E. & H. C. Phillips.

Picker Check.

No. 52,367. Patented Jan. 30, 1866

Fig: 1.

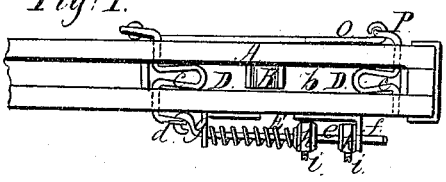


Fig: 4.

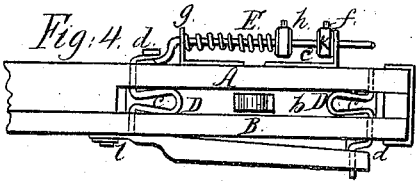


Fig: 2.

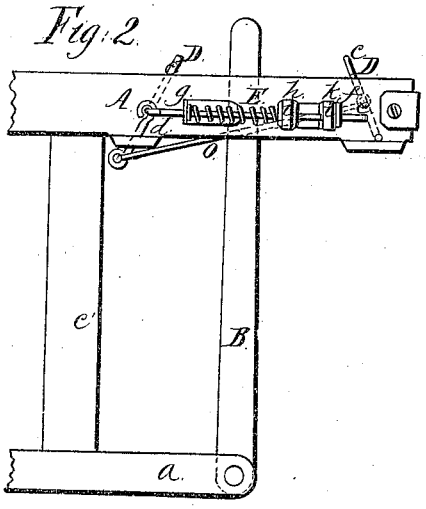
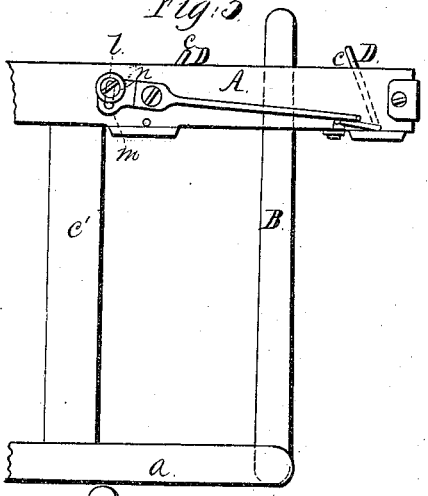


Fig: 5.



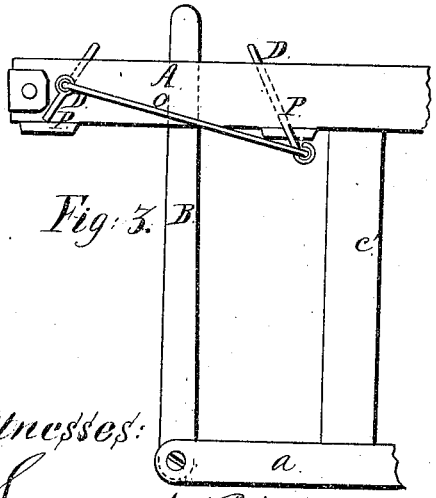


Fig: 3.

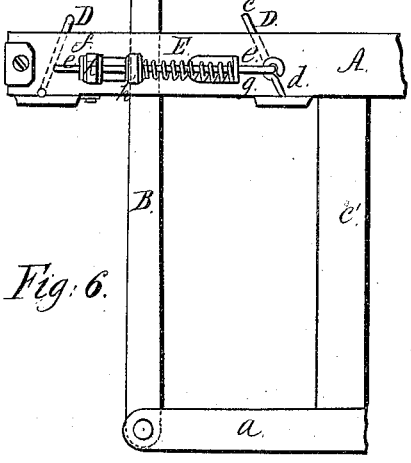


Fig: 6.

Witnesses:

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J. Curtis

Inventor:

E and H.C. Phillips.

by their Attorney.

R H Eddy

UNITED STATES PATENT OFFICE.

EZEKIEL PHILLIPS AND HENRY C. PHILLIPS, OF BLACKSTONE, MASSACHUSETTS, ASSIGNORS TO EZEKIEL PHILLIPS, OF SAME PLACE.

IMPROVEMENT IN PICKER-STAFF ARRESTERS FOR LOOMS.

Specification forming part of Letters Patent No. **52,367**, dated January 30, 1866.

To all whom it may concern:

Be it known that we, EZEKIEL PHILLIPS and HENRY C. PHILLIPS, of Blackstone, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Looms for Weaving Cloth; and we do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Figs. 2 and 3 are side elevations, of such invention in its application to the race-beam and picker-staff of a loom. Fig. 4 is a top view, and Figs. 5 and 6 are elevations, of different methods in which we have contemplated the application of the main principle of our invention.

In the said figures, A denotes the race-beam, and B the picker-staff, of a loom, the said staff being exhibited as passing through a slot, *b*, in the race-beam, and jointed to an arm, *a*, projecting from the next adjacent sword, *c*, of the lay.

The purpose of our improvement is to furnish an elastic stop for arresting the picker-staff at either extreme of its vibration; and to this end we employ a lever and a spring and a spring-regulator, arranged relatively to one another, and applied to the race-beam, substantially in manner as hereinafter described.

In the said drawings D denotes the said lever, which consists of a wire bent into the shape represented, or being otherwise suitably formed, and having its fulcrum in the race-beam, so as to cause the longer arm *c* of the lever to project up into the slot *b* in manner as shown in the drawings, the same being so that the picker-staff, while near the extreme of each vibration, may bring up against one of the said longer arms of such levers and move the lever against the force of a spring, E, applied to the other or shorter arm, *d*, of the lever, in either of the ways as represented in the drawings. Each of the said ways exhibits, in combination with the lever and spring, a means or mechanism for regulating the elastic force of the spring.

Where the spring is a helical one and is placed on and so as to encompass a slide-rod, *e*, jointed to the shorter arm of the lever and sustained by two brackets, *f g*, projecting from the race-beam, (see Figs. 1, 2, 4, and 5,) the said means or mechanism for regulating the force of the spring may consist of an adjustable collar, *h*, encompassing the rod, and being provided with a set-screw, *i*, for fixing it in position on the rod, such rod being furnished with another such collar—viz., that marked *k*—to serve as a stop to abut against one of the brackets, and thereby arrest the motion of the rod; but where the spring is a leaf-spring, as shown in Figs. 4 and 5, it may be made as a lever to turn on a fulcrum, *l*, and have its longer arm elastic and its shorter arm formed with a slot, *m*, to receive a set-screw, *n*, to screw into the race-beam. The said shorter arm, its slot, and screw, arranged as shown in Figs. 4 and 5, constitutes the mechanism for regulating the pressure of the spring on the shorter arm of the lever.

As there are to be two of such levers to each slot of the race-beam, one being at or near each extremity thereof, one spring may be made to suffice for both of such levers by combining the shorter arm of one lever with the other lever by means of a connecting-rod, *o*, and an auxiliary short arm, *p*, extending from the fulcrum of the other lever, the same being as represented in Figs. 1, 2, and 3.

The spring and lever co-operating serve as a very efficient mechanism for arresting the picker-staff or preventing it from bringing up too suddenly, whereby damage to it or the shuttle would be likely to result.

We are aware that it is not new to place a block of india-rubber or an elastic cushion at each or either end of the picker-staff slot of the race-beam, the same being to gradually arrest the staff. Therefore we do not claim such as our invention. Such means, however, are incapable of having the elastic force of the spring properly adjusted or increased or diminished, as circumstances may require, and besides, the spring is liable to become set or otherwise injured by the concussion or repeated blows of the staff. With our invention we not only place the spring out of the reach of the staff, but we can adjust the power of the spring at any time to suit the weight of the shuttle, or, in other respects, to resist the momentum thereof.

We therefore claim as our invention—

1. The combination as well as the arrange-

ments of the lever and the spring-adjusting mechanism, substantially as described, with the spring applied to the race-beam and used for the purpose of gradually arresting the picker-staff, as explained.

2. The combination as well as the arrangement of the connecting-rod *o* and the auxiliary arm *p*, or their equivalents, with the two levers combined with the one spring and applied to the opposite ends of the picker-staff slot of the race-beam, as described.

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