam to the guide-eye. If the thread is too taut to be drawn into the guide-eye as described, it can be broken and pieced out for the purpose.

It is only necessary to have a few of the guide-eyes, as the crossed threads on a beam are not numerous and an eye nearly below the detector is sufficient for the purposes of my invention.

The small shoulder formed by the non-radial intersection of the entrance-slot and the eye serves to retain the thread in the latter.

Instead of the slotted eyes shown in Fig. 2 the guide-bar g^x, Fig. 3, may have guide notches or recesses g³ formed in its lower edge, and the thread is broken, carried around the guide in the proper notch, and pieced up.

While I have shown one form of stop-motion mechanism for the purpose of illustrating my invention, it will be obvious that my invention is not restricted to use with such form, as the change of direction of the thread is equally well provided for even if the detectors are not located as herein shown.

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

1. In a loom, the warp-beam, a series of

warp-stop-motion detectors through which the warp-threads pass, and a guide located between the warp-beam and the detectors and out of the path of movement of normal warp-threads, to positively engage and change the path of a crossed thread as it leaves the beam and lead it to its detector substantially in the vertical plane of the latter.

2. In a loom, the warp-beam, a series of warp-stop-motion detectors through which the warp-threads pass, and a guide member located between the warp-beam and detectors out of the path of properly-wound warp-threads, and provided with a number of transverse guide-recesses, any one of said recesses being adapted to receive a crossed thread from the beam and change its path to lead it to its detector substantially in the vertical plane of the latter.

3. In a loom, the warp-beam, a series of

warp-detectors through which the warp-threads pass, and a transverse bar located between the beam and detectors, provided with a number of guide-eyes near its upper edge, each having an open entrance-slot, whereby a crossed thread leading from the beam may be carried through that guide-eye most nearly in the vertical plane of the detector cooperating with such thread to bring such misplaced or crossed thread into or closely adjacent the path which it would traverse if properly placed on the beam.

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

JAMES H. NORTHROP.

Witnesses:

GEO. OTIS DRAPER,
ALBERT H. COUSINS.