

(No Model.)

C. WIDMER.  
LOOM SHUTTLE.

No. 365,111.

Patented June 21, 1887.

Fig 1,

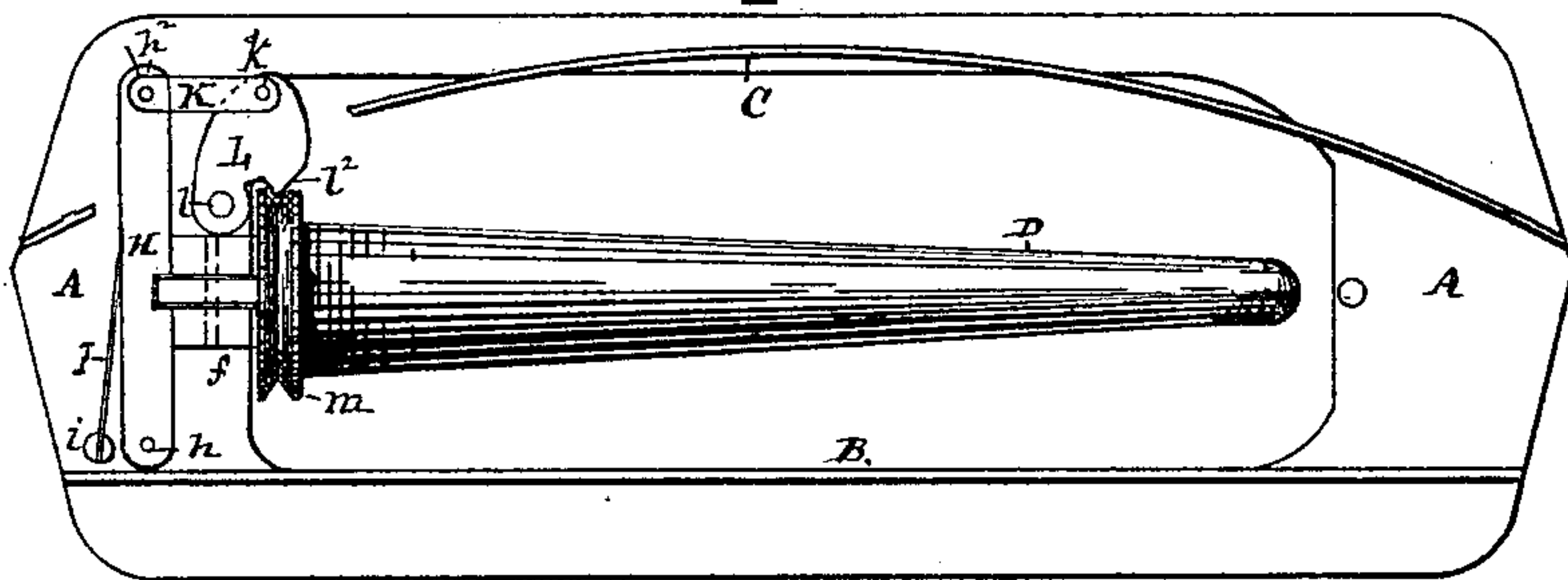


Fig 2,

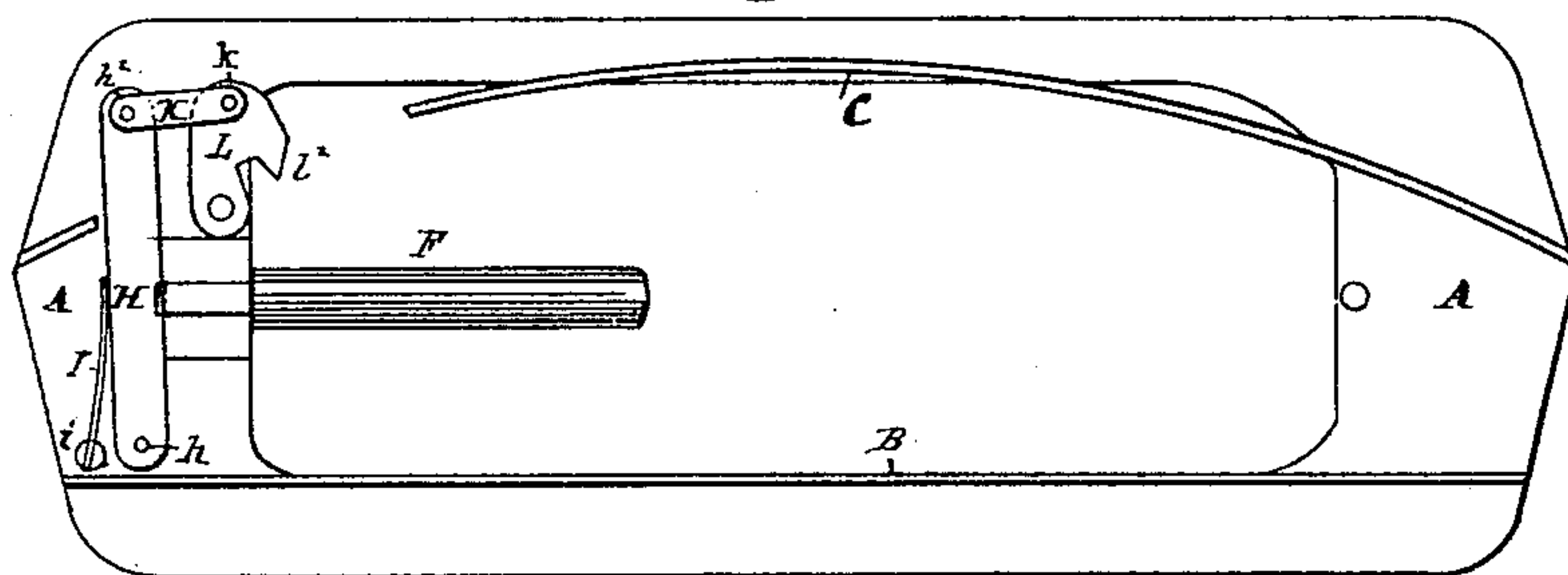


Fig 3,

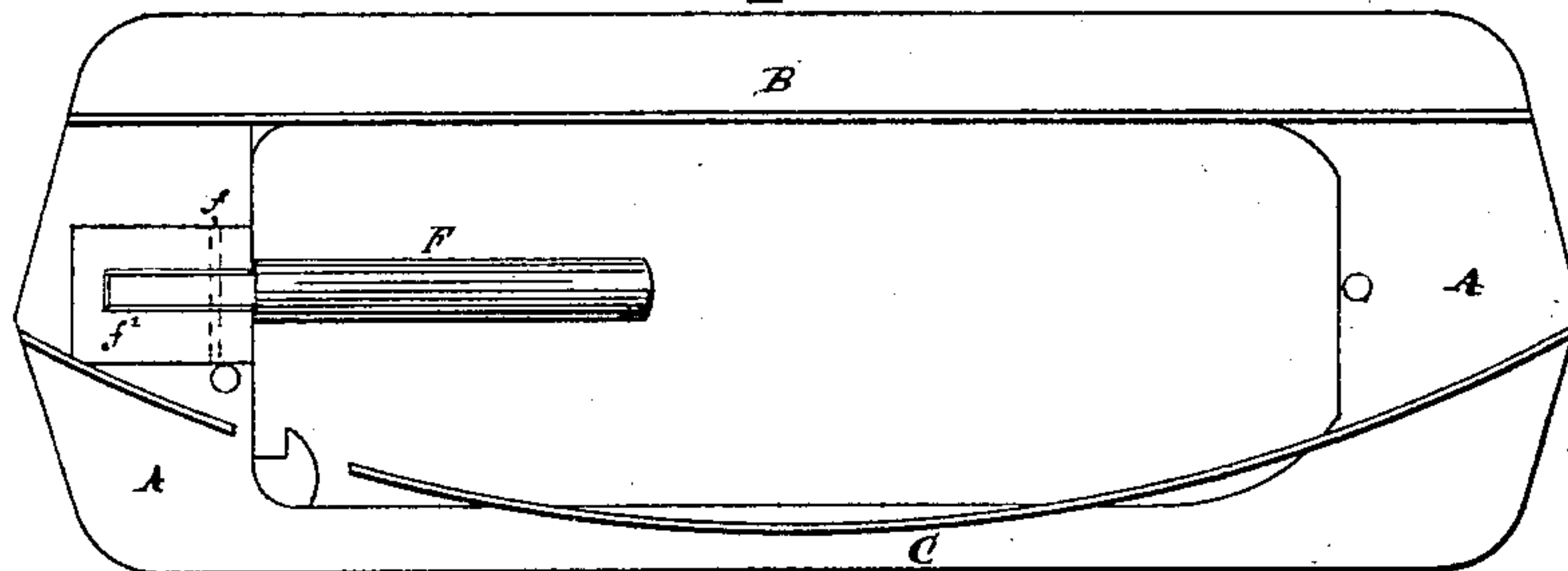


Fig 4,

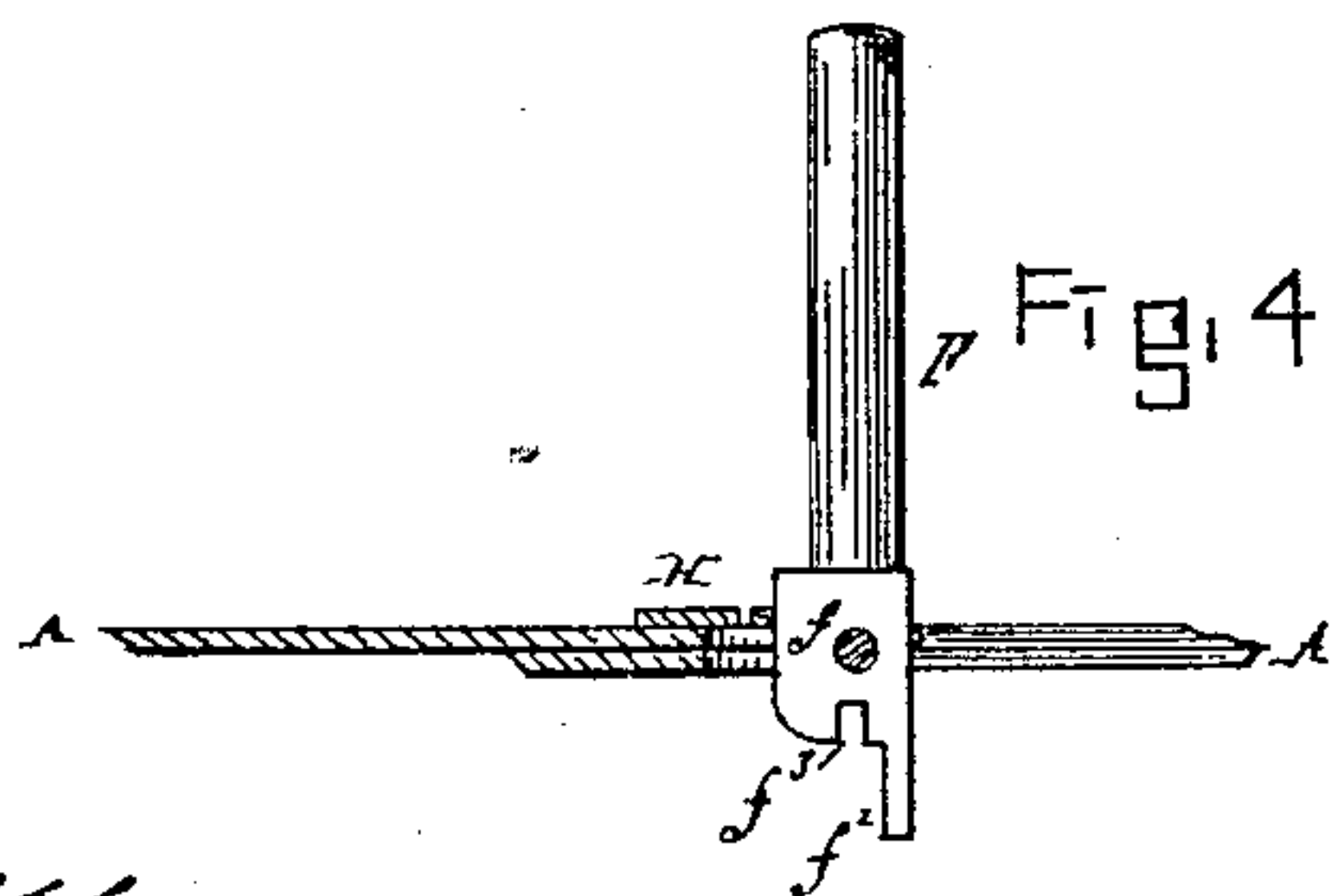


Fig 5,



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# UNITED STATES PATENT OFFICE.

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## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 365,111, dated June 21, 1887.

Application filed August 6, 1886. Serial No. 210,162. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES WIDMER, a citizen of the United States, residing at New York, in the county and State of New York, have invented an Improvement in Loom-Shuttles, of which the following is a full and complete specification, reference being had to the accompanying drawings, forming a part thereof.

The object of my invention is to provide a shuttle that will permit of the use of a bobbin or cop-spool of the full length of the opening of the shuttle, and also allow of the easy and quick introduction of a fresh bobbin, or the removal of an empty bobbin or spool. To this end I have devised an improved form of shuttle in which the spindle is hinged, and yet retained securely in place by a spring-latch, which may be easily thrown out when required.

I am aware that shuttles have been, previously to my invention, constructed with hinged spindles locked in position by a spring-latch, with a catch for the bobbin; but my shuttle has several important features differing from any of these, and more especially adapting it for use in flat or thin bodied shuttles, such as are used in ribbon or narrow-fabric looms.

In the drawings, Figure 1 is a plan view of the upper side of my shuttle with a bobbin or cop-spool in place and held by the latch. Fig. 2 is a similar view, but with the bobbin removed and the latch pressed back to its farthest point to release the spindle, so that it may be turned up. Fig. 3 is a plan view of the under side of the shuttle with the bobbin removed. In each of these views a portion of the curved guard is shown broken out to exhibit more clearly the working parts beneath it. Fig. 4 is a detailed side view of the hinged spindle or bobbin-pin, showing a portion of the shuttle-body and latch H in section. Fig. 5 is a detailed side view of the small handle H<sup>2</sup>.

A is the frame of the shuttle; B, the front or straight guard; C, the back or curved guard; D, the bobbin or cop-spool, sliding and turning freely upon the pin or spindle F, which is movably secured by the pivot *f* to the frame

A of the shuttle. The lower end of this spindle is notched, as shown, the long tongue *f*<sup>2</sup> acting as a bearing against the under side of the frame A, to prevent the outer end of the pin being depressed too much, and *f*<sup>3</sup> a notch in which the latch H catches under pressure of the spring I when the spindle is brought to a horizontal position. The latch H is pivoted at *h* to the frame, and at its other end to a small link, K, which in turn is pivoted by a pivot, *k*, to a catch, L, which is pivoted at *l* to the frame A. The acting end *l*<sup>2</sup> of L fits the groove of the small pulley or disk *m* at the inner end or base of the bobbin D.

At *h*<sup>2</sup> there is a small handle, which is an extension upward of the pivot which secures H to K. This is used to draw back the latch when necessary to release and remove the bobbin or to insert a new one. The spring I is fastened to the frame at *i*, and presses by its free end against the edge of the latch H.

The operation is very simple, and as follows: Supposing a new bobbin to be placed in the shuttle, the latch is pressed back by the handle *h*<sup>2</sup>, releasing the catch from the disk of the bobbin and at the same time withdrawing the latch H from the notch *f*<sup>3</sup> in the end of the spindle F. The spindle can now be turned up and the spool or bobbin slipped off, even if it occupies the entire length of the shuttle-opening. A new spool is placed upon the spindle, and it is pushed back into place again, when the shuttle will be again ready for use.

The peculiar advantage of this arrangement of hinged spindle and latch is that it is by its construction better adapted for use in thin-bodied shuttles, because the plane of motion of both spindle-latch and bobbin-catch are horizontal or parallel to the flat surface of the shuttle-body.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a shuttle-body and a spindle pivoted thereto, the said spindle being provided with a notch at its butt and a tongue bearing against the under surface of the shuttle-body when the spindle is in a horizontal position, of a pivoted and spring-actu-



ated latch, the plane of motion of which is horizontal, engaging with said notch, and a pivoted catch connected by a link with said latch and adapted to engage with the grooved  
5 end of a bobbin, so that the bobbin and spindle are secured and released at the same instant, all constructed and operating substantially as set forth.

2. The combination, with a shuttle-body and  
10 a spindle, F, pivoted to the body of the shut-

tle and provided with the locking-notch  $f^3$  and the tongue  $f^2$ , of a spring-actuated latch, H, the connecting-link K, and a pivoted catch, L, substantially as described.

In witness whereof I have hereunto set my 15 hand this 19th day of July, 1886.

CHARLES WIDMER.

Witnesses:

GEORGE H. SONNEBORN,

JOHN M. O'BRIEN.