L. J. KNOWLES.

Belt-Shipping Mechanism for Looms.

No. 198,202. Patented Dec. 18, 1877

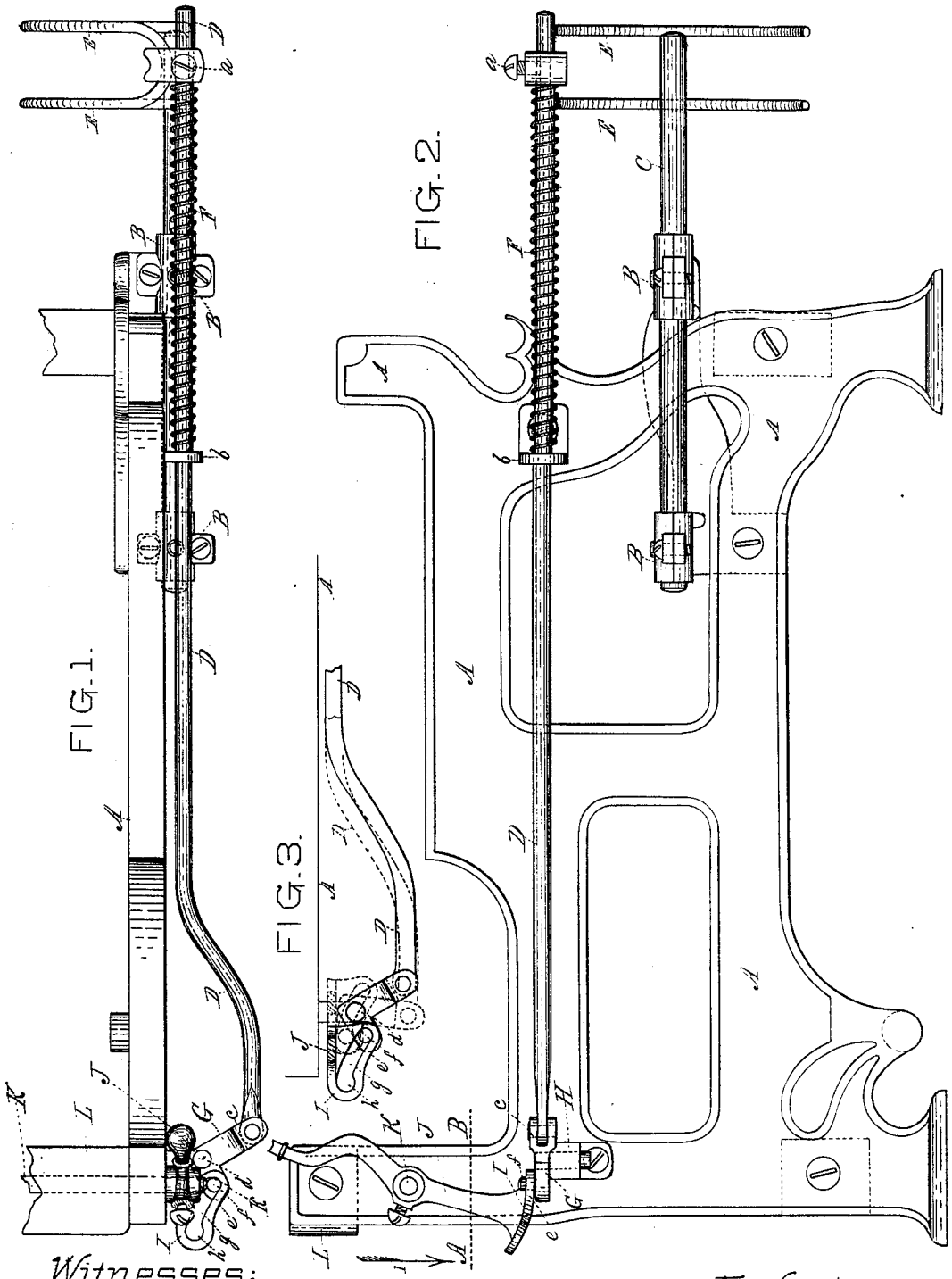

FIG. 1.

FIG. 2.

FIG. 3.

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LUCIUS J. KNOWLES, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN BELT-SHIPPING MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **198,202**, dated December 18, 1877; application filed November 3, 1877.

To all whom it may concern:

Be it known that I, LUCIUS J. KNOWLES, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Shippers for 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, and in which—

Figure 1 represents a top or plan view of so much of a loom as is necessary to illustrate my present invention. Fig. 2 represents a side view of the parts shown in Fig. 1; and Fig. 3 represents a top or plan view of a portion of the parts shown in Fig. 1, one of the shipper-handles being shown in section on line A B, Fig. 2.

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.

In the drawings, the part marked A represents one side of a loom-frame, to which are secured the bearings B B for the shaft C, upon the end of which are to be secured, in the usual manner, the tight and loose pulleys.

D is the shipper-rod, to which is secured the shipper-fork E, by means of a set-screw, *a*. The shipper-rod D passes loosely through a guide-piece, *b*, said guide-piece being rigidly secured to the side of the loom-frame; and between said guide-piece and the shipper-fork a spiral spring, F, is arranged upon the shipper-rod D.

The front end of shipper-rod D is hinged to the long arm of a bell-crank or connecting lever, G, pivoted at *d* to a stand, H, fastened to the side of the loom, while the short arm *e* of the bell-crank is provided with a pin, *f*, which projects up and passes through a slot, *g*, provided with a notch or recess, *h*, in the foot I of the shipper-handle J, said shipper-handle being secured to a rod, K, which passes through under the breast-beam L, so that it can be operated from either side of the loom.

The upper end of shipper-handle J is shown broken off in Fig. 2; but it will be understood that it is to have a suitable hand-piece, as shown in Fig. 1, and the opposite end of rod K, on the opposite side of the loom, is also to be provided with a suitable handle, so that shipper-rod D can be operated by means of the slotted foot I from either side of the loom.

When shipper-fork E is to be drawn toward the loom-frame for the purpose of throwing the belt upon the tight pulley, the operative takes hold of shipper-handle J and draws the upper end forward, thereby throwing foot I back, as shown in dotted lines, Fig. 3, and by which operation pin *f* is forced toward the loom-frame, thereby drawing the long arm *c* of bell-crank or connecting lever G forward, together with shipper-rod D, as indicated in dotted lines, Fig. 3; and when the parts are in this position, pin *f* rests in the recessed or notched portion *h* of slot *g*, and the action of spring F upon shipper-rod D holds the parts in such relative positions until the operative, taking hold of the upper end of handle J, forces it back until pin *f* has been released from the recessed part *h*, when the action of spring F throws the shipper-rod D, with its fork E, back into the position shown in full lines, Figs. 1 and 2, thus throwing the belt upon the loose pulley again.

It will be observed that slot *g* is cut at an angle with the side of the loom, so that it acts upon pin *f* in the form of a cam, thereby rotating or swinging bell-crank or connecting-lever G upon its pivot *d* until pin *f* reaches and enters the notched or recessed part *h* in said slot, when pin *f* reacts upon the slotted foot I in such a manner as to force and keep it back in the position shown in dotted lines, Fig. 3, until, as before explained, the operative removes, by means of handle J, pin *f* from the notched or recessed part *h* of said slot *g*.

In very narrow looms rod K may be dispensed with, and a projecting stud substituted for supporting shipper-handle J, said stud being properly secured to the loom-frame; and in cases where the belt-shaft C is arranged upon the loom at right angles to the position shown in the drawings, a straight connecting lever, G, would be used instead of a bell-crank connecting-lever, since the direction of the

motion of shipper-rod D would be at right angles to its present motion.

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

The combination of shipper-rod D and handle J, provided with notched and slotted foot I, and connecting-lever G, substantially as and for the purpose set forth.

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Witnesses:

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