No. 729,039. PATENTED MAY 26, 1903.

H. W. BRACKEN.

PROTECTOR MECHANISM FOR LOOMS.

APPLICATION FILED DEC. 3, 1902.

NO MODEL.

Fig. 1.

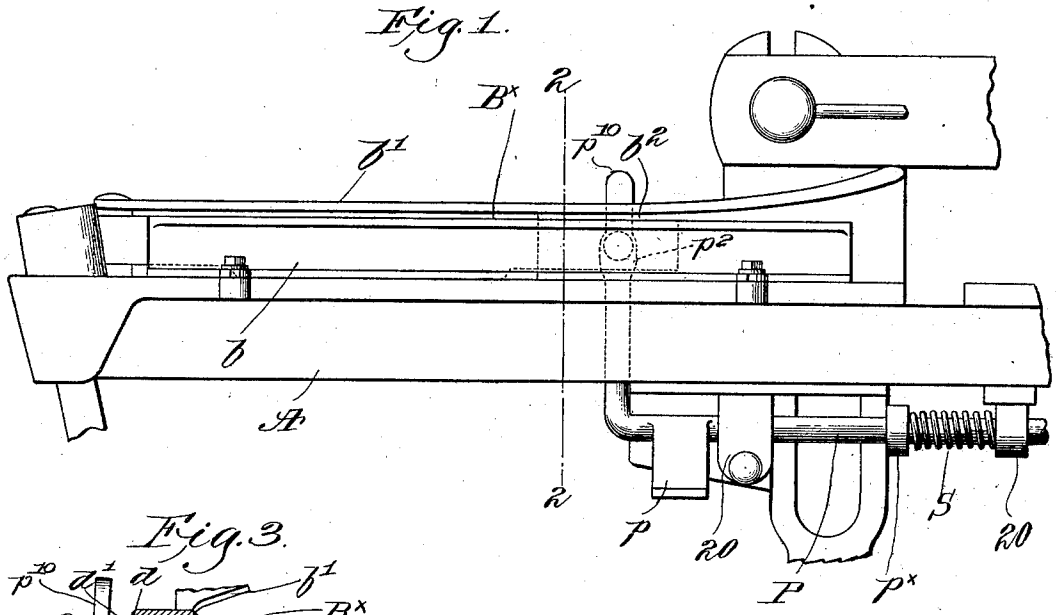


Fig. 3.

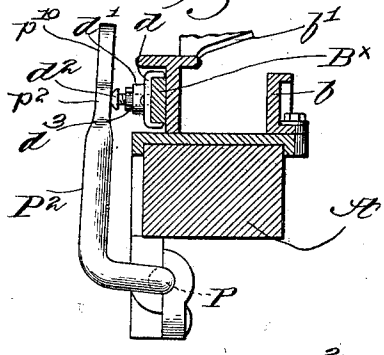


Fig. 2.

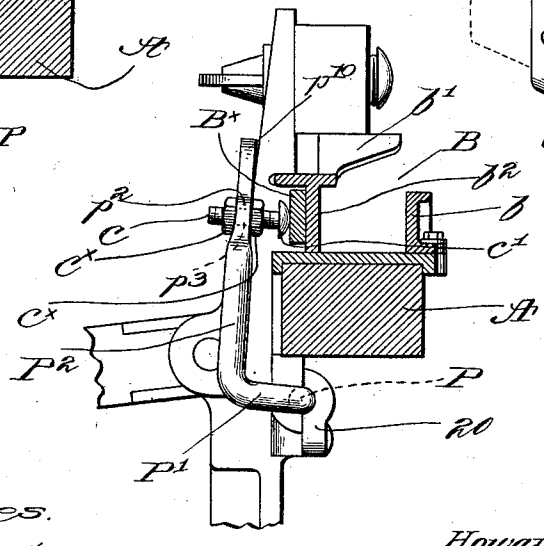
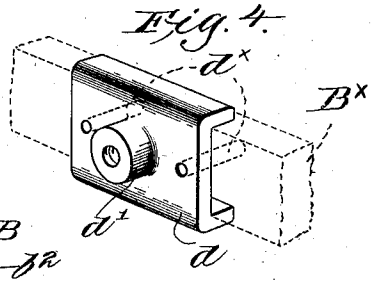


Fig. 4.



Witnesses.
W. C. Simsford
E. F. Allen.

Inventor.
Howard W. Bracken.
by Crosby Gregory Attys.

No. 729,039. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

HOWARD W. BRACKEN, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

PROTECTOR MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 729,039, dated May 26, 1903.

Application filed December 3, 1902. Serial No. 133,662. (No model.)

To all whom it may concern:

Be it known that I, HOWARD W. BRACKEN, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Protector Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of novel and highly-efficient protector mechanism for looms, whereby the cause of a great deal of trouble and annoyance in the adjustment of a loom is entirely obviated.

Binder-fingers have been adjustably mounted on protector rock-shafts in various ways, all of which have in practice proved more or less unsatisfactory. A very common construction is that in which the hub of the upturned binder-finger is mounted on an arm of the rock-shaft and held in position by a set-screw in the hub engaging the arm. The set-screw makes indentations in the arm, so that if the binder-finger is moved slightly for adjustment the pressure tends to force the finger back into its old position. Friction means have been employed, but they permit the parts to slip, so that the adjustment is lost.

In my present invention a notable novel feature is involved—viz., providing for the adjustment between the binder-finger and the binder without any adjustment of the finger itself relatively to the rock-shaft. The desired result is attained by mounting a contact member in an adjustable manner on either the binder-finger or the binder.

The novel features of my invention embodied in one practical form of construction will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is a front elevation of one end of the lay of a loom having a shuttle-box thereon with one embodiment of my present invention applied thereto. Fig. 2 is a transverse sectional view thereof on the line 2 2, Fig. 1, looking toward the right. Fig. 3 is a similar detail view, but showing another mode of effecting the requisite adjustment between the binder-finger and binder; and Fig. 4 is a perspective detail of a part shown in Fig. 3, but detached.

The lay A, having mounted upon it a shuttle-box B, comprising a fixed front wall or plate b, cover-plate b', back plate b^2, and shuttle-binder $B^\times$, are and may be of well-known construction, the lay having suitable bearings 20 for the protector rock-shaft P, Fig. 1, having a dagger p and controlled by a spring S, fast at one end and secured at its other end to a collar $p^\times$, fast on the rock-shaft. In accordance with my present invention the rock-shaft is bent at each end to form a transverse arm P', and said arm is then upturned, as at P^2, to form a binder-finger integral with the shaft, the upper end p^2 being herein shown in Figs. 1 and 2 as flattened and enlarged opposite the free end of the binder $B^\times$. A threaded hole p^3 is made in this flattened portion (see dotted lines, Fig. 2) to receive the threaded shank c of a contact member, shown as a stud having a rounded or convexed head c' to engage the binder. Check-nuts $c^\times$ serve to firmly hold the stud from rotation when adjusted. When it is necessary to vary the coöperative relation between the binder and binder-finger, the check-nuts are loosened and the stud turned in or out, as may be necessary, after which the check-nuts are set up and the adjustment is completed. There has been no change in the binder-finger relatively to the rock-shaft. No slip or change in such relation can occur, and the adjustment is easily and rapidly effected. Not only this but the adjustment is effected just at the point most desirable—viz., at the point of cooperation between the binder and binder-finger—where a very fine and accurate adjustment is necessary and can be made. A very large part of the trouble and annoyance in "fixing" looms is due to the present lack of proper and sure adjustment in this simple mechanism, and my invention overcomes it and provides for a far better and more accu-

rate adjustment than is now possible. In Fig. 3 I have shown how the desired adjustment may be made by mounting the contact member on the binder to coöperate with the binder-finger.

Referring to Figs. 3 and 4, a casting d, shaped to overlap the binder and suitably attached thereto on its rear face, as by screws $d^{\times}$, has a threaded boss d', which projects rearwardly from the binder opposite the upper end p^2 of the binder-finger. A headed screw-stud d^2 is screwed into the boss, as shown in Fig. 3, with its head in position to coöperate with the binder-finger, and a check-nut d^3 may be used to hold the stud in adjusted position.

Manifestly the coöperative relation between the binder and binder-finger can be varied with accuracy and with great readiness by either the construction shown in Figs. 1 and 2 or by that shown in Fig. 3.

By mounting the contact-stud in a bracket or casting, as shown in Figs. 3 and 4, the stud is conveniently supported by the binder. Any other suitable mode of mounting the stud on the binder may, however, be employed.

I have shown the flattened part p^2 of the binder-finger as extended upward above the cover-plate b' of the shuttle-box, as at p^{10}, so that the operative can take hold of such extension and push back the binder-finger, thereby taking off the pressure on the shuttle to facilitate pushing the latter into the shuttle-box before starting up the loom. Were it not for this upright extension, which serves as a finger-piece for manual release of the shuttle from pressure, it would be necessary for the operative to put one hand into the box to push back the binder, while with the other he pushed the shuttle into the box—a very inconvenient operation and requiring considerable strength. By means of the extension the operative obtains the leverage of the full distance from the extension to the protector rock-shaft, and the extension is in a position readily reached.

My invention is not restricted to the precise construction and arrangement shown and described herein, as the same may be varied or modified in detail by those skilled in the art without departing from the spirit and scope of my invention.

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

1. In a loom, protector mechanism, including a binder-finger, a shuttle-binder, and adjustable means mounted on one to engage the other, to vary their coöperative relation.

2. In a loom, protector mechanism, including a binder-finger, a shuttle-binder, and a contact member adjustably mounted on one, to engage the other, to vary their coöperative relation.

3. In a loom, protector mechanism, including a binder-finger, a shuttle-binder, a contact-stud adjustably mounted on one, to engage the other, and means to retain the stud in adjusted position.

4. In a loom, protector mechanism, including a binder-finger, a shuttle-binder, and a contact member adjustably mounted on the binder-finger, to coöperate with the binder.

5. In a loom, a shuttle-binder, a spring-controlled binder-finger, and an adjustable contact member thereon to coöperate with the binder.

6. In a loom, a shuttle-binder, a spring-controlled binder-finger, a contact-stud adjustably mounted thereon to engage the binder, and means to hold the stud in adjusted position.

7. In a loom, a shuttle-binder, a spring-controlled binder-finger, and means adjustably mounted on one to engage the other, adjustment of said means varying the coöperative relation of the finger and binder.

8. In a loom, a protector rock-shaft having an integral transverse and upturned arm to constitute a binder-finger, and a contact member mounted adjustably thereon.

9. In a loom, a protector rock-shaft having an integral transverse and upturned arm to constitute a binder-finger, flattened at its upper end and having a threaded hole therein, and a screw-stud mounted in the hole, to form an adjustable contact member for the binder-finger.

10. In a loom, a spring-controlled protector rock-shaft, having an integral binder-finger, a shuttle-binder, and an adjustable contact-stud on the finger, to coöperate with the binder.

11. A protector rock-shaft for looms, having an integral arm to constitute a binder-finger, and a contact member adjustably mounted on said finger.

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

HOWARD W. BRACKEN.

Witnesses:
GEORGE OTIS DRAPER,
ERNEST W. WOOD.