

(No Model.)

A. B. & H. TAPLIN.
PROTECTOR STOPPING MECHANISM FOR LOOMS.

No. 460,100.

Patented Sept. 22, 1891.

Fig. 1.

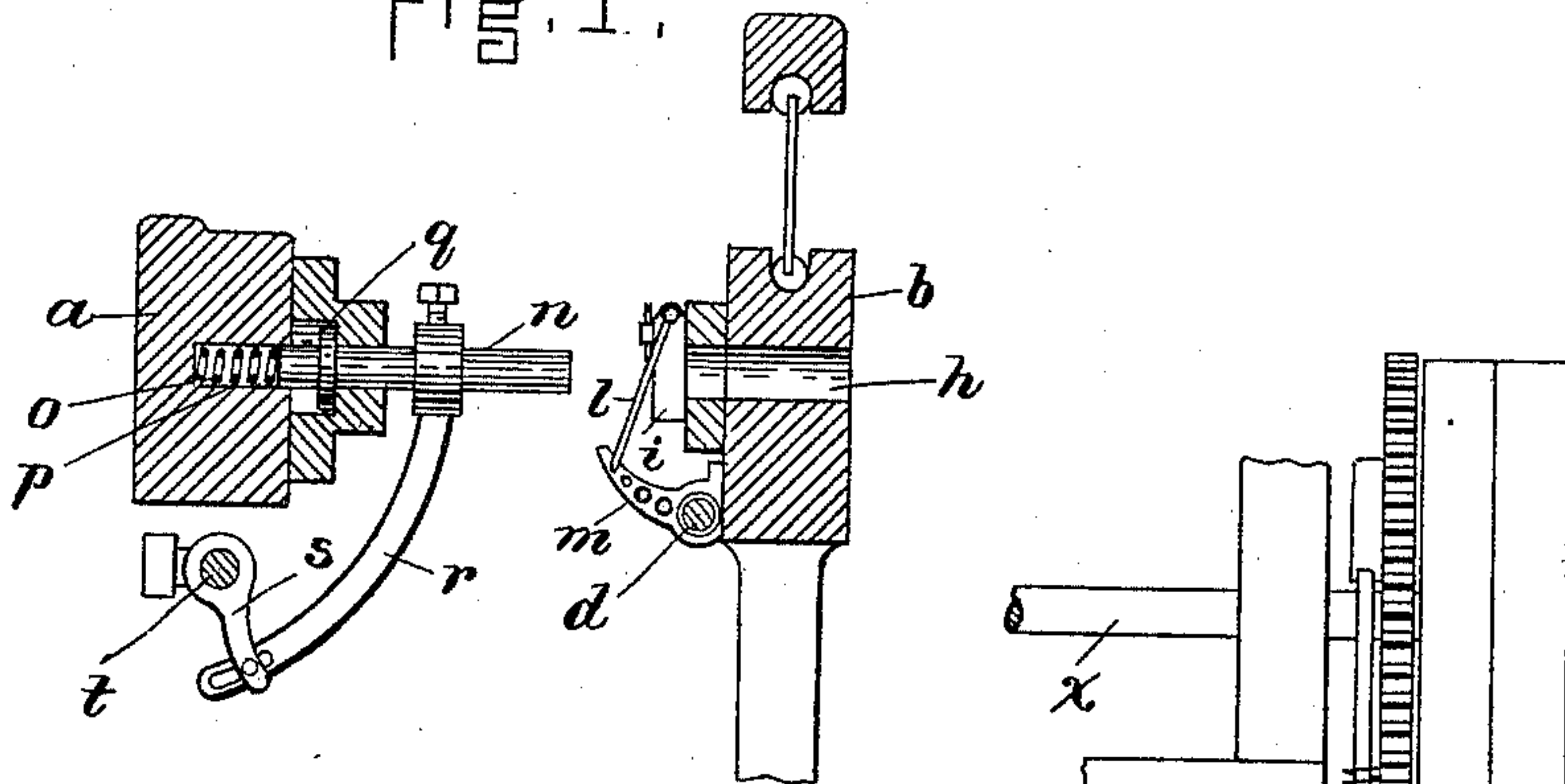


Fig. 3.

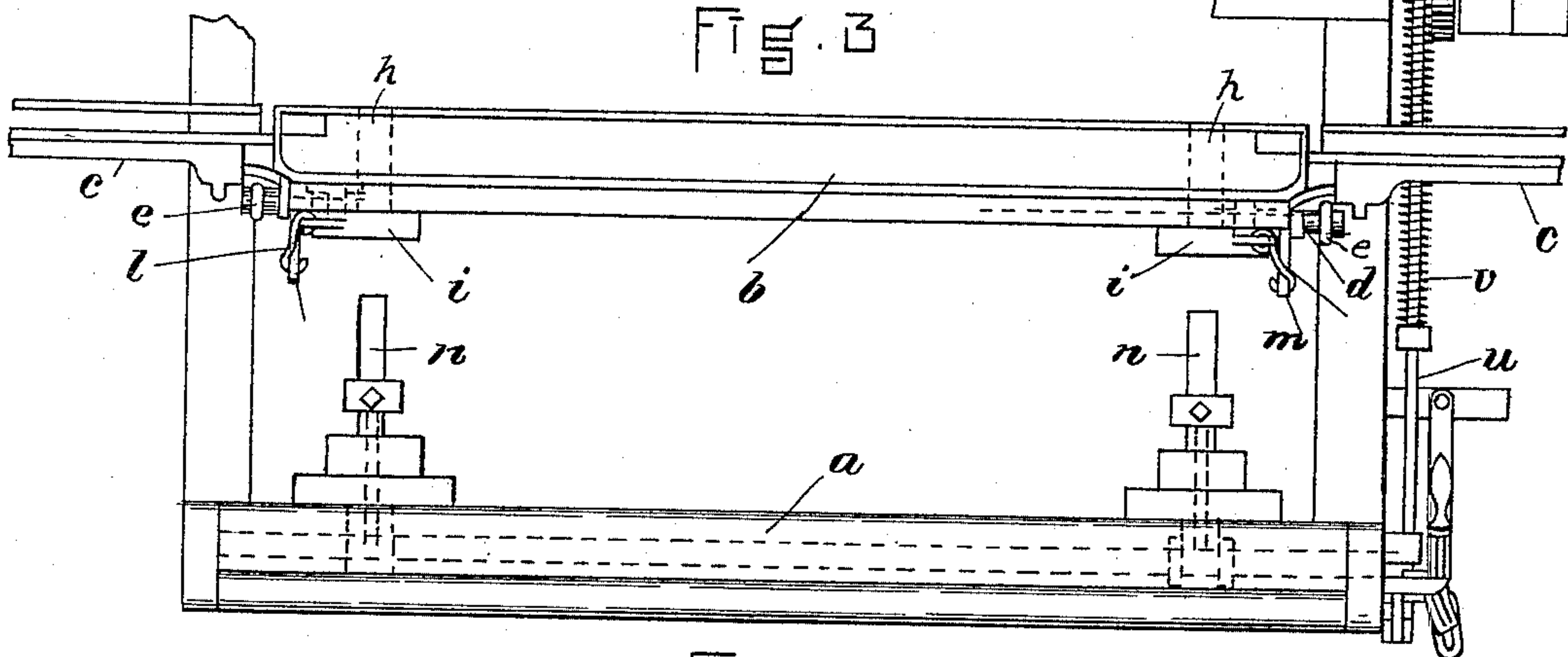
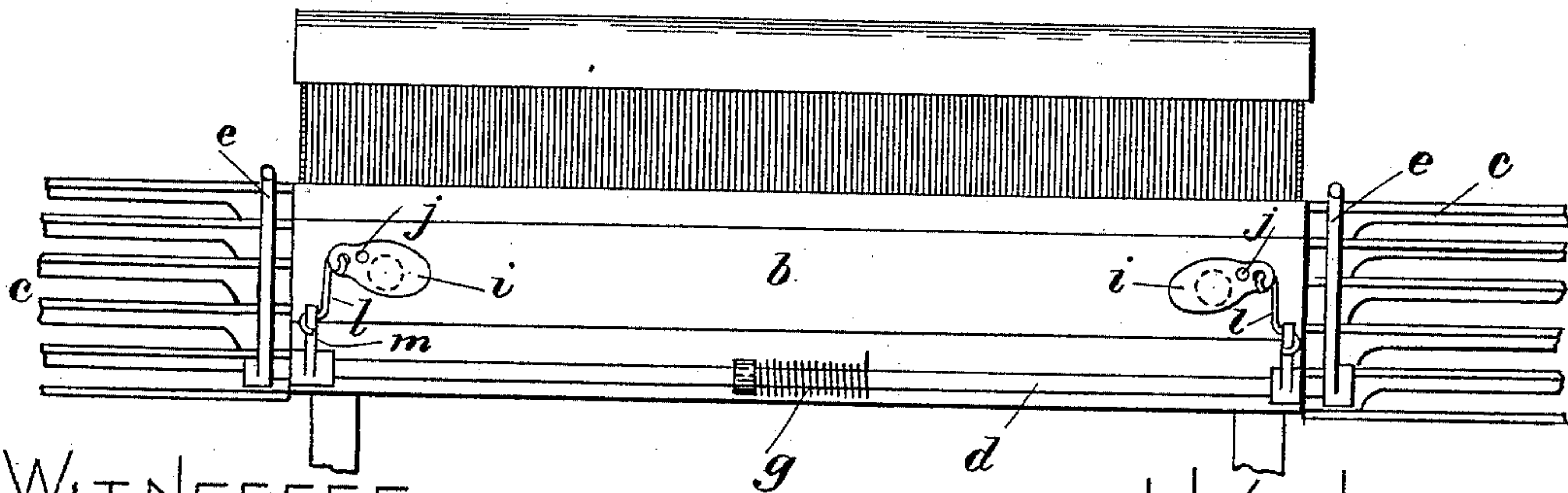


Fig. 2.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ALDIN B. TAPLIN AND HOMER TAPLIN, OF LAWRENCE, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS.

PROTECTOR STOPPING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 460,100, dated September 22, 1891.

Application filed January 17, 1890. Serial No. 337,259. (No model.)

To all whom it may concern:

Be it known that we, ALDIN B. TAPLIN and HOMER TAPLIN, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Protector Stopping Mechanisms for Looms, of which the following is a specification.

Our invention has relation to mechanisms, generally, which are designed for stopping the operation of looms upon the occasion of a mishap, and particularly to mechanisms contrived for the purpose of stopping the loom in order to avoid "smashes" by reason of the lodgment of the shuttle in the shed.

It is the purpose of our invention to provide a simply-organized and readily-applied device which shall be thoroughly efficient not only in stopping the operation of the loom in case the shuttle should not be picked entirely through the shed or becomes lodged therein, but also in preventing the lay from being moved forward, so as to cause a "smash" upon an occurrence of the character mentioned.

Our invention consists in the combination, with a lay having a hole therein, a plate pivoted on the lay in position to be swung over the said hole to cover the latter, the protecting-rod, and an arm on said rod connected with the said plate, whereby when a shuttle is in either box in line with the shuttle-race the plate will be moved to uncover the hole, and when the said shuttle-boxes are empty the plate will be moved over the hole of the breast-beam and a stop rod or bolt mounted thereon in position for entering the hole in the lay as the latter swings forward at each beat, so long as the shuttles enter the boxes properly, and the hole is kept uncovered when the lay beats up, and for contacting with the said plate when the latter is swung over the said hole, and thereby stopping the lay in its forward movement, the said stop rod or bolt being connected with the knock-off rod in a manner to operate the latter to provide for stopping the loom when the shuttles fail to enter the boxes properly.

Our invention will first be described in connection with the accompanying drawings, forming a part of this specification, and be

then particularly pointed out in the appended claims.

In the said drawings, Figure 1 is a sectional view of the breast-beam and lay of a loom and a portion of their adjuncts, showing a way of constructing and applying our improvements thereto. Fig. 2 is a front view of a lay, showing the portion of our improvements which may be applied thereto. Fig. 3 is a top plan view of a breast-beam and lay and some other parts of a loom, showing our improvements applied thereto.

The same letters of reference designate the same parts or features, as the case may be, in all of the figures.

In the drawings, *a* designates the breast-beam; *b*, the lay; *c*, the shuttle-boxes at the ends of the lay; *d*, the protecting-rod on the lay, which rod is provided at its opposite ends with protector-fingers *e*, co-operating in the usual manner with the shuttle-binders of the shuttle-boxes, a spiral spring *g* on the rod *d* operating to hold the upper end of the fingers *e* against the shuttle-binders.

h designates a hole formed in the lay, over which hole a plate or cover *i* is adapted to be operated, so as to cover and uncover the hole *h* as the shuttle is moved out of and into the shuttle-box.

In the example herein illustrated the plate *i* is pivoted to the lay at *j*, and a rod *l* connects one end of the plate *i* with the free end of an arm *m*, secured to the rod *d*, the construction and arrangement of the parts being such that when a shuttle is in the box it will operate upon the shuttle-binder through the medium of the finger *e*, rod *d*, arm *m*, and rod *l*, to move the plate *i* so as to uncover the hole *h*, and when the shuttle is out of the box or in the shed, so that the plate *i* may be moved by the same means to cover the hole *h*.

n designates a rod on the breast-beam, so positioned that when the hole *h* is uncovered and the lay is moved forward the said rod may enter the said hole, and when the hole is covered and it is attempted to move the lay forward the said rod will strike against the covering-plate, and thus arrest the forward movement of the lay.

By the means described, supposing that a

shuttle should be "picked" out of the box and become lodged in the shed, the covering-plate *i* would be moved over the hole *h* in the lay and the forward movement of the latter
5 would be stopped and a smash avoided.

We may employ various forms of devices in connection with the stop-rod *n* for operating the stopping mechanism of the loom, so that the work of weaving may be stopped
10 the instant the motion of the lay is arrested.

As is herein shown, the stop-rod *n* is seated on a spring *o*, arranged in a hole *p*, formed in the breast-beam, which spring *o* operates to press the rod *n* toward the lay *b*. A collar or
15 offset *q* is formed on the rod *n* a short distance from its inner end, so that in case the plate *i* on the lay should come against the free end of the rod it would move the latter into the hole *p* in the breast-beam against
20 the tension of the spring *o* until the collar or offset *q* came against the breast-beam.

We connect an arm *r* with the stop-rod *n* and with the free end of an arm *s*, secured to the knock-off rod *t*, beneath the breast-beam
25 *a*, in such manner that the limited movement of the said rod *n* by contact of the plate *i* therewith, as described, will rock the rod *t*, and through suitable connections of any known or desired kind will effect the disconnection of the driving-power from the driving-shaft, and thereby arrest the operation of the
30 loom.

Although we have so far referred herein to only one hole in the lay and one set of devices disposed adjacent thereto for action, as
35 described, we contemplate in practice forming a hole at each end of the lay and providing a set of the said devices for each of the holes. One knock-off rod, however, will be
40 all that will be required. This duplication

of the hole and the devices aforesaid is clearly shown in the drawings, and will be obvious without detailed description.

Having thus explained the nature of our improvement and described a way of constructing and using the same, what we claim is—

1. The combination, with a lay having a hole therein, a plate pivoted on the lay in position to be swung over the said hole to cover
50 the latter, the protecting-rod, and an arm on said rod connected with the said plate, of the breast-beam, and the stop-rod mounted thereon for contacting with the movable plate when the latter is swung over the hole on the
55 lay and stopping the lay in its forward movement, substantially as described.

2. The combination, with a lay having a hole therein, a plate pivoted on the lay in position to be swung over the said hole to cover
60 the latter, the protecting-rod, and an arm on said rod connected with the said plate, of the breast-beam, the stop-rod mounted thereon with capacity for limited movement for contacting with the movable plate when the latter is swung over the hole in the lay and stopping the lay in its forward movement, a knock-off rod, and connections whereby said rod is operated from the stop-rod, substantially as
65 described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 21st day of December, A. D. 1889.

ALDIN B. TAPLIN.
HOMER TAPLIN.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.