

UNITED STATES PATENT OFFICE.

GEORGE O. DRAPER, OF HOPEDALE, MASSACHUSETTS, AND JAMES H. NORTHROP, OF TUSTIN, CALIFORNIA, ASSIGNORS TO THE DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, AND PORTLAND, MAINE.

CHECK FOR PICKER-STICKS.

SPECIFICATION forming part of Letters Patent No. 632,553, dated September 5, 1899.

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To all whom it may concern:

Be it known that we, GEORGE O. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, and JAMES H. NORTHROP, of Tustin, county of Orange, State of California, have invented an Improvement in Checks for Picker-Sticks, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a novel picker-stick check for looms of such construction and operation that the wear on the check is made very uniform throughout its extent, thus greatly prolonging the life thereof.

In accordance with our invention the check is made as a complete loop of leather or other suitable material and of a length less than the stroke of the picker-stick which travels within it, means being provided to effect an intermittent longitudinal movement or "creeping" of the strap, so that the portions at the ends of the loop struck by the picker-stick are constantly changing.

Various novel features of our invention will be hereinafter described in the specification and particularly pointed out in the following claims.

Figure 1 is a front elevation of one end of the lay of a loom, the picker-stick being partly shown and with one embodiment of our invention applied thereto. Fig. 2 is a transverse sectional view on the line xx , Fig. 1, looking toward the left; and Fig. 3 is a horizontal section on the line $x'x'$, Fig. 1.

The lay A and picker-stick B and their actuating devices (not shown) are and may be of usual construction, the lay having attached thereto at front and back like stands C, held in place by screws c^x , each stand having formed upon it an outwardly-extended upright boss c and a depending guide-stop c' , the two guide-stops being preferably located opposite each other and having their outer faces c^2 substantially semicylindrical, as shown in Fig. 3. A rod or pintle c^3 is rigidly held in and depends from each boss c to receive upon it a detent member, herein shown

as a cam d , eccentric exteriorly to the pintle c^3 and having suitable ears d' to receive the latter, the convex face of the cam being herein shown as provided with retaining-flanges d^2 , between which the check-strap D is held, the strap passing between the convex surface of a guide-stop c' and the cam d adjacent thereto. Owing to the eccentricity of the cam d it will be manifest from Fig. 3 that if the picker-stick strikes the right-hand end of the loop D the pull of the strap along the side 5 will tend to cramp still more tightly that side of the loop between the cam d and the adjacent guide-stop c' , while the pull along the opposite side, as 6, of the loop will tend to turn a part of the cam of less radius toward the cooperating guide-stop, thereby releasing that side of the loop. As the side 5 is held and side 6 released the latter side will creep or move longitudinally in the direction of arrow 10, Fig. 3, as the picker-stick completes its inward stroke. On its outward stroke, however, the operation is exactly reversed, for the cam d on the side 6 of the loop then cramps the strap, while the side 5 is free to move longitudinally by the impact of the stick on the outer end of the loop, and the strap will again move longitudinally and in the direction of the arrow 10, this creeping serving to continually present a new surface to be engaged by the picker-stick, thereby making the wear much more uniform and increasing the life of the check-strap very materially.

A sleeve c^4 is secured, as by a pin 2, Fig. 1, to the end of the fulcrum-pintle c^3 beneath the lower ear d' of the detent member to support the latter, a coiled spring s within the sleeve having one end attached thereto and secured at its other end to the detent member, the spring being so wound that it tends to retain the said member in operative position, turning it in the direction of arrow 15, Fig. 3, to clamp the check-strap. The spring opposes the longitudinal movement of the check-strap hereinbefore described, and thereby imposes a friction-drag upon it, the force of which can be readily regulated by varying the tension of the spring s , the adjustment being effected by withdrawing the

pin 2 and turning the sleeve c^4 in the desired direction and replacing the pin.

It will be obvious that the detents operate alternately upon opposite sides of the loop formed by the check-strap, the one holding and the other releasing the latter when the picker-stick moves in one direction, and vice versa on the reverse movement of the picker-stick. The detents, in connection with the guide-stops c' , also provide means to support and guide the check-strap, the flanges on the detent-cams d preventing improper up-and-down movement of the strap. As soon as the pull of the strap opposite to the stress of the detent-spring is relaxed the spring acts to return the detent to normal position in close engagement with the check-strap, and improper rotation of the detent against its spring is prevented by the part of the cam d of greatest radius engaging the check-strap and pressing it against the guide-stop c' .

We have shown one practical and convenient form of detent herein without in any manner limiting ourselves to the use thereof, for so far as we are aware it is broadly new to provide a creeping picker-stick check, and our invention is not restricted to the precise construction and arrangement of parts herein shown and described for effecting such creeping of the check.

When the picker-stick is thrown against the end of the loop, a portion of the force of the blow is taken up in unclamping or releasing one side of the loop and the drag on the other side of the loop takes up the remainder, so that the picker-stick is gradually checked as it reaches the end of its stroke.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a loom, a picker-stick, a continuous, flexible check-strap therefor, and means to support and effect intermittent longitudinal movement of said strap in one direction only.

2. In a loom, a picker-stick, and a continuous and flexible creeping check-strap therefor to successively present different portions of its surface to impact.

3. In a loom, a picker-stick, an endless check-strap therefor, and supporting means having friction devices for and to engage alternately opposite sides of the strap-loop, one of said devices holding the loop from longitudinal movement when the other device releases it to permit such movement, and vice versa.

4. In a loom, the lay, a picker-stick, a continuous, flexible check-strap therefor within which the picker-stick oscillates, supporting means for the strap, mounted on the lay and provided with detents to act alternately on opposite sides of the strap, whereby when one detent is operative the strap may move past the other, and vice versa, to thus present a constantly-changing surface to the impact of the picker-stick.

5. In a loom, a picker-stick, a flexible check-strap therefor made as a closed loop within which the picker-stick oscillates, spring-controlled detents located at opposite sides of the loop and alternately operative, one side of the loop when free being moved longitudinally while the pull on the opposite side is resisted by the detent in operation, and vice versa, to thus effect a longitudinal, intermittent movement of the strap in one direction.

6. In a loom, a picker-stick, a loop-like check-strap therefor, and means to effect intermittent longitudinal movement of the strap by or through impact of the picker-stick, to successively present different portions of its surface to impact.

7. In a loom, a picker-stick, the lay, a flexible endless check-strap, and supporting means therefor mounted on the lay and adapted to alternately hold the strap at one side and to release it at the opposite side of the loop, whereby the strap will travel longitudinally relative to its supporting means.

8. In a loom, a picker-stick, a loop-like check-strap therefor and within which it oscillates, friction detent-supports for and at opposite sides of the loop, pull upon one end of the loop drawing the strap through one support and causing the other support to clamp its opposite side, pull on the other end of the loop releasing the latter support and causing the formerly inoperative support to clamp the strap on the other side of the loop.

In testimony whereof we have signed our names to this specification in the presence of subscribing witnesses.

GEORGE O. DRAPER.

JAMES H. NORTHROP.

Witnesses to the signature of G. O. Draper:

E. D. BANCROFT,
G. H. COUSINS.

Witnesses to the signature of J. H. Northrop:

J. G. QUICK,
M. P. SMITH.