No. 804,289. PATENTED NOV. 14, 1905.

J. WILLISON.

DEVICE FOR SUPPORTING PIVOT PINS.

APPLICATION FILED MAY 22, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

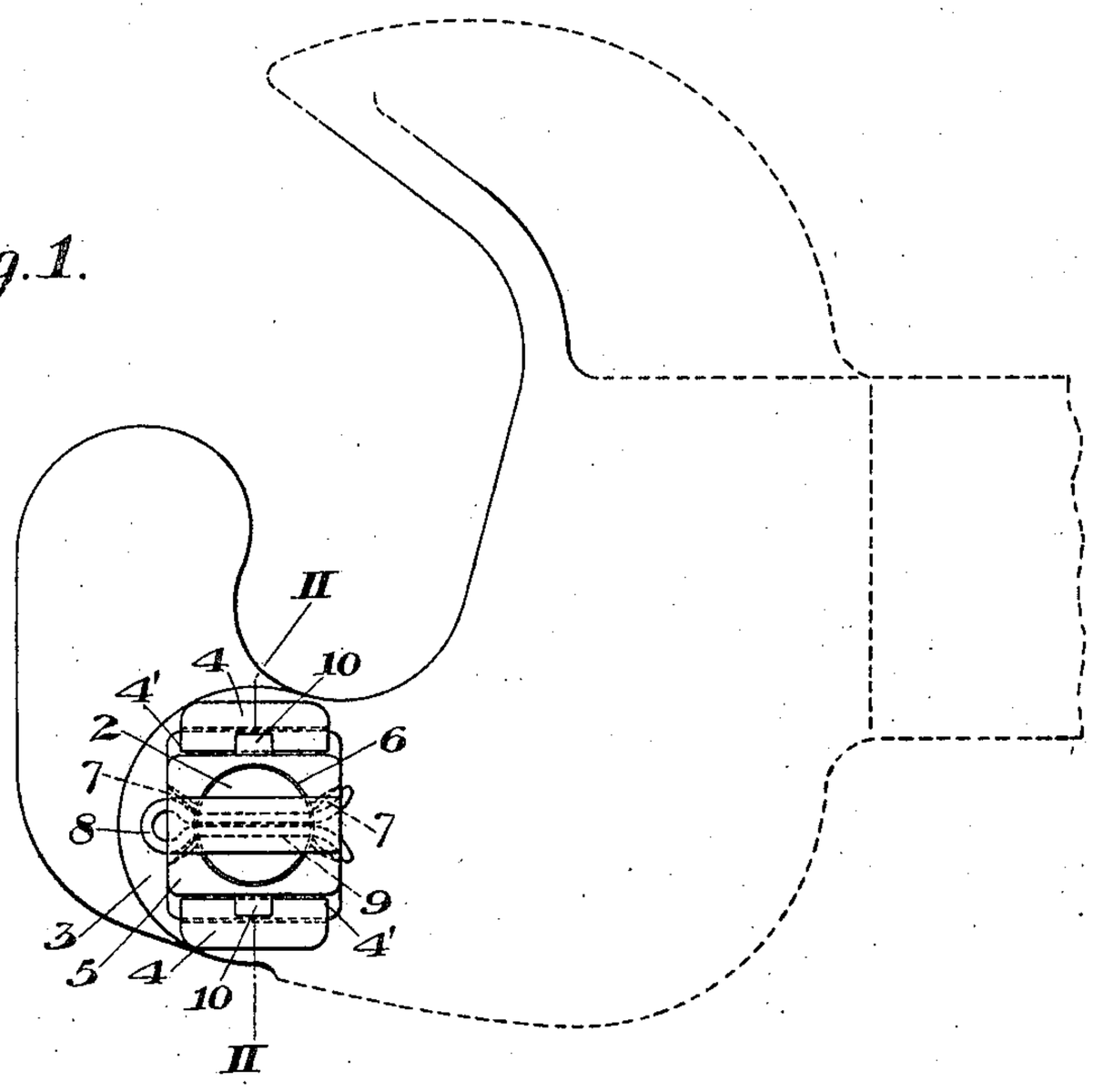


Fig. 2.

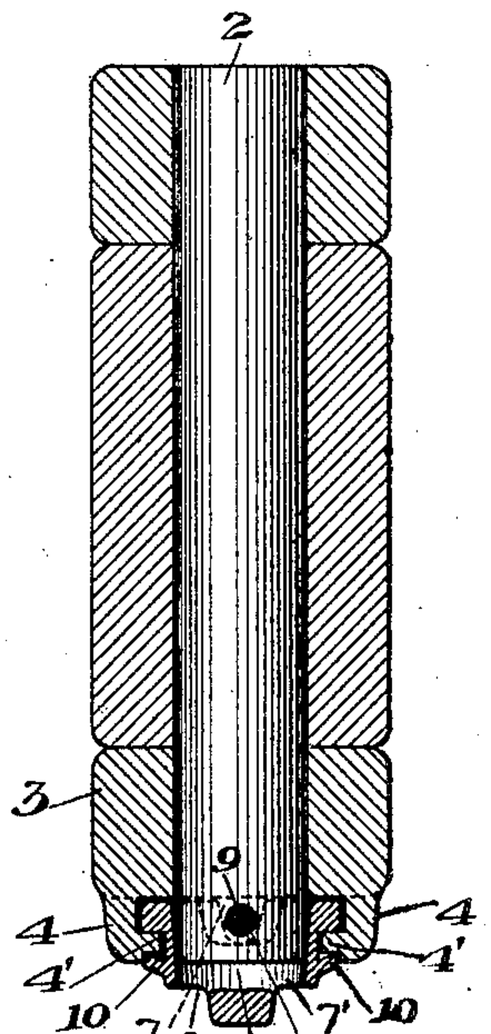
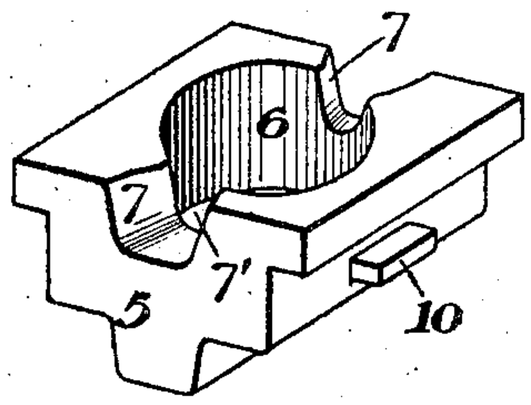


Fig. 2ª.



WITNESSES

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3 SHEETS—SHEET 2.

Fig. 3.

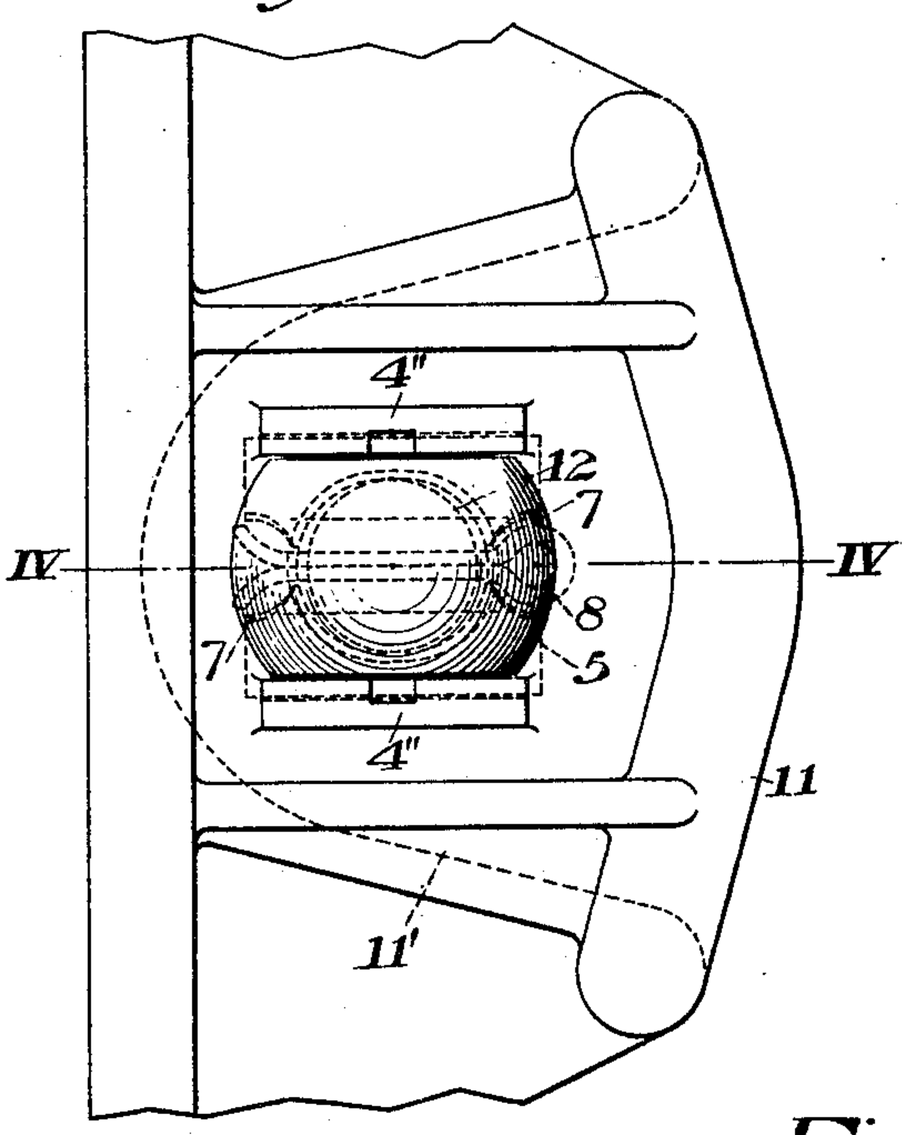


Fig. 4.

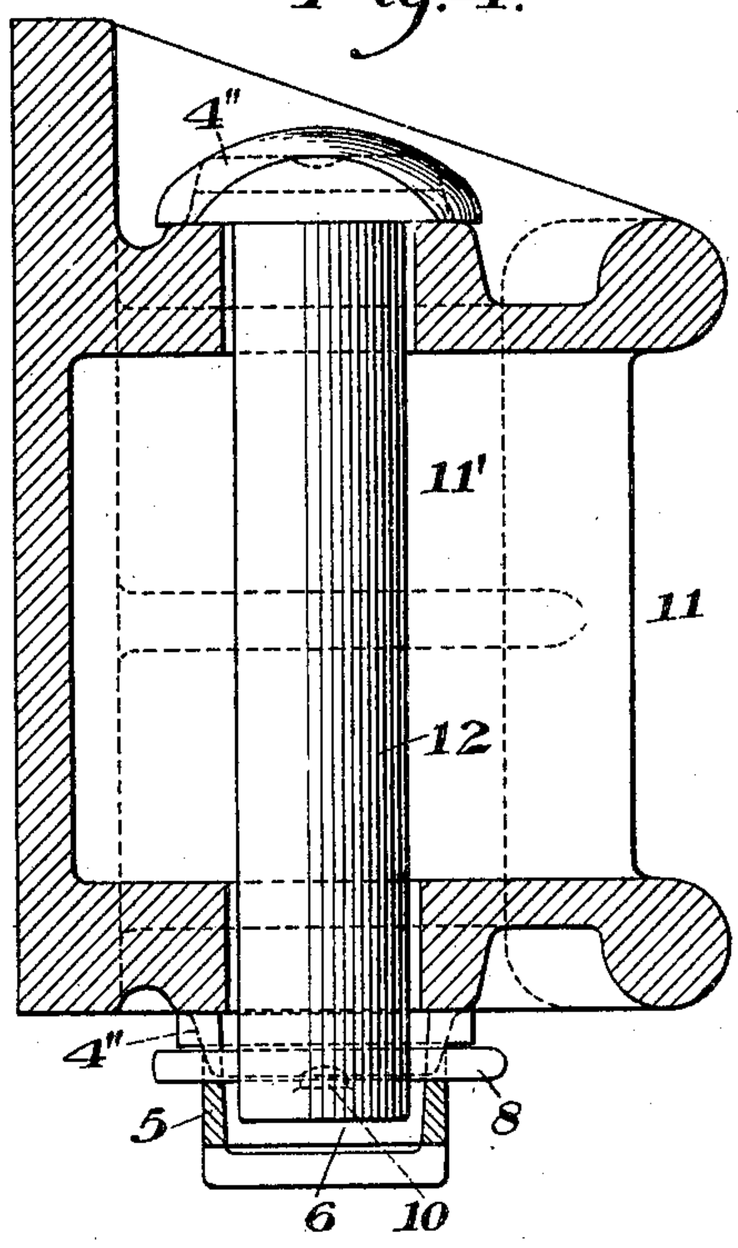
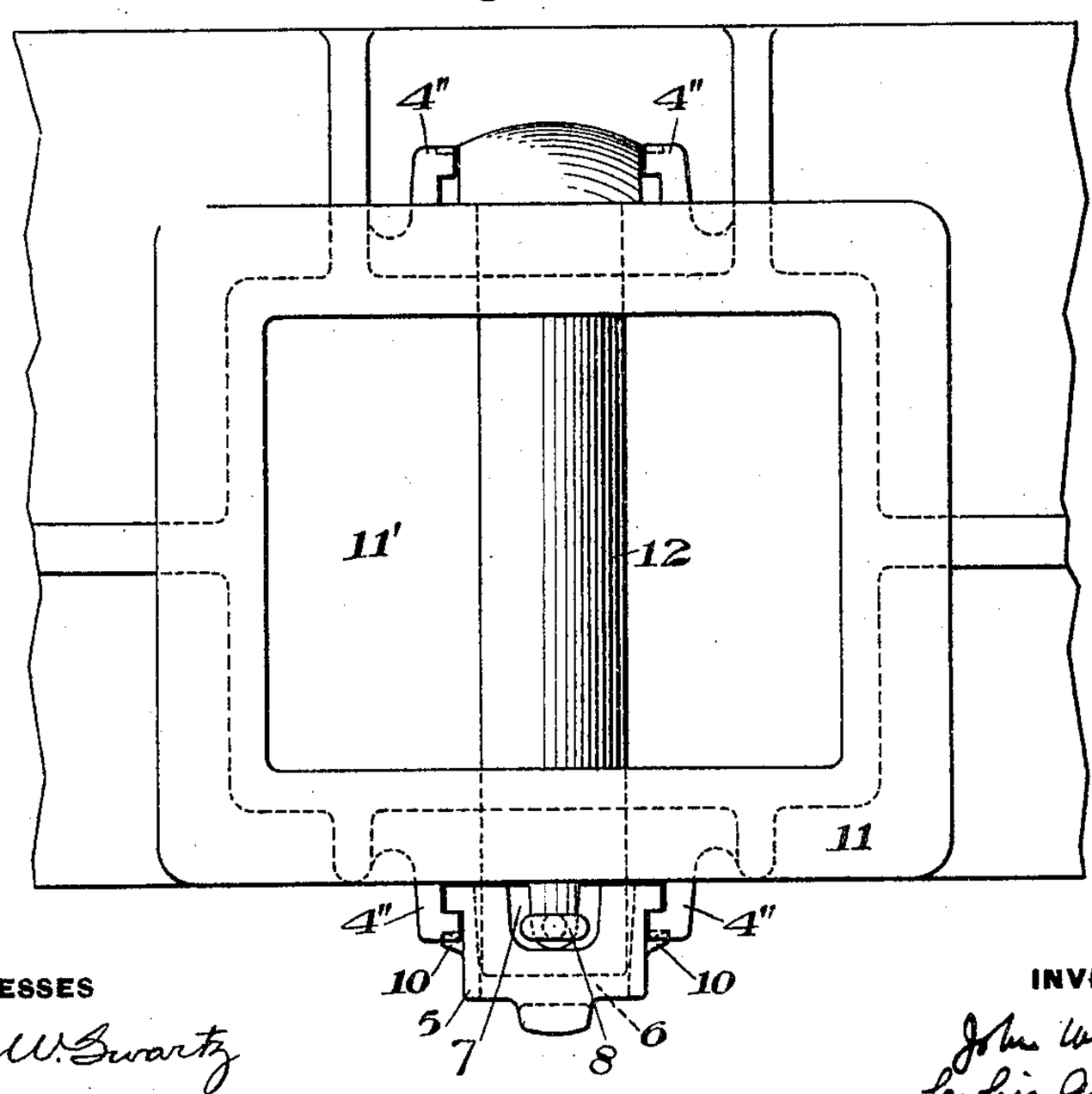


Fig. 5.



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3 SHEETS—SHEET 3.

Fig. 6.

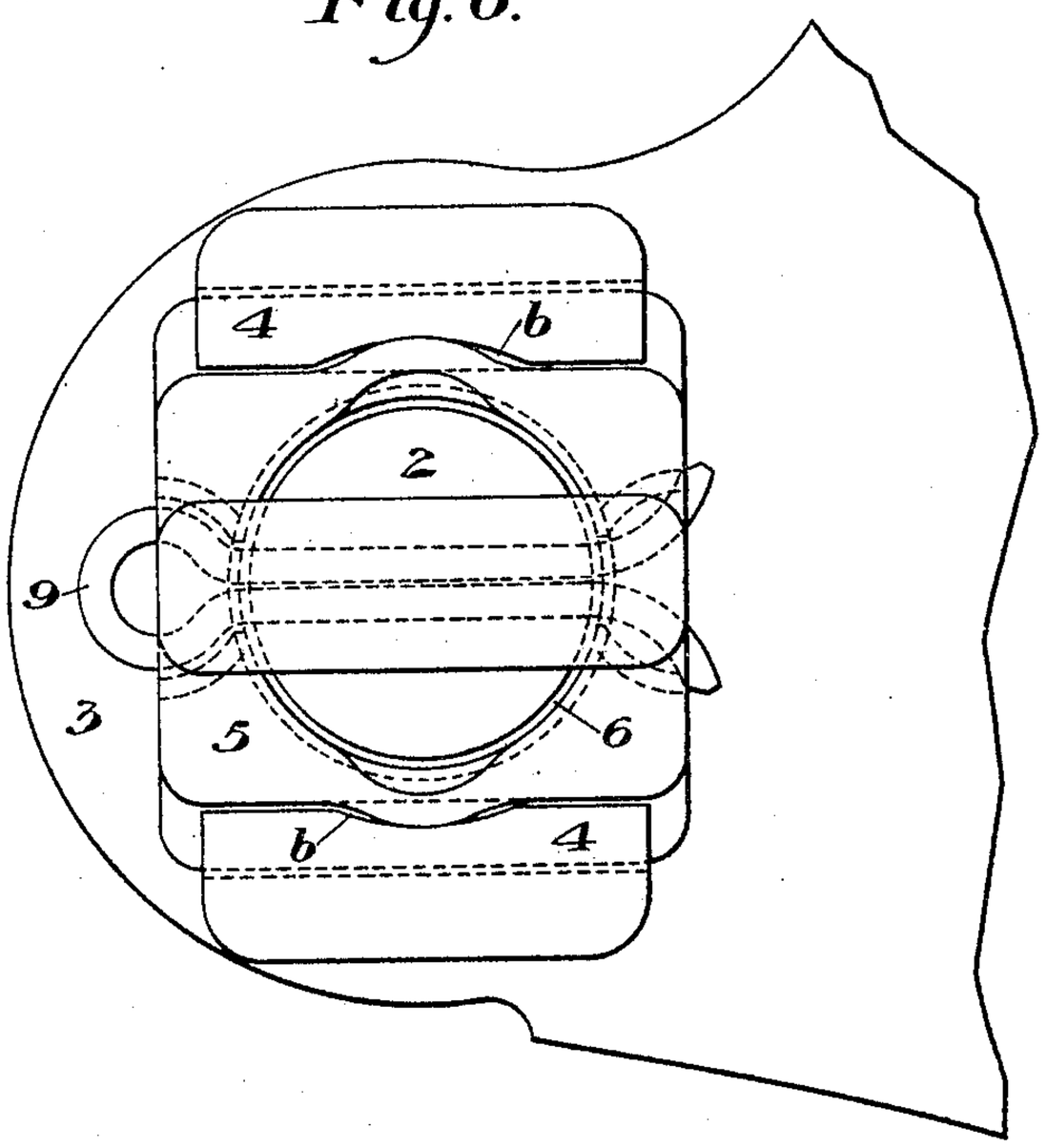
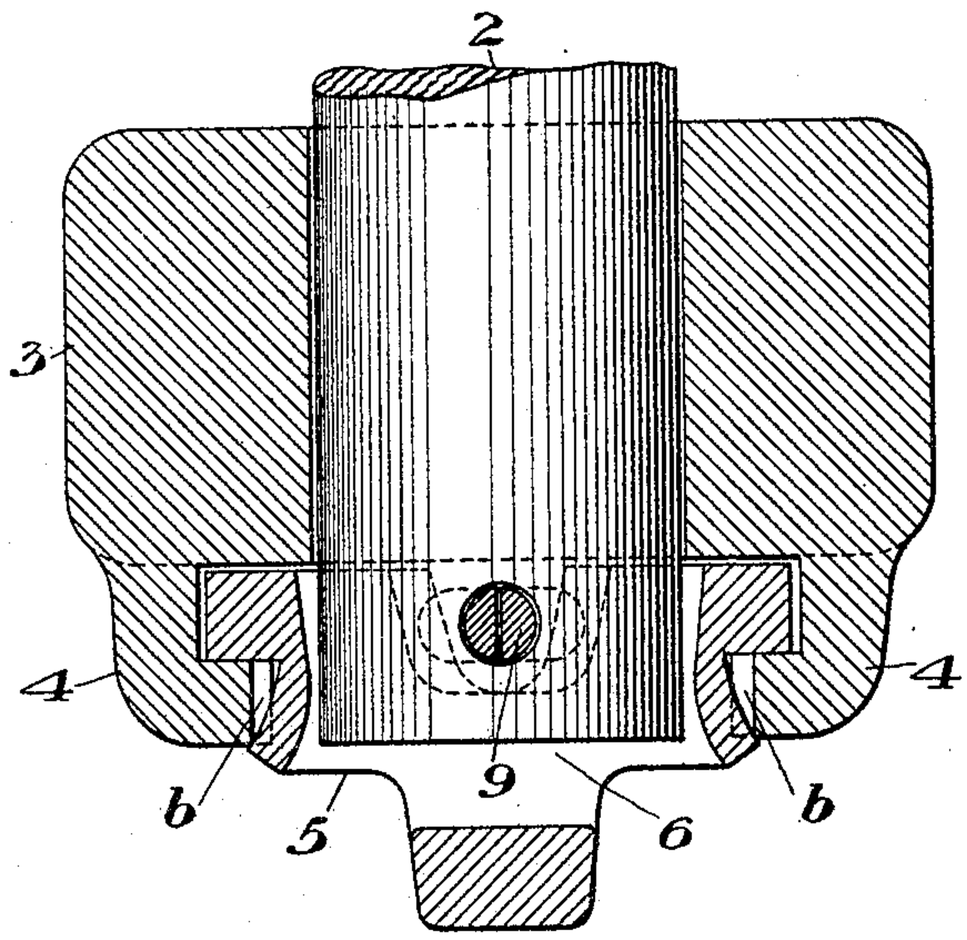


Fig. 7.



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DEVICE FOR SUPPORTING PIVOT-PINS.

No. 804,289. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed May 22, 1905. Serial No. 261,515.

To all whom it may concern:

Be it known that I, JOHN WILLISON, of Derby, Derby county, England, have invented a new and useful Device for Supporting Pivot-Pins, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows in bottom plan view a portion of a coupler-head provided with my mechanism for upholding the pin. Fig. 2 is a vertical section on the line II II of Fig. 1. Fig. 2ª is a perspective view of the foot-piece. Fig. 3 is a plan view showing the application of my invention to the pivot-pin used in the pocket of a locomotive-coupler. Fig. 4 is a sectional view on line IV IV of Fig. 3. Fig. 5 is a front view, and Figs. 6 and 7 show a modified construction of the foot-piece.

The purpose of my invention is to provide for upholding the pivot-pin of a coupler or coupler-knuckle in place, so that even if the pin should break its lower part cannot drop out of the pin-hole, and thus put the entire strain of draft upon the upper wall of the coupler-pocket or the upper lug of the coupler-head. For this purpose, as shown in Figs. 1 and 2, I employ a pin 2, which may be constructed without a head and is preferably of uniform diameter throughout and of such length that when set in the coupler its upper end will be flush with the top of the coupler-head. Adjacent to the pin-hole in the lower ear 3 of the coupler-head and on opposite sides thereof are downwardly-extending lugs 4 4, having inwardly-extending projections forming a socket or recess adapted to receive and hold a foot-piece 5. This foot-piece has a cavity 6, adapted to register with the pin-hole in the ear of the coupler-head and to form a pocket for the reception of the end of the pivot-pin, and has lateral openings 7, which afford a passage for a cotter-pin 8 into a hole 9 in the pin, and the foot-piece has also bottom openings 7′, which permit the escape of water and dirt and provide means for the insertion of a tool to drive the pin up from below. The projections of the lugs 4 have on their under surface recesses adapted to receive lips 10 at the sides of the foot-piece 5. The foot-piece is placed in position above the projections 4′ at the under side of the lower ear of the coupler and is held from being laterally removed not only by engagement with the pivot-pin, but also by forcing up the lips 10 into the recesses in the projections of the lugs 4, the lips being malleable, so that they can be bent up in this manner. The pivot-pin 2 may then be introduced and held from upward movement by the cotter-pin 8. When thus introduced, the foot-piece 5 will uphold the pivot-pin even if it should break, and the foot-piece itself cannot be removed accidentally because of the engagement of the portions 10 and 4.

In Figs. 6 and 7 I show a modified construction of the foot-piece, in which for the purpose of holding the foot-piece in place I form recesses *b b* on opposing faces of the lugs 4. When the foot-piece is set in place between the lugs, the metal of the foot-piece is forced outwardly into the recesses. This prevents accidental removal of the foot-piece.

In Figs. 3, 4, and 5 I show a modified construction of my invention, in which it is applied to the pocket or hollow casting ordinarily employed for holding the couplings of locomotives. 11 is the pocket, which may be of the usual form, having a cavity 11′ for receiving the shank of the coupler-head, and 12 is the pin by which the shank of the coupler-head is pivotally connected to the pocket. I cast on the pocket, preferably at both the top and bottom thereof, lugs 4″ 4″, which may be the same in construction as the lugs 4 in Figs. 1 and 2, and I apply to the bottom of the pocket a foot-piece 5, which is held as above described and which constitutes means for supporting the pivot-pin in case it should break. While I prefer to form the lugs 4″ 4″ both at the top and the bottom of the pocket, it will be understood that they may be formed on one side only. The advantage of forming them at both places is that it renders the pocket reversible, and, furthermore, if the lower lugs are used for the foot-piece to uphold the pin the pin may be provided with a head flattened on both sides like the pocket-pins now in use and the head will fit between the lugs and will keep the pin from turning.

The advantage which I derive from making the foot-piece separate from the coupler head or pocket, as above described, is that it is easier to cast a separate foot-piece and coupler-head than to cast them in an integral piece and after the coupler-head has been cast there

is no obstacle to the forcing of a drift through the pin-hole from one end to the other.

Within the scope of my invention as defined in the claims the parts may be modified in various ways, since

What I claim is—

1. Means for upholding a pivot-pin, comprising a supporting foot-piece made separate from the bearing of the pin and attached thereto, said foot-piece having a recess for the pin and being locked in position by engagement with the pin; substantially as described.

2. Means for upholding a pivot-pin, comprising a foot-piece made separate from the bearing of the pin, said foot-piece being locked in position by engagement with the pin, and the pin being of uniform diameter throughout its length; substantially as described.

3. Means for upholding a pivot-pin, comprising a foot-piece made separate from the bearing of the pin and attached thereto at opposite sides of the pin-hole, said foot-piece having a recess for the pin; substantially as described.

4. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin having a recess adapted to receive a foot-piece, a foot-piece adapted to be locked in the recess by bending of a projection; substantially as described.

5. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin, a foot-piece made separate from said bearing and adapted to be inserted laterally into a recess thereof and having a passage for a cotter-pin registering with a passage in the pivot-pin; substantially as described.

6. Means for upholding a pivot-pin, comprising in combination with the bearing for the pin, a foot-piece having a recess for the pin, lugs on the bearing affording on opposite sides of the pin-hole means for upholding the foot-piece, and means for fixing the foot-piece thereto; substantially as described.

7. A coupler device having at one end of the pivot-pin hole a lug to hold the pivot-pin from turning, said device being reversible and the lug being then adapted to hold a supporting-piece for the pin; substantially as described.

8. A reversible coupler device having at each end of the pivot-pin hole corresponding lugs, the upper lug being adapted to hold the pivot-pin from turning, and the lower lug being adapted to hold a supporting-piece for the pin, the lugs being interchangeable in function when said device is reversed; substantially as described.

In testimony whereof I have hereunto set my hand.

JOHN WILLISON.

Witnesses:

HENRY F. POPE,

HARRY E. ORR.