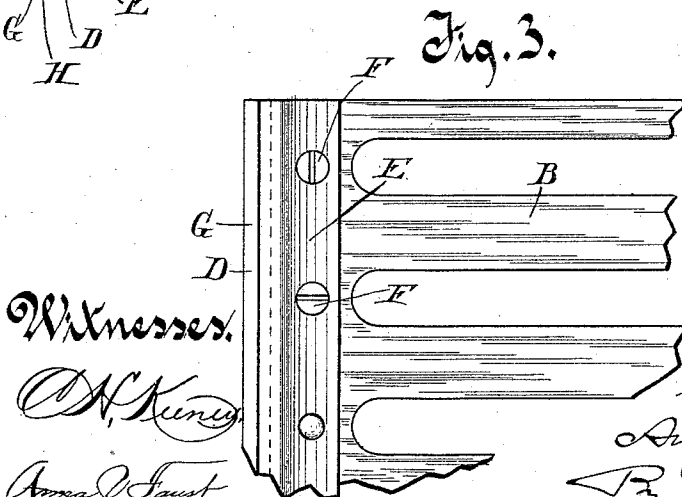
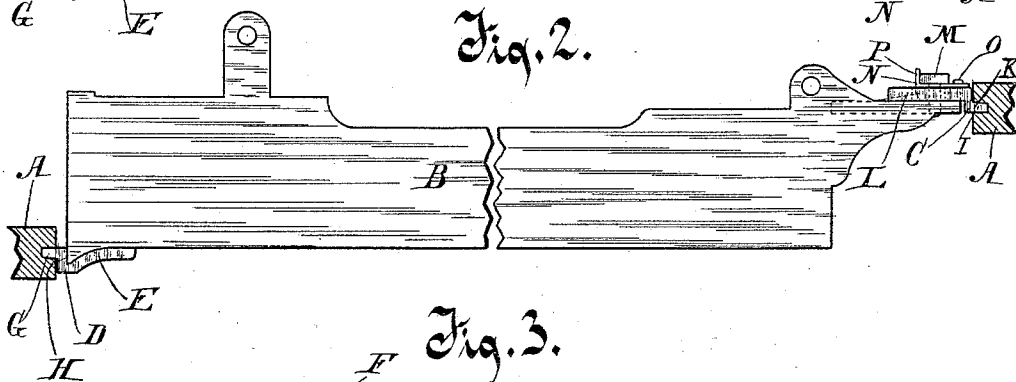
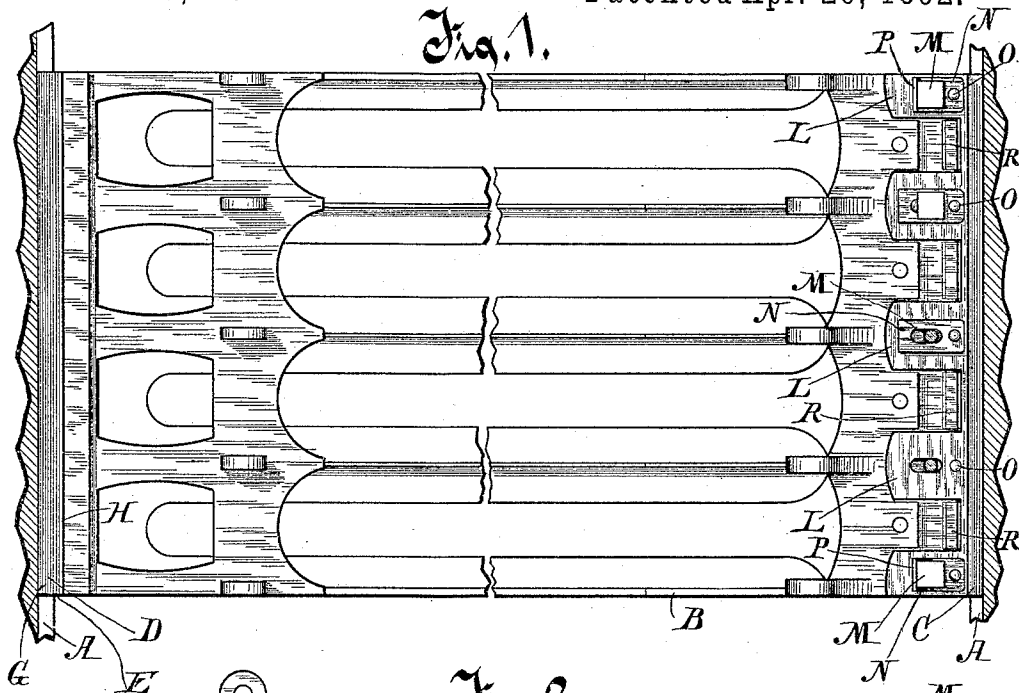


C. ILLING & A. STOPPENBACH.
SHUTTLE BOX FOR LOOMS.

No. 473,878.

Patented Apr. 26, 1892.



Witnesses.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

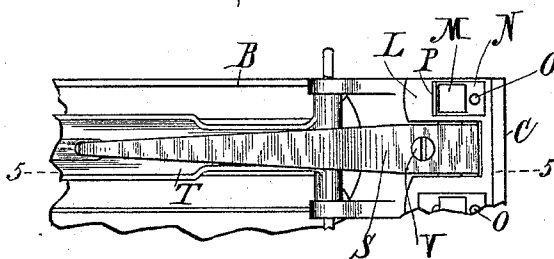
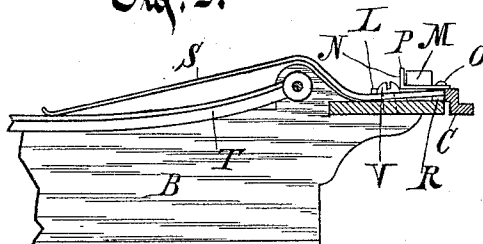


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES ILLING AND AUGUST STOPPENBACH, OF JEFFERSON, WISCONSIN.

SHUTTLE-BOX FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 473,878, dated April 26, 1892.

Application filed June 13, 1891. Serial No. 396,065. (No model.)

To all whom it may concern:

Be it known that we, CHARLES ILLING and AUGUST STOPPENBACH, of Jefferson, in the county of Jefferson and State of Wisconsin, have invented a new and useful Improvement in Shuttle-Boxes for Looms, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

Our invention relates to improvements in shuttle-boxes for looms; and it consists in providing removable slides secured detachably to the shuttle-box and means for adjusting one of the slides laterally on the shuttle-box to take up wear and in so constructing the shuttle-box that the slides can be attached thereto.

In the drawings, Figure 1 is an elevation of our improved shuttle-box, parts being broken away for convenience of illustration, in connection with fragments of the guideways in which the shuttle-box travels. Fig. 2 is a plan view of the shuttle-box. Fig. 3 is a fragment of the shuttle-box and of one of the slides, showing the method of securing the slide to the shuttle-box. Fig. 4 is a top plan view of the binder-spring in connection with a fragment of the shuttle-box, the adjustable slide, and the binder. Fig. 5 is a longitudinal section on line 5 5 of Fig. 4.

A A are the guideways in which the shuttle-box reciprocates.

B is the body part of the shuttle-box, and in its general form is such as is in common use.

In our improved device we provide detachable slides C and D, one of which is secured adjustably to the body of the shuttle-box. The slide D consists of a plate E, fitted to the surface of the body of the shuttle-box at one end and secured thereto removably by screws F, which plate is provided with an outwardly-projecting flange G, that is received and slides endwise in a channel therefor in the guideway A. This slide D is formed with a shoulder H, fitted to and bearing throughout its entire length against the end of the body of the box. The slide C consists of the flange or slide proper I, which is received and travels in a channel therefor in the guideway A of a shoulder K, bearing throughout its length against the end of the body of the shuttle-box, and a series of lugs L, fitted and bearing movably

on the surface of the body of the shuttle-box. This slide C is secured so as to be adjustable laterally on the body of the box in the plane of motion of the box by bolts or screws M, passing through slots therefor in the lugs L and turning into the body of the shuttle-box. These screws M are preferably provided with square or faced heads and are secured in position when turned down to their seats by locks consisting in each instance of a thin flat metal strap N, placed over a pin O, fixed in the lug L, which strap is provided with a slot corresponding with the slot in the lug through which the screw M passes, and which strap, when the screw is turned down to its seat, is bent or turned up at the outer end, forming a lip P, bearing against the side of the head of the screw M and preventing it from turning in its seat. Elongated studs R, formed integrally on the body of the shuttle-box, project slightly therefrom between the lugs L and furnish a bearing for the slide C, alongside which it can be adjusted away from or toward the body of the box.

In this class of shuttle-boxes an elastic finger or strap-spring S is used to bear yieldingly against a binder T, that retains the shuttle movably in the box. These springs or fingers are secured to the box near one end and project therefrom at right angles to the slide parallel with the line of motion of the shuttle toward the central portion of the box. By reason of the reciprocating movement of the box and the intermitting strain of the shuttles against these springs they are apt to become loose on the box and to swing out of position and away from their work. To obviate this difficulty, the lugs L are located at distances apart forming a recess between each two of them, adapted to receive therein the end of this finger or spring S. The edges of the lugs at the sides of the recesses and opposite each other are substantially straight and parallel and project outwardly from the surface of the box at right angles thereto, thereby forming walls, within which the ends of the fingers or springs are fitted and in which they are retained and held against any swinging or oscillating movement of their free ends, the ends of the springs that are received in the recesses between the lugs resting on the surface of the

box and on the tops of the studs R, each spring being secured to the box by a single screw V, turning through the spring into the screw-threaded aperture therefor in the box
5 between the lugs nearly opposite their ends.

It will be understood that the slides C and D can be readily removed and replaced when worn by other slides by simply removing the screws M and F, respectively; also, that the
10 slide C can be adjusted from the body of the shuttle-box to take up wear by merely releasing the screws M and moving it outwardly and then turning the screws down again to their seats. The lips P of the lock-straps N
15 must be bent down or the straps must be destroyed to permit the turning and releasing of the screws M, and if destroyed must be replaced with new straps, in order to lock the screws when turned to their seats again. As
20 these straps are constructed of thin and inex-

pensive metal their destruction is of small consequence.

What we claim as new, and desire to secure by Letters Patent, is—

In a shuttle-box for looms, the combination, 25 with the body of the box, of a slide provided with lugs bearing movably on the surface of the body of the box and secured adjustably thereto, and studs projecting from the body of the box between lugs on the slide and form- 30 ing a bearing therefor, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES ILLING.
AUGUST STOPPENBACH.

Witnesses:

CHAS. F. KREBS,
FRANK S. KREBS.