

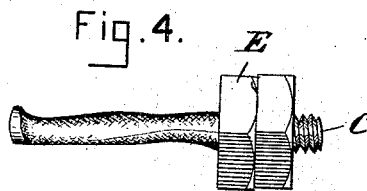
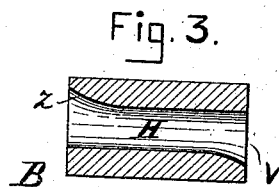
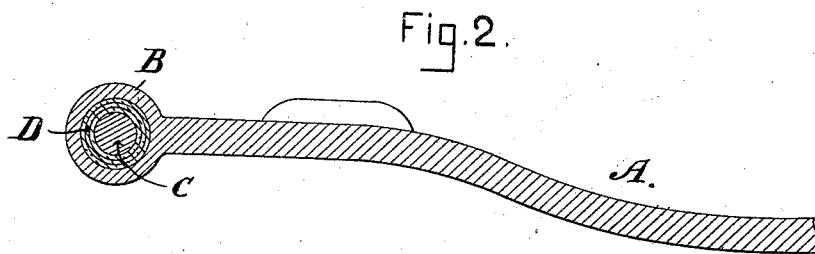
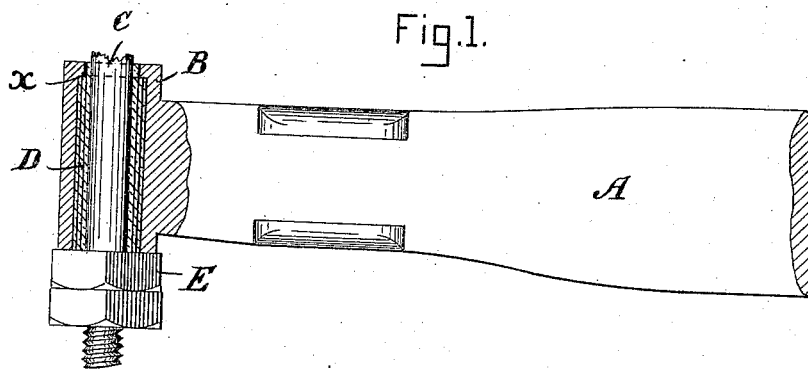
(No Model.)

Z. RABY.

SHUTTLE BINDER FOR LOOMS.

No. 344,008.

Patented June 22, 1886.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ZACHARIAH RABY, OF NASHUA, NEW HAMPSHIRE.

## SHUTTLE-BINDER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 344,008, dated June 22, 1886.

Application filed January 25, 1886. Serial No. 189,573. (No model.)

*To all whom it may concern:*

Be it known that I, ZACHARIAH RABY, of Nashua, in the county of Hillsborough, State of New Hampshire, have invented a certain new and useful Improvement in Shuttle-Binders for Looms, of which the following is a description, sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of a portion of a shuttle-binder embodying my improvement and the journal therefor, the ends of the latter, where it enters the shuttle-box, being broken off; Fig. 2, a horizontal longitudinal section of the same; Fig. 3, a vertical transverse section taken through the head or journal-box of an ordinary binder, and Fig. 4 a side elevation of the journal of an ordinary binder detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

In the use of ordinary shuttle-binders, the vibratory movements of the body of the binder and the great strain on its journal rapidly wear away the journal, and also the box in which the journal is disposed in the head of the binder, thereby causing the binder to work imperfectly, and necessitating frequent repairs.

My invention is designed to obviate this difficulty or objection, and to that end I make use of means which will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A represents the body of the binder; B, the head, and C the journal or stud, on which the binder is pivoted or journaled in the usual manner. The head is drilled or bored longitudinally, or a hole formed therein, which is slightly larger or of slightly greater diameter than the journal. It is then counter-bored with a still larger drill, to form the shoulder *x*, and a leather bushing, D, inserted to form a bearing for the journal. The bearing is made by taking a thin piece or strip of leather, rolling it into the required form, and

driving the roll into the large end of the hole in the head B, after which a pointed set-pin, slightly larger than the journal, is driven into or through the center of the leather bushing, to form a hole or bearing for the journal, the pin withdrawn, and the journal inserted. The shoulder *x* prevents the leather bearing from escaping through the small end of the hole formed in the head of the binder, and the nut E is for the purpose of keeping the binder on the journal. When the roll, which is formed of a strip of leather, as described, is driven into the large end of the hole in the head of the binder, the outer layers of said roll strike the shoulder *x* and are stopped, while the center layers advance and fill the small portion of the hole, the ends of the layers being trimmed or cut off at either end of the head after the leather is driven into the same.

In Fig. 3 a head of the ordinary construction is shown, in which the hole H is represented as unduly enlarged at *v* and *z* by the action of the journal shown in Fig. 4.

In Fig. 4 a journal of the ordinary construction is shown, said journal being represented as worn out or destroyed by the action of the journal-box shown in Fig. 3.

My improved leather bearing renders it unnecessary to lubricate the journal-box, thereby saving the expense of oil and the cost of applying the same, and also preventing injury to the work from spattering oil. It also prevents the box and journal from wearing out, thereby preventing the binder from working imperfectly, and rendering it far more durable than ordinary binders.

I do not confine myself to the use of the bearing in shuttle-binders only, as it may be employed in connection with other journals and in a great variety of machinery with equal advantage.

Having thus explained my invention, what I claim is—

1. A shuttle-binder having a head provided with a hole extending longitudinally through the same, said hole being smaller at one end than at the other, in combination with a journal of smaller diameter extending through said hole, a bushing of leather fitting between said journal and the face of said hole, and a nut on said journal opposite the larger end of the hole.

2  
2. A shuttle-binder having a head provided with a hole extending longitudinally through the same, said head having an inwardly-extending annular flange, *x*, at one end of the hole, whereby a reduced portion is formed  
5 therein, in combination with a journal of smaller diameter extending through said hole, and a bushing of leather fitting between said journal and the face of said hole and into said  
10 reduced portion.

3. A shuttle-binder having a head provided with a hole extending longitudinally through the same, said head having an inwardly-ex-

tending annular flange, *x*, at one end of the hole, whereby a reduced portion is formed  
15 therein, in combination with a journal of smaller diameter than said reduced portion extending through said hole, and a bushing composed of a coil of leather inserted in said hole, the inner layer of which extends into the  
20 reduced portion, substantially as described.

ZACHARIAH RABY.

Witnesses:

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