O. W. KENISON.

SHEDDING MECHANISM FOR LOOMS.

No. 169,552. Patented Nov. 2, 1875.

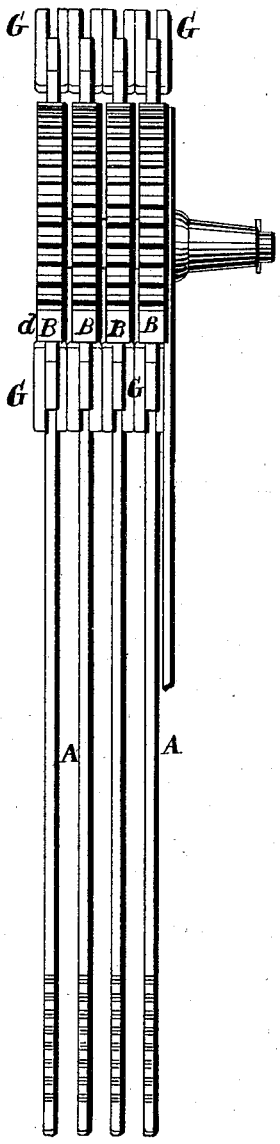

Fig. 2.

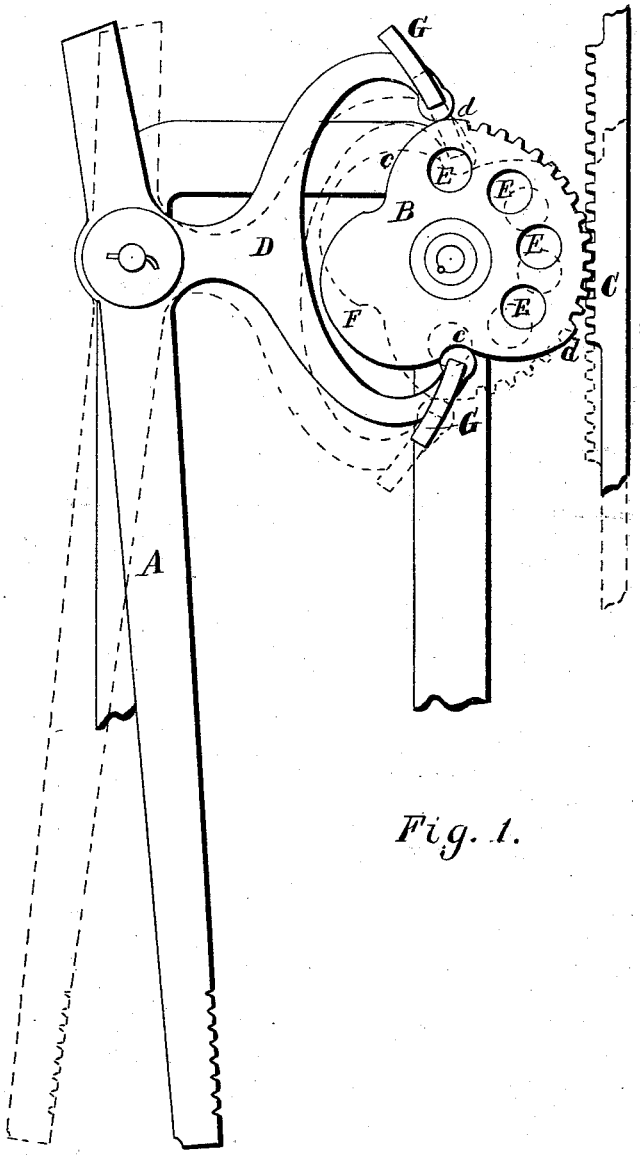

Fig. 1.

Witnesses.

E. A. Hemmenway.

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by Wm. C. Hibbard his Atty.

UNITED STATES PATENT OFFICE.

ORRIN W. KENISON, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN SHEDDING MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **169,552**, dated November 2, 1875; application filed July 24, 1875.

To all whom it may concern:

Be it known that I, ORRIN W. KENISON, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain Improvements in Looms, of which the following is a specification:

This invention relates to the construction of the mechanism for operating the heddles of fancy looms, so called, and especially that kind which are known as open-shed looms; and the mechanism herein shown and described is that which I have adapted to a loom known as the Thomas loom, and is used in place of the mechanism with which it was originally constructed. In this loom the cams which move each leaf of heddles are held in a fixed position by frictional devices, which bear upon the cams with sufficient force to hold them and the heddles at rest when not moving against the strains of the warps and the shocks of beating up the weft; and, when using a large number of leaves, the friction of the holding devices is so great as to absorb and waste a large amount of power, and, when many leaves of heddles are operated at once, to seriously impede the working of the loom.

By my improvements this friction is mainly dispensed with, thus saving the power; and the several leaves are held in their fixed positions with great firmness; and the mode of construction permits the parts to be made with much greater strength within the same space.

In the drawing, Figure 1 is a side elevation of my improved mechanism, and Fig. 2 is a front elevation of several heddle-levers and cams placed side by side.

A A, &c., are the upright heddle-levers, which move the several heddles by cords, which are attached to the top and bottom of each lever, and, leading horizontally, pass over pulleys, and are attached to the top and bottom of the several leaves, as is usual. B is the cam, by which the lever A is oscillated and held fast. In use, both levers A and cams B are mounted on axes side by side, as shown in Fig. 2. C is one of a series of jacks, which are worked upward and downward by a lifter and depresser, under the control of a pattern-chain, in the usual way, and are each provided with a rack, which works in the toothed sector on the cam B, as is shown, and, by its upward and downward motion, gives to the cam B a partial rotation in opposite directions. The cam B is provided with two inclines, *c d*, upon opposite sides of its axis, and upon the outside, which inclines work upon the ends of the forked arm D of the heddle-lever, and give it the oscillation indicated by the dotted lines. The cam-surfaces at *d* are for a short distance made cylindrical, so that the pressure of the arms of D upon them will have no tendency to rotate the cams, as is obvious, and the levers A will be thereby locked in position; and by the use of two inclines, arranged upon the outside of the cams, and the forked arm D of the lever co-operating with both, as shown, a minimum thickness can be given to each leaf of the heddle, and yet afford space for a sufficient strength to the parts, because each part can occupy all the space allotted to the heddle. Upon that side of the cam toward the jack there is a series of holes, E, simply to remove the weight from that side of the center of the cam, and upon the opposite side, at F, the metal projects for a counterpoise, so that the weight of the jack C shall not cause that side of the cam to be turned downward, and thus unlock the heddles at the wrong time. G G are guide-pieces, which meet corresponding pieces on the other levers, and keep them in their proper relations to each other.

What I claim is—

1. The combination of the cam B, having two inclines and rests upon the outside thereof, with the two forked arms D, to move and lock the heddle-levers A, substantially as described.

2. The counterpoise F to the cam B, and the jack, in combination with the cam and jacks, substantially as described.

Executed July 20, 1875.

ORRIN W. KENISON.

Witnesses:

F. E. CLARKE,

H. E. FISHER.