

(No Model.)

2 Sheets—Sheet 1.

R. L. HATTERSLEY & J. HILL.
WEFT STOP MECHANISM FOR LOOMS.

No. 390,779.

Patented Oct. 9, 1888.

FIG. 2

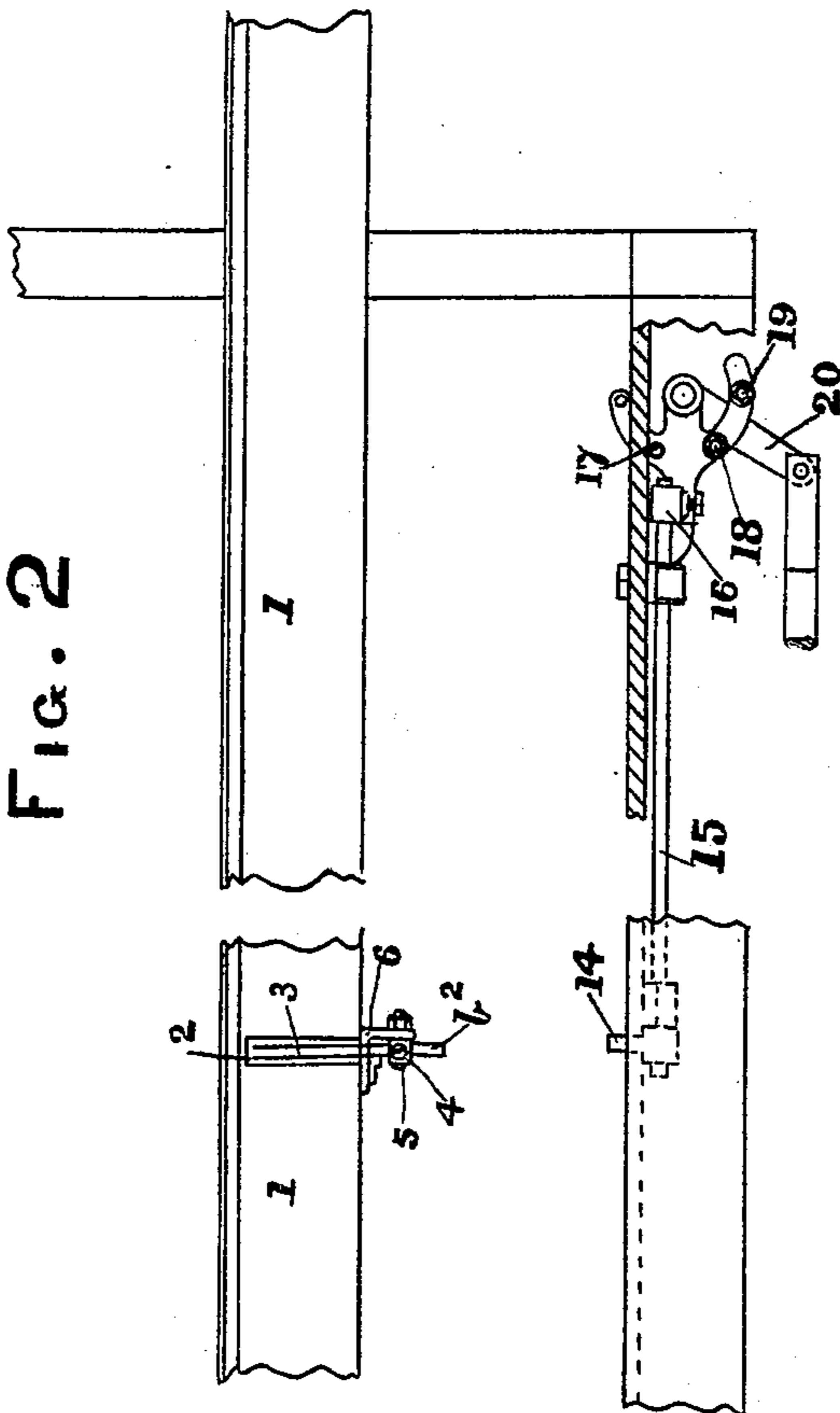
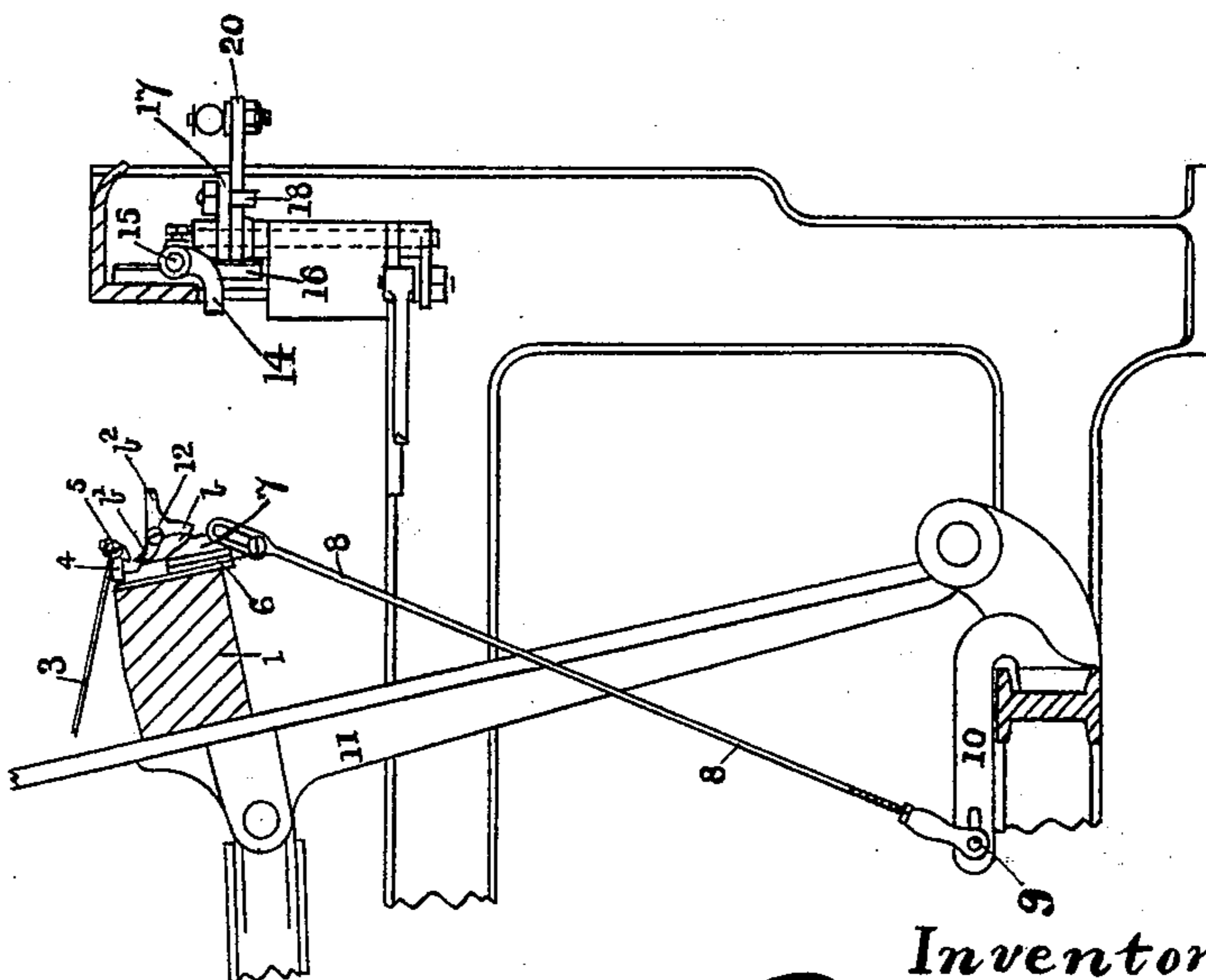


FIG. 1



Witnesses.

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FIG. 4

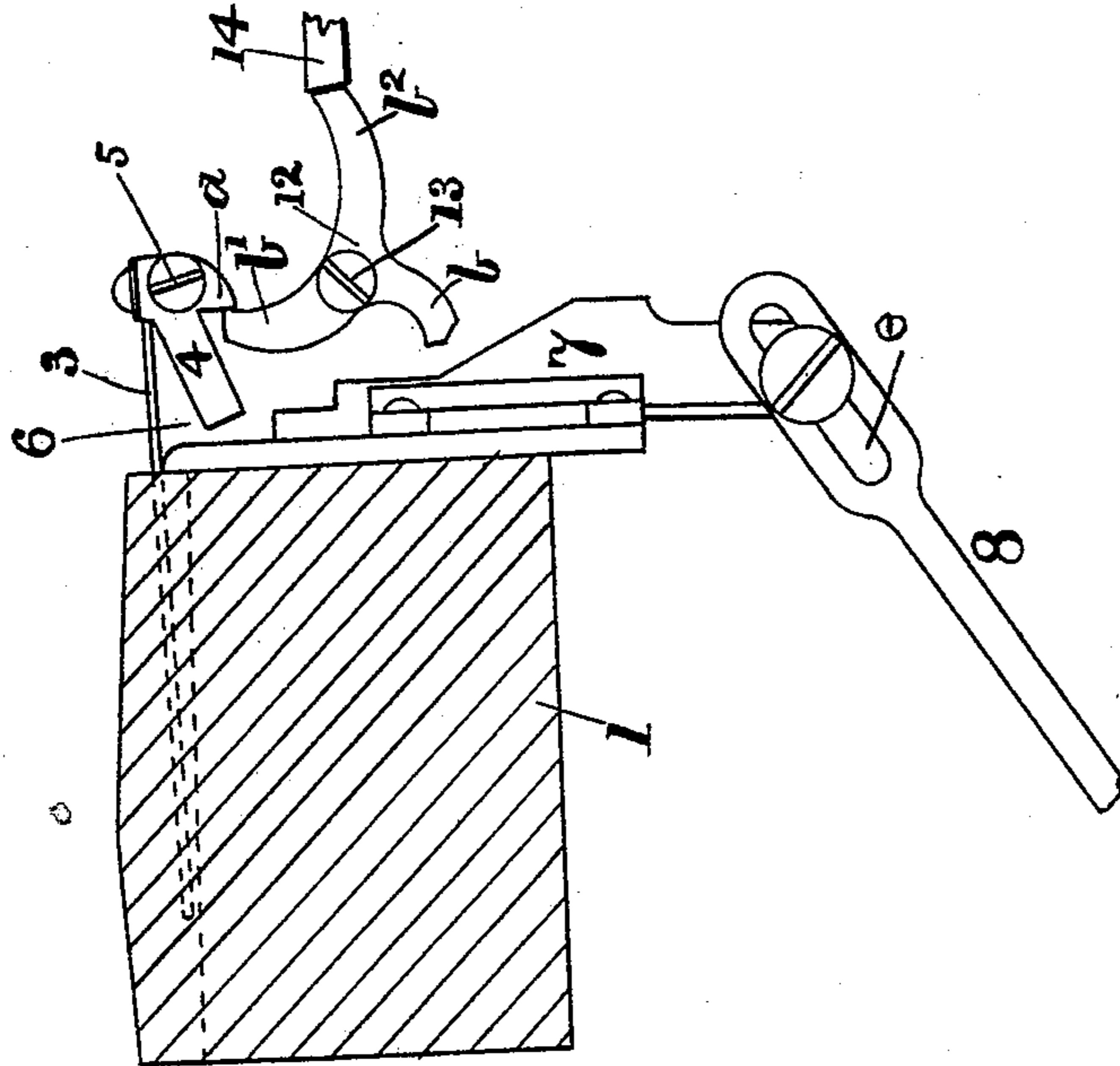
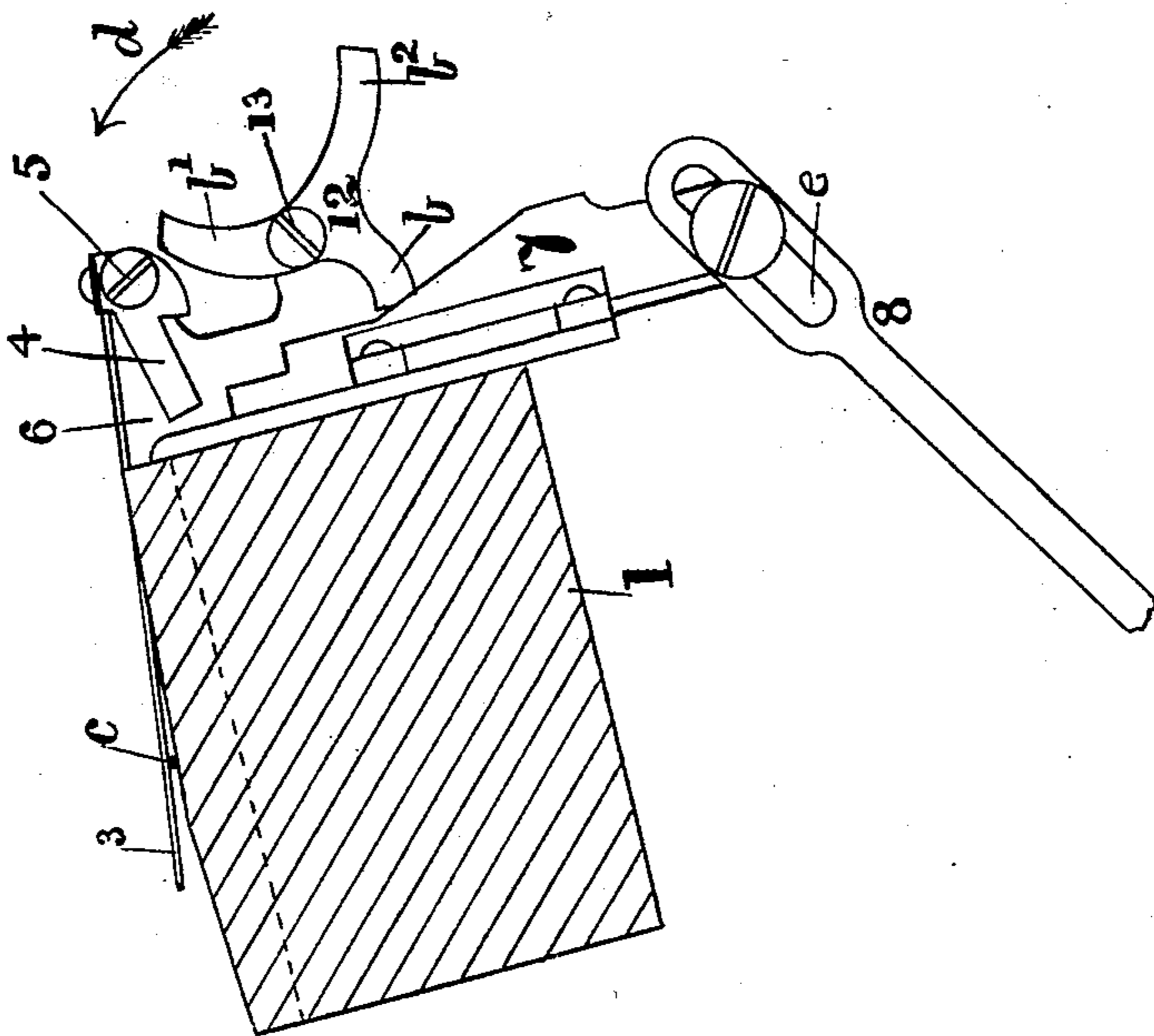


FIG. 3



Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD L. HATTERSLEY AND JAMES HILL, OF KEIGHLEY, COUNTY OF YORK, ENGLAND.

WEFT-STOP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 390,779, dated October 9, 1888.

Application filed March 21, 1888. Serial No. 267,994. (No model.) Patented in England February 9, 1887, No. 2,018.

To all whom it may concern:

Be it known that we, RICHARD LONGDEN HATTERSLEY and JAMES HILL, subjects of the Queen of Great Britain, residing at Keighley, in the county of York, England, have invented certain new and useful Improvements in Weft-Stop Mechanisms for Looms, (for which we have obtained Letters Patent in England, bearing date February 9, 1887, No. 2,018,) of which the following is a specification.

This invention has for its object the production of simple, inexpensive, and yet efficient weft-stop mechanisms for looms, the said object being attained by the novel combination and construction of parts hereinafter fully set forth, and particularly pointed out in the claim.

In the following description reference is made, by figures and letters, to the accompanying sheets of drawings, Figure 1 in which is a transverse sectional elevation of a portion of a loom with the weft-stop mechanism applied. Fig. 2 is a top view of Fig. 1, with a portion shown as being cut away, so as not to hide parts beneath. Figs. 3 and 4 are sectional elevations, on enlarged scale, of the sley-board or lay, showing the weft-stop mechanisms in different positions, hereinafter explained.

The object of this invention is attained by mounting the weft-fork at or near the center or middle part of the sley-board or lay 1 of the loom, a groove, 2, being cut transversely in the said lay 1 for the reception of the prongs 3 when descending lower than the surface of the warp, as is well understood and as illustrated by Fig. 4, the said weft-fork consisting of two (or more, if desired) flattened wires or strips of metal, 3, fixed to a boss, 4, which is mounted or hinged on a pin, 5, carried by bearings 6, fixed to the front of the lay 1, said boss having formed on its lower edge a hook or catch, *a*, hereinafter referred to.

Mounted in bearings 6, beneath the boss 4, is a cam-piece, 7, to which is imparted vertically-reciprocatory motion by means of any of the well-known arrangements used for this purpose, the arrangements employed, as herein shown, being the rod 8, pivoted by the pin 9 to the bearing 10, the difference in the positions of the centers of motion of said rod 8 and the lay-sword 11 occasioning during the oscil-

latory motion of the sley-board 1 the vertically-reciprocatory motion of the rod 7. The upper end of said rod 7 comes in contact with the boss 4. By this it will be seen that as the said rod 7 reciprocates the prongs 3 will be raised and lowered, said rising being to allow the passage of the shuttle beneath it, while its lowering will have the effect hereinafter set forth.

On the outer surface of the cam-piece 7 is formed an incline, which acts upon the finger *b* of the three-fingered boss 12 in such a manner as to cause said boss 12 to partly rotate about its pivot 13 in the direction indicated by arrow *d*, when said cam-piece 7 is moving upward, said boss 12 rotating by gravity in the opposite direction when the cam-piece 7 is moving downward. The slot *e* in the outer end of the rod 8 is to enable said outer end to descend lower (relatively to the lay 1) without moving the cam-piece 7 after said cam-piece has moved downward to the desired extent. By these actions, when the prongs 3, together with the boss 4, are lowered, as above described, the hook *a* on the said boss 4 will lay hold of the finger *b'* on boss 12 by reason of this said boss 4 descending low enough for this purpose, should there not be any weft present, as shown by Fig. 4, and thus the boss 12 will be prevented from rotating by gravity, as above described, but will be held so that its finger *b'* will come in contact (as the lay 1 moves toward the front of the loom) with a lever-arm, 14, (see Fig. 4,) attached to the shaft 15, which, by the arm 16 operating lever 17, to which are attached the pins 18 and 19, that operate the stopper-lever 20, arrests the motion of the loom by disengaging the driving mechanism, said driving mechanism being the one substantially described in the specification of our patent, No. 383,465, dated May 29, 1888; or it will be seen that our improved mechanism above described may be applied to any other similar driving mechanism. However, should there be a shot of weft present, as shown at *c*, Fig. 3, the prongs 3, together with the boss 4, are arrested in their descent by the said weft *c*, so that the hook *a* on the said boss 4 does not descend low enough to lay hold of the finger *b'*, and consequently the boss 12 is free to oscillate by gravity, as

before described, and so its finger b^2 descends to pass beneath the arm 14, in this manner allowing the loom to continue in motion.

Having now fully described our invention, as
5 also the operation thereof, what we claim is—

The combination, with the bearings 6, the prongs 3, the boss 4, having a hook, a , the vertically-sliding cam-piece 7, having an inclined
10 outer edge, and means for effecting the vertically-reciprocating motion of said cam-piece 7, of the boss 12, having the fingers b b' b^2 , said

boss 12 being pivoted on bearing 6 of the lever-arm 14, the shaft 15, the levers 16 and 17, and a belt-slipping device, all being arranged to operate in the manner and for the purpose substantially as specified. 15

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Witnesses:

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