No. 760,131. PATENTED MAY 17, 1904.

W. LEARY.

COMBINED BOX MOTION AND PROTECTION ROD LEVER FOR LOOMS.

APPLICATION FILED JAN. 30, 1904.

NO MODEL.

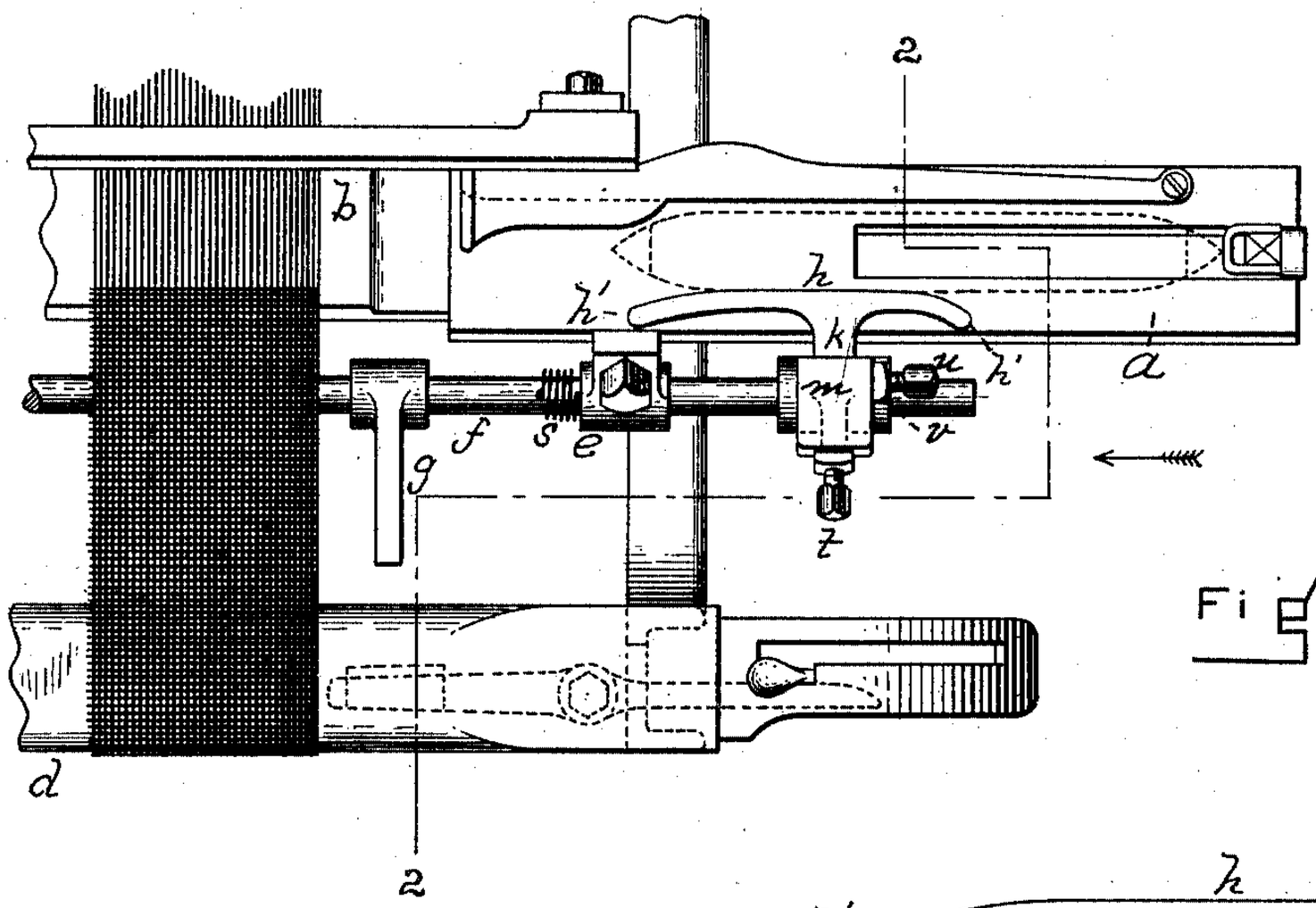

Fig. 1.

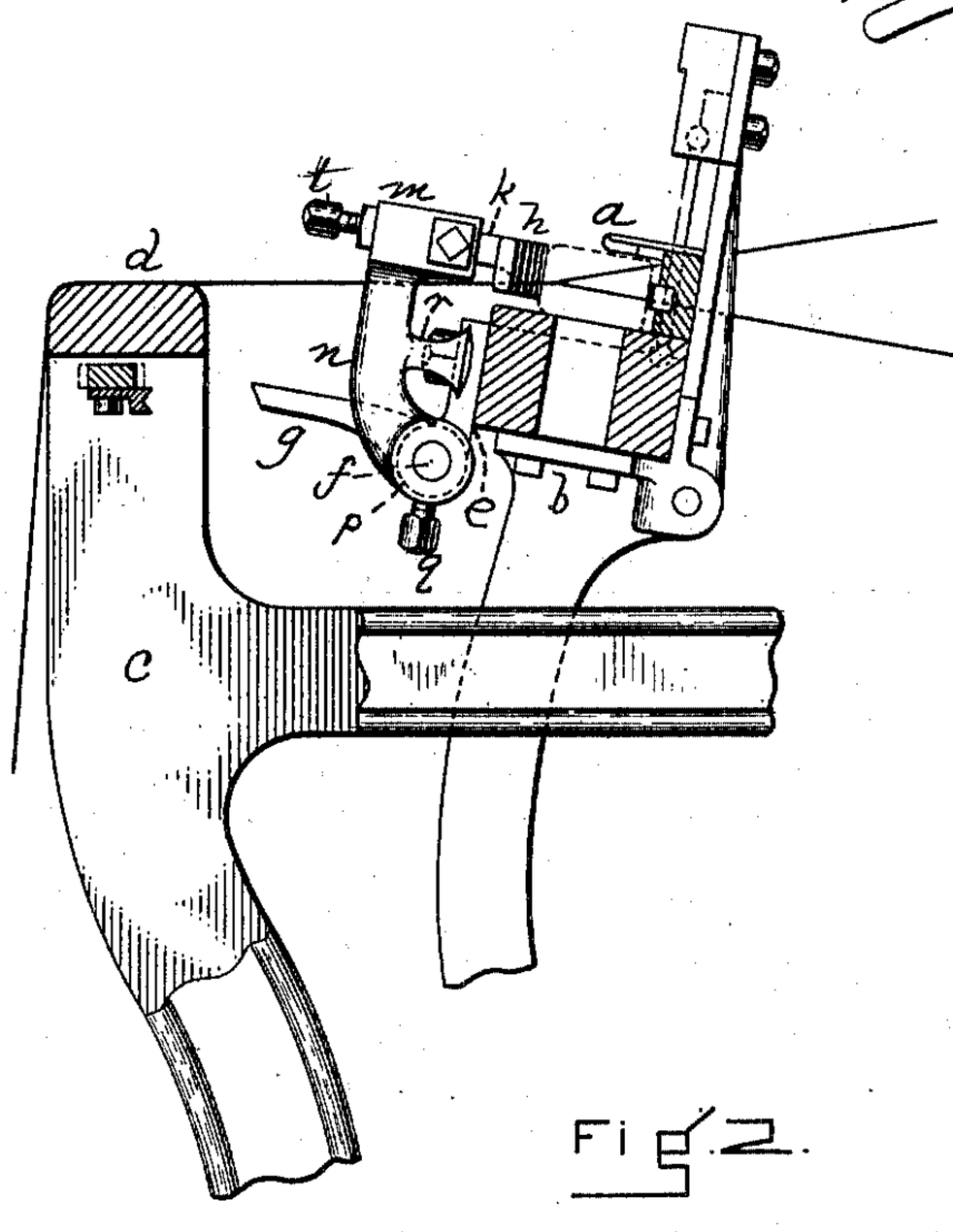

Fig. 2.

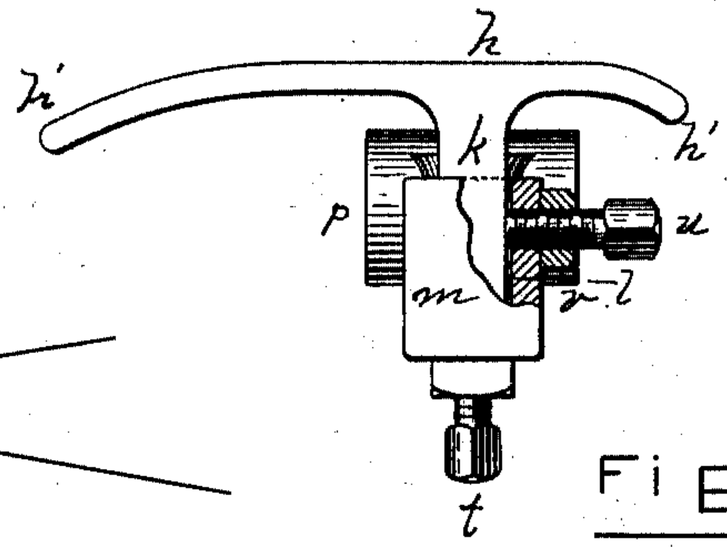

Fig. 3.

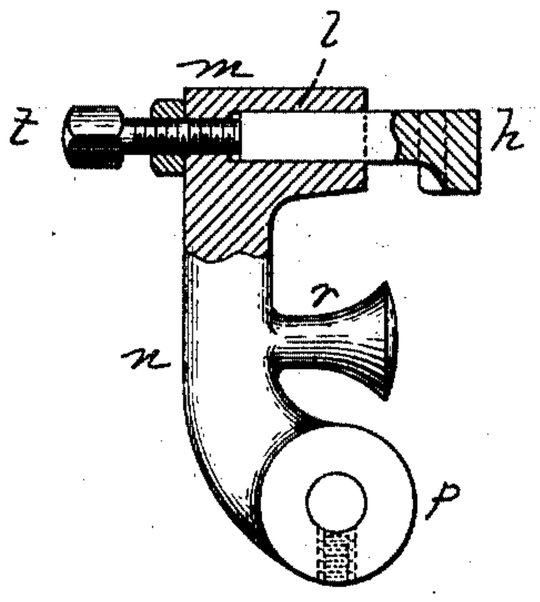

Fig. 4.

WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM LEARY, OF NEW BEDFORD, MASSACHUSETTS.

COMBINED BOX-MOTION AND PROTECTION-ROD LEVER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 760,131, dated May 17, 1904.

Application filed January 30, 1904. Serial No. 191,293. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LEARY, a citizen of the United States, residing in New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and Improved Combined Box-Motion and Protection-Rod Lever for Looms, of which the following is a specification.

My invention has for its principal object to produce a box-motion and protection-rod lever in which much of the construction in common use is done away with and a simplified contrivance substituted therefor, thus adding to the economy and durability of the apparatus, reducing the amount of repairing necessary, and aiding its efficiency.

The nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a loom embodying my invention. Fig. 2 is a section taken on line 2, Fig. 1. Fig. 3 is an enlarged plan in detail of the protection-rod lever and binder-plate, a portion being broken out. Fig. 4 is an enlarged side view of the same, a portion being shown in vertical section.

Similar letters of reference indicate corresponding parts.

a represents the shuttle-box. *b* is the lay. *c* is the frame. *d* is the breast-beam, and *e* is the bracket supporting the protection-rod *f* on the lay, said rod being provided with the dagger *g* and being straight and of even thickness. In devices of this character when the shuttle is at its destination it is held by a metallic binder-plate, which is generally termed a "swell," by frictional contact with the surface of said plate. When thus held, it is frequently the case that the shuttle is tilted out of line, thus preventing a true delivery, and under such circumstances there is a liability of cutting the filling and otherwise injuring it.

In the present improvement I provide a binder-plate *h*, curved rearward at its ends *h'*, as illustrated, and provided with an integral shank *k*, which extends horizontally into a suitable socket or hole *l* in the holder *m*, which forms the upper portion and is integral with the lever *n*, whose hub *p* is rigidly secured by a set-screw *q* to the rod *f*. A stop *r*, integral with the lever *n*, extends toward the box. A spring *s* surrounds the rod and has its opposite ends secured thereto and to the bracket *e*, which supports the rods, and extends toward the lay. This binder-plate is held by the above mechanism when the shuttle is in place for about two and a-half inches well in on the body of the shuttle, thereby holding it firmly in a straight position ready for a true delivery. When the shuttle enters the box, the greater part of it passes over my plate, whereby the shuttle is gradually stopped, and its surface-holding capacity enables the loom to be run with minimum power and a minimum wear on the different parts, especially on the shuttle, lug-straps, picker, and picking-sticks.

It will be understood that when the shuttle enters the box it pushes the plate *h* outward, thus swinging the lever *n* and rotating the rod *f* against the power of the spring *s*, with the effect of properly swinging down the dagger *g*, which operates in the ordinary manner. Of course if the shuttle does not enter the box the dagger is not swung down and the shipper operates, all in the ordinary manner well known in the art. In constructions where many screws and nuts are employed the screws loosen and affect the box, so that wrong deliveries of the shuttles are frequent, the yarn is often broken, and in other respects such constructions are defective and apt to be out of repair. In my contrivance there are fewer parts, none of which are liable to be broken, there are no machine-screws liable to become loose, no pins or hinges to become worn out, and no wood to shrink. My lever and binder-plate consist, essentially, of but two castings, the latter fitting into a square socket in the former, adjusting-screw *t*, and set-screw *u*, secured by a suitable lock-nut *v*, holding the binder-plate in place. The projecting stop *r* rests against the lay when the shuttle is out of the box.

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

In combination with the shuttle-box of a

loom and the protection-rod *f* provided with the dagger *g;* the lever *n* rigid on said rod and extending normally up therefrom and terminating at its upper end with the holder *n;* the binder-plate consisting of the bearing portion *h* and shank *k*, said shank being adjustably secured in the holder; the stop *r* extending from said lever toward the lay; and mechanism for holding the binder-plate against the shuttle, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM LEARY.

Witnesses:

FREDERICK GILMORE,

FRANK W. FROST.