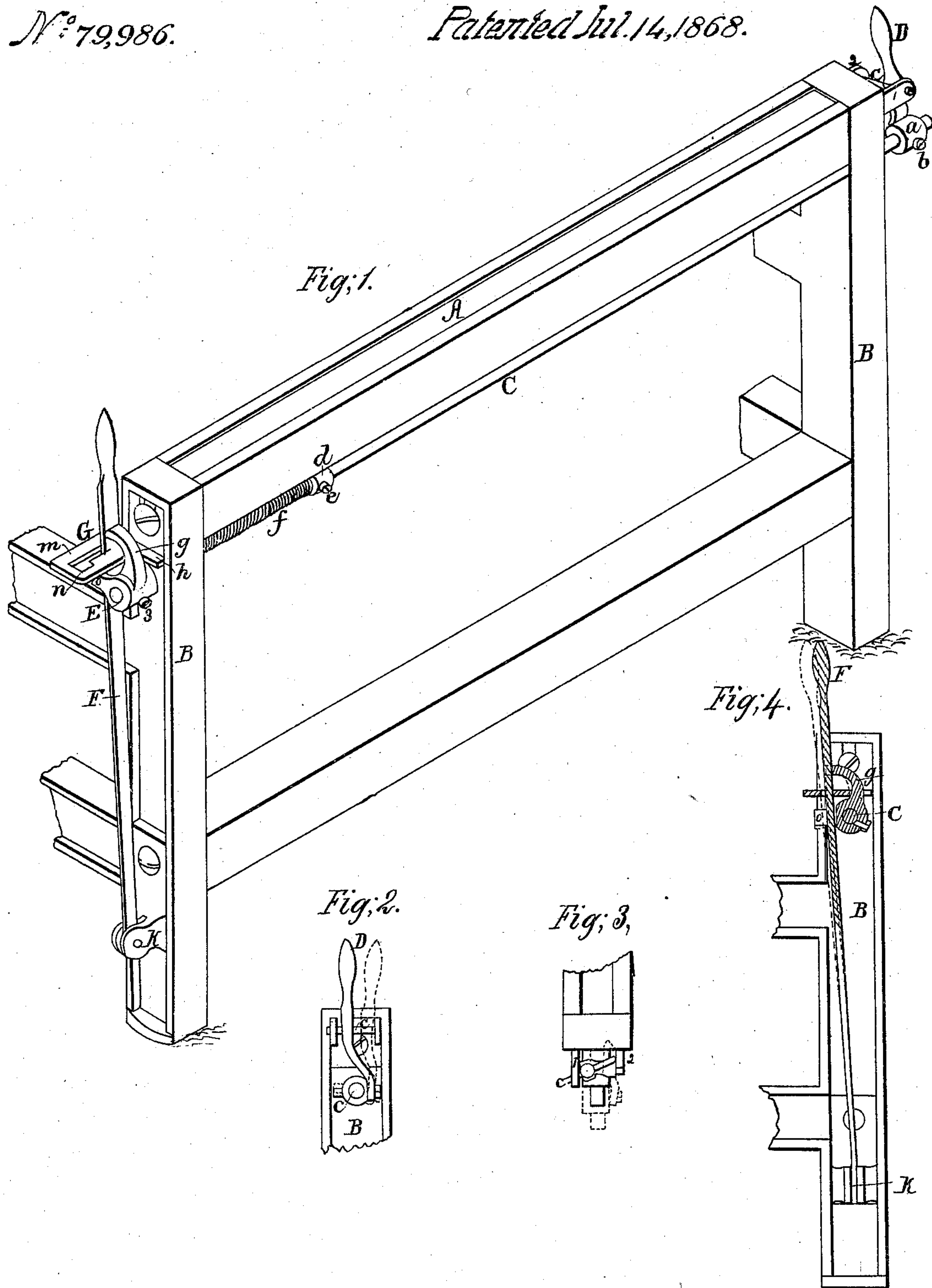


L. J. Knowles.
Stop Motion.

N^o 79,986.

Patented Jul. 14, 1868.



Witnesses;

Thos. H. Dodge
D. L. Lillie

Inventor;

L. J. Knowles.

United States Patent Office.

L. J. KNOWLES, OF WARREN, MASSACHUSETTS.

Letters Patent No. 79,986, dated July 14, 1868.

IMPROVEMENT IN BELT-SHIPPER FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

KNOW ALL MEN BY THESE PRESENTS:

That I, L. J. KNOWLES, of Warren, in the county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Power-Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents so much of a loom as is necessary to illustrate my present improvements.

Figure 2 represents an end view of a part of the same.

Figure 3 represents a top or plan view of the parts shown in fig. 2, and

Figure 4 represents an end view of a part of the front of the frame of the loom, and a vertical section through the upper end of the long shipper-handle and the shipping-dog, as will be hereafter explained.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

My invention has reference to certain improvements in the shipping-device, whereby the loom can be started and stopped conveniently by the attendant while standing at either end of the same.

In the drawings, the part lettered A is the breast-beam, which is connected to the side pieces B B of the loom-frame in the usual manner.

Under the breast-beam A is a horizontal rod, C, having a support in each side piece B of the loom-frame, so that it can turn freely, and also move longitudinally.

On the right-hand end of the rod, in this instance, is fastened the hub *a*, by an adjusting-screw *b*, while to the rear side of the hub *a* is hinged or pivoted the lower end of the short shipping-handle or lever D, having a vertical slot, through which the guide-wire or rod *c* passes.

The guide-rod *c* is supported in the ears 1 2, fastened to the side of the frame-piece B. The front ear, 1, is longer than the ear 2; consequently, the guide-rod *c* is set or supported in an inclined position, the front end of the rod being farther from the side of the loom-frame than the rear end, as fully indicated in fig. 3 of the drawings.

Near the other end of the rod C is fastened, on said rod, a stop-ring, *d*, by means of an adjusting-screw, *e*, a spiral spring, *f*, being placed on said rod, between said stop-ring and the side B of the loom-frame.

As the spiral spring *f* is compressed between the ring *d* and the side of the loom, the tendency of the spring is to force rod C to the right, until the dog *g* strikes against the rib *h* of the shipper catch-piece G.

Dog *g* projects up from the hub-piece E, fastened upon the left-hand end of the rod C by an adjusting-screw, 3, whereby said hub-piece can be adjusted as may be desired.

From the front of the hub-piece E project two ears, *o o*, between which the shipper-handle F, which is hinged at *k*, is held.

The catch-piece G is provided with a slot, *m*, in which the upper end of the shipper-handle F works, and also with a notch, *n*, into which the shipper-handle springs, and is held when the loom is in motion.

In fig. 1, the shipper-handle F is shown in the position in which it stands when the loom is stopped, while in fig. 4 it is shown, in dark lines, in the position in which it stands when the loom is in operation.

The belt-shipper device is to be attached to handle F, or to the rod C, in any well-known manner, and so arranged, that, when the shipper-handle F is moved so as to slip into the notch *n*, the loom will be put into motion, while, when it is allowed to fly back into the position shown in fig. 1, the loom will be stopped.

The lever F is so fastened or hinged at the bottom as to give it a tendency to spring forward into the notch *n*, when drawn or forced out.

The operation is as follows: If the attendant wishes to start the loom while standing on its right-hand side, the upper end of lever D is grasped by the hand, and forced to the right, at the same time drawing it slightly forward.

By this operation, rod C is forced to the left, thereby moving the shipper-handle F out in the slot *m*, until it slips into the notch *n*, the dog *g* being drawn back by the forward motion given to rod C.

In case the attendant wishes to stop the loom while standing at its right-hand side, handle D is forced back, thereby turning rod C, and forcing dog *g* against the handle F with force sufficient to move it back out of the slot *n*, when the spiral spring, acting upon said rod, throws it to the right, as shown in red lines, fig. 3, and the loom stops.

If, however, the attendant is standing at the left-hand side of the loom, the same operations can be performed by means of the shipper-handle F.

By the employment of the inclined guide-pin *e*, the operation of starting and stopping the loom by the short hand-lever D is somewhat facilitated, since, when the attendant takes hold of said lever to start the loom, the lever naturally draws forward on the guide-pin *e*, thus giving a partial turn to rod C, as it is moved to the left, sufficient to turn dog *g* forward sufficiently to let the shipper-handle F slip into notch *n*; while, when the attendant wishes to stop the loom, and pushes the lever D back, the inclined rod *e* has a tendency to cause lever D to turn rod C back, thereby causing the dog *g* to force the shipper-handle F out of the notch *n*, when rod C and handle F are moved to the right by the action of the spiral spring *f*, and the loom stops.

It will be understood that the levers F and D may be reversed, or applied to the opposite sides of the loom, in which they are shown in the drawings.

Having described my improvements in power-loom, what I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the shipping-lever D, applied to one end of the shipping-rod C, of the inclined guide-rod *e*, substantially as and for the purposes set forth.
2. The combination, with the shipping-lever, and slotted and notched guide-piece in which it moves, of the dog and ears for actuating said lever, and the rotating and longitudinally-sliding rod upon which the same are mounted, together with the spring *f* and lever D, the said parts being arranged for joint operation, as herein specified, so that the movement of the lever D shall cause the shipping-lever to be drawn in either direction, as required.

L. J. KNOWLES.

Witnesses:

THOS. H. DODGE,

D. L. MILLER.