(No Model.)

A. L. CRANDALL.

THILL COUPLING.

No. 602,307. Patented Apr. 12, 1898.

Fig. 1.

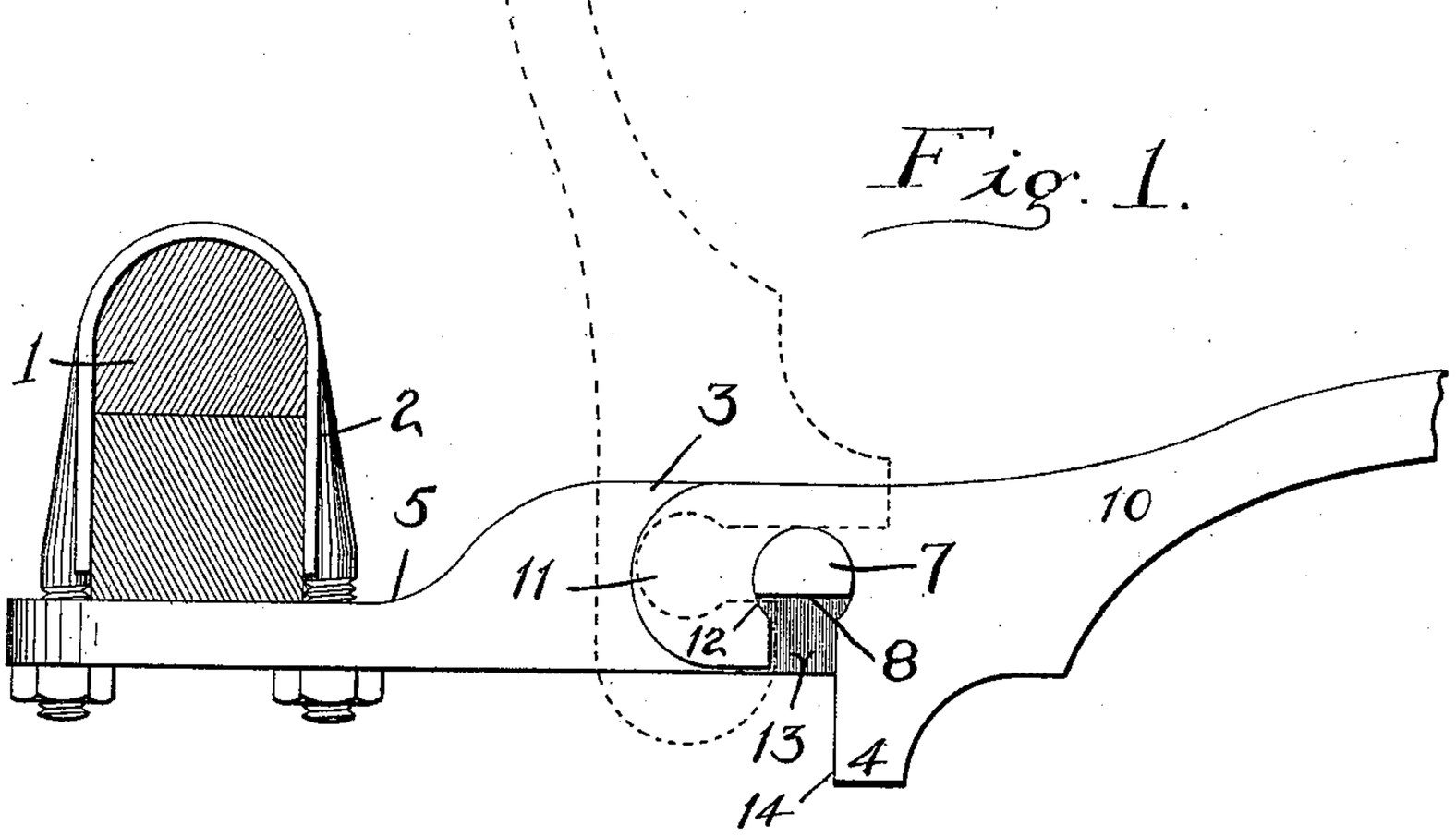


Fig. 2.

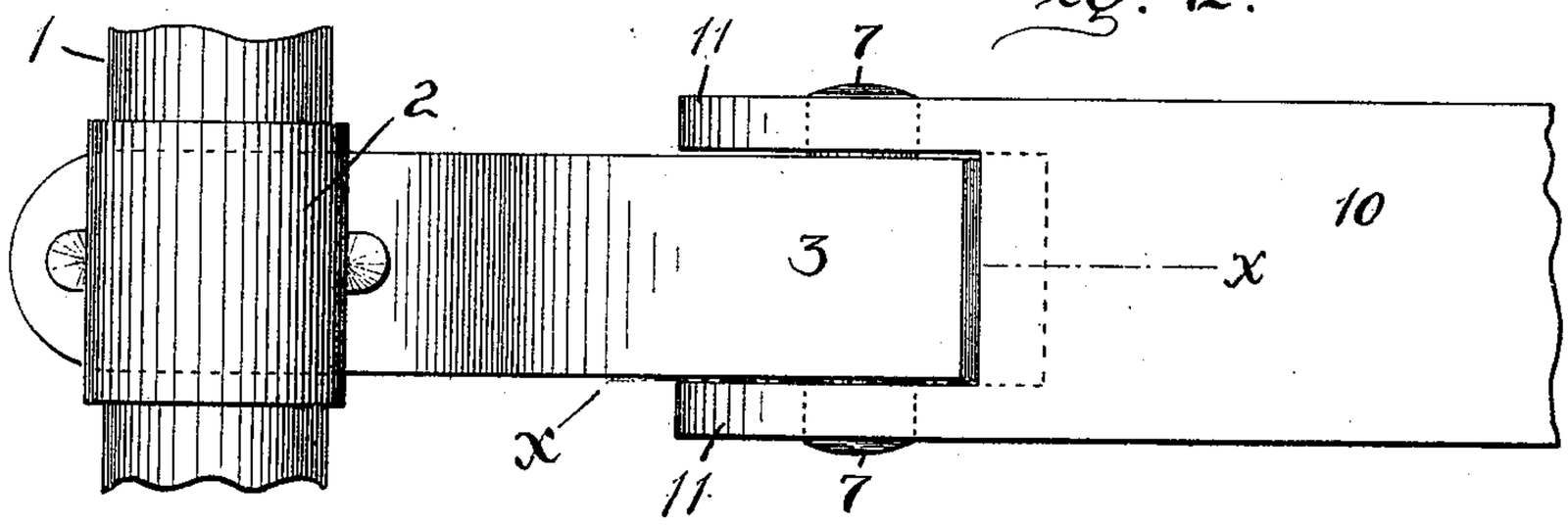
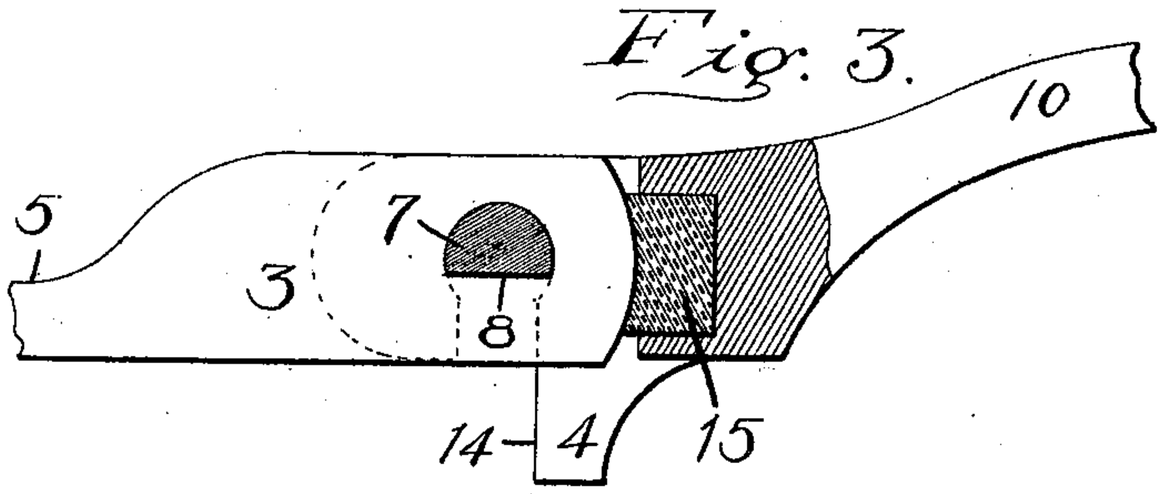


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT L. CRANDALL, OF ROCHESTER, NEW YORK, ASSIGNOR TO JESSE S. LEE, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 602,307, dated April 12, 1898.

Application filed April 21, 1897. Serial No. 633,168. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. CRANDALL, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention has for its object to provide a convenient means for attaching the shafts or thills to vehicles in a manner whereby they shall be perfectly secure and free from rattling when in normal position and may be easily connected or disconnected when the thills are moved into an abnormal position; and it consists in certain improvements hereinafter described, the novel features being pointed out particularly in the claims at the end of this specification.

In the drawings, Figure 1 is an elevation of my thill-coupling, showing the parts in the normal position; Fig. 2, a plan view of the same; Fig. 3, a sectional view on the line *x x* of Fig. 2.

Similar reference-numerals in the several figures indicate similar parts.

1 represents the axle, and 2 an attaching-clip, which latter is of the usual or any preferred construction adapted for securing one member of the coupling to the axle. For simplicity in construction I prefer to make one of the members of the coupling flat on its upper side, as at 5, so that it may be held against the lower side of the axle by the nuts on the clip and form the washer or bearing-plate, and this part between the attaching end and axle is of such form that the end may be bent either up or down to suit thills of different styles without materially weakening the connection.

7 indicates segmental lugs formed upon the supporting member 3, having their lower sides flattened at 8 for the purpose hereinafter described.

The end of the thill-iron 10 is bifurcated, as shown, and the two parallel arms 11 11 are adapted to extend upon either side of the member 3 and engage with the lugs 7, being provided with circular apertures 12, corresponding to the greater diameter of the lugs 7, and the slots 13, corresponding to the shorter diameter of said lugs, whereby the thills may be disconnected when turned into a vertical position and moved backward, as shown in dotted lines, Fig. 1. An extension or foot 4 is formed upon the under side of each of the arms 11, with its face 14 in line with the forward edge of the slot or opening and projecting a short distance below the lower side of the arm. If desired, one of these extensions 4 could be dispensed with; but I prefer to use two. By this construction the connecting of the parts is greatly facilitated. The operator is enabled to rest the thills while in a vertical position, with the faces of the lugs 4 upon the pivot-lugs 7, then move the thills forward and turn them downward, and the difficulty of centering both sides of the shaft is avoided.

A block of rubber or other elastic material, as 15, is secured in a recess or pocket in the thill-iron, with its outer face extending beyond the edge of the pocket, whereby it is compressed by the end of the member 3 and the parts held firmly together and prevented from rattling when in normal position.

The operation of the device will be readily understood. The thills are held in a vertical position, with the projections or feet 4 resting upon the upper side of the lugs 7, as shown in dotted lines, Fig. 1. Then the operator draws the thills forward, engaging the circular apertures 12 with the said lugs, when he may turn the thills down into normal position, or that shown in full lines, and the parts will become locked.

The construction described is not only simple and cheap, but the bearings for the thills are open only on the under side, thereby preventing the lodgment of mud and the entrance of dust and dirt, which would grind the parts and loosen them. However, any lost motion will be taken up by the rubber spring and the parts prevented from rattling.

I claim as my invention—

1. In a thill-coupling the combination of the member 3 having the laterally-extending segmental lugs 7 on the sides thereof, with upper portions rounded to afford bearings and their lower sides flattened at 8, and the coöperating member 10 provided with the projecting arms

11 adapted to extend upon opposite sides of the member 3, and having the circular apertures to engage the pins, open on the lower sides, said openings being narrower than the greatest widths of the lugs; substantially as described.

2. In a thill-coupling, the combination with the member 3 having the portion 5 for engaging the axle and the segmental lugs 7 with the rounded upper sides to afford bearings and the cut-away portion 8 upon their lower sides, of the member 10 having the projecting arms 11 adapted to extend on opposite sides of the member 3, said arms having the circular apertures to engage the lugs, and slots or openings 13 extending from the lower sides of said apertures, the clip 2 for attaching the member 3 to the axle and the spring, as 15, arranged between the members.

3. In a thill-coupling the combination with the member 3 having the laterally-extending segmental lugs 7 on opposite sides with their upper surfaces rounded to afford bearings and their lower sides flattened, of the member 10 having the projecting arms 11 adapted to extend on opposite sides of the member 3, said arms having the circular apertures to engage the lugs and slots or openings 13 extending from the lower sides of the arms and a foot 4 on the member 10, formed with its face in line with the forward edge of the slot and projecting below the lugs 7 when the parts are engaged, and a spring as 15, interposed between the two members and held in one of them; substantially as described.

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