E. S. PIKE.

Heddle-Frame.

No. 167,357. Patented Aug. 31, 1875.

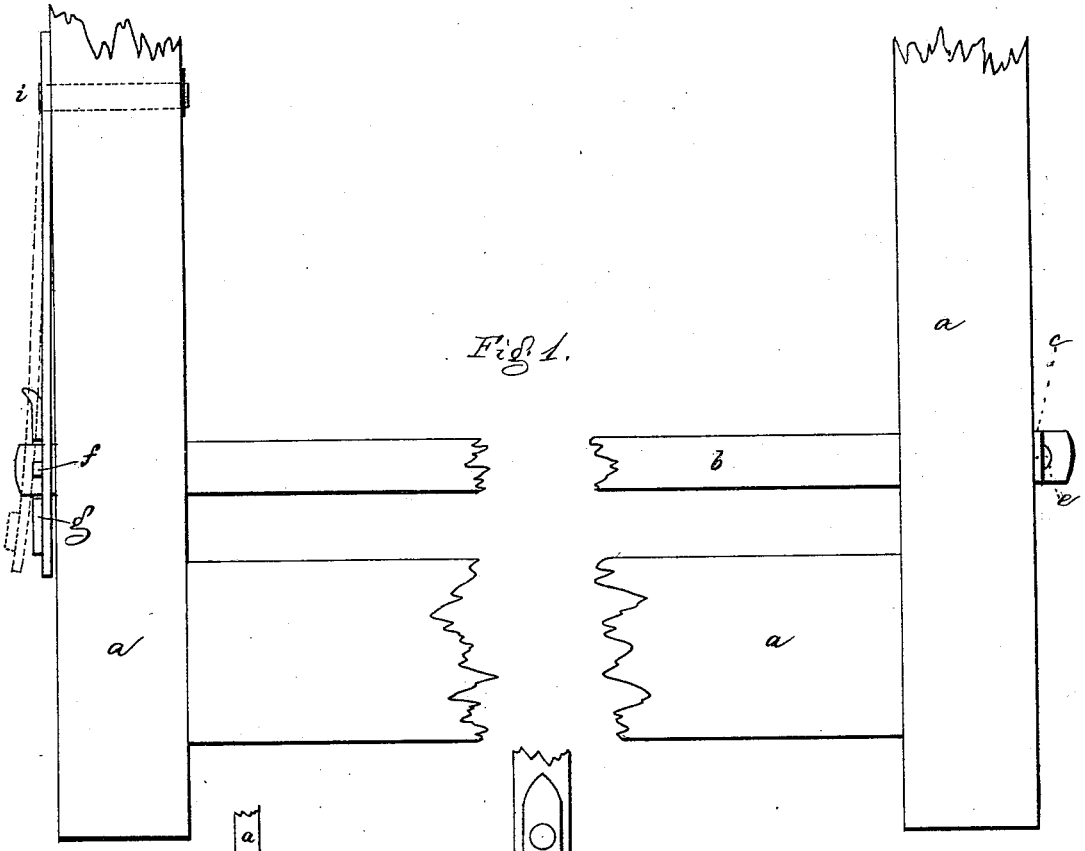

Fig. 1.

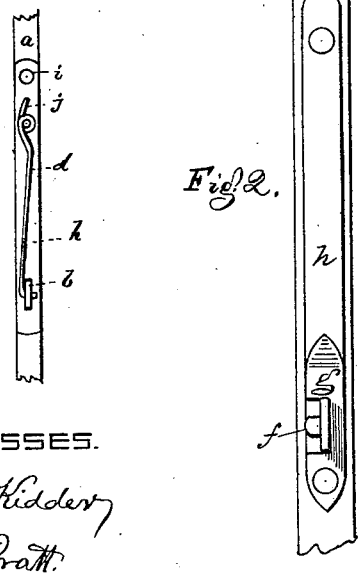

Fig. 2.

Fig. 3.

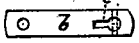

Fig. 4.

Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

EDWIN S. PIKE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO GEORGE CROMPTON, OF SAME PLACE.

IMPROVEMENT IN HEDDLE-FRAMES.

Specification forming part of Letters Patent No. **167,357**, dated August 31, 1875; application filed July 19, 1875.

To all whom it may concern:

Be it known that I, EDWIN S. PIKE, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improved Heddle-Frame, of which the following is a specification:

In United States Letters Patent No. 163,691, granted to me May 25, 1875, there is shown and described a heddle-bar holder, consisting of a plate with a pivoted hook, the plate fitting over the heddle-bar, and resting against the side bar of the heddle-frame, and the tongue on the hook entering a hole in the heddle-bar, thereby retaining the bar in position. Each end of the heddle-bar was provided with such a holder, and it is found difficult at times to cause the plate of the holder to fit properly and snugly, and yet not too tightly, against the side of the heddle-frame, for the tongue of the hook has to fit a single opening in the heddle-bar.

In this instance of my invention a holder is attached directly to one end of the heddle-bar, and at the other end the holder is supported by a spring-plate, connected with the side bar of the heddle-frame, so that the spring acts to draw the holder, carried by the opposite end of the heddle-bar, closely against the side frame, and the heddle-bar is held taut and in proper relation with the frame.

Figure 1 is a front view of a heddle-frame provided with my improvement. Fig. 2 is an end view thereof; Fig. 3, a modification, and Figs. 4 and 5 details on small scale.

The heddle-frame *a* is of usual construction. A heddle-bar, *b*, passes through it at bottom and top, and on this bar are suspended the usual wire harnesses. At one end of the bar *b* is secured the holder *c*, consisting of a plate, as shown in Fig. 5, and adapted to enter a slot, *e*, in the heddle-bar *b*, (see Fig. 4,) the side bar of the heddle-frame serving as a rest for the holder *c*. At its opposite end the bar *b* is perforated for the reception of a tongue, *f*, on a hook, *g*, the latter supported by and arranged at the outside of a curved spring-plate, *h*, the normal position of which is as shown in dotted lines, Fig. 1, and the spring-plate is connected at *i* with the side bar of the frame *a*. By placing the hook *g* outside of the spring, rather than on a detached plate, as represented in a patent heretofore granted to me, it is found that the tongue *f* can be more easily and quickly fitted to the opening in the bar to receive it, as such opening can be made larger than when the holder is secured only to the bar, the same bar being adapted to heddle-frames which vary in length from outside to outside, and the bar is always held taut, in proper position with reference to the heddle-frame, and prevented from end play by the action of the machine by the spring-plate *h*.

It is evident that the spring-plate and the tongue carried by it could operate to keep the heddle-bar taut if the opposite end of the bar (see the right of Fig. 1) had a nut or had a head formed on it instead of the holder *c*, as shown.

The holder *c* is struck up from metal, and passes through the opening *e* cut through the heddle-bar, and when inserted in such opening is turned, causing the flat face of the holder *c* to bear against the side rail.

It is evident that the spring-plate, which is attached to the side bar and interposed between the side bar and the hook, passing through the heddle-bar, and against which the spring works, might be constructed differently than the hook shown in Figs. 1 and 2, as, for instance, as in Fig. 3, where *d* represents a wire-like spring-hook attached to spring-plate *k* at *j*, its tongue or hooked end entering the hole in the end of the heddle-bar, as does tongue *f*, and the spring-plate, in pressing against the hook, keeps the heddle-bar drawn taut.

I claim—

1. The combination, with the heddle-frame and heddle-bar, provided at one end with a holder or head, of a tongue and a spring-plate secured to the side bar of the frame, and adapted to spring away from the side bar in the direction of the length of the heddle-bar to hold the heddle-bar taut, substantially as described.

2. The combination of a movable hook with a spring-plate connected with the side bar of the heddle-frame, and interposed be-

tween the side bar of the frame and the hook, and adapted to operate substantially as described.

3. The combination of the heddle-bar, slotted at *e*, with the holder *c*, constructed as described, and adapted to enter the slot in the bar, substantially as described.

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

EDWIN S. PIKE.

Witnesses:

J. A. WARE,

J. B. SYME.