J. HOFSTETTER.

THILL COUPLING.

APPLICATION FILED AUG. 26, 1909.

974,792.

Patented Nov. 8, 1910.

Fig. 1

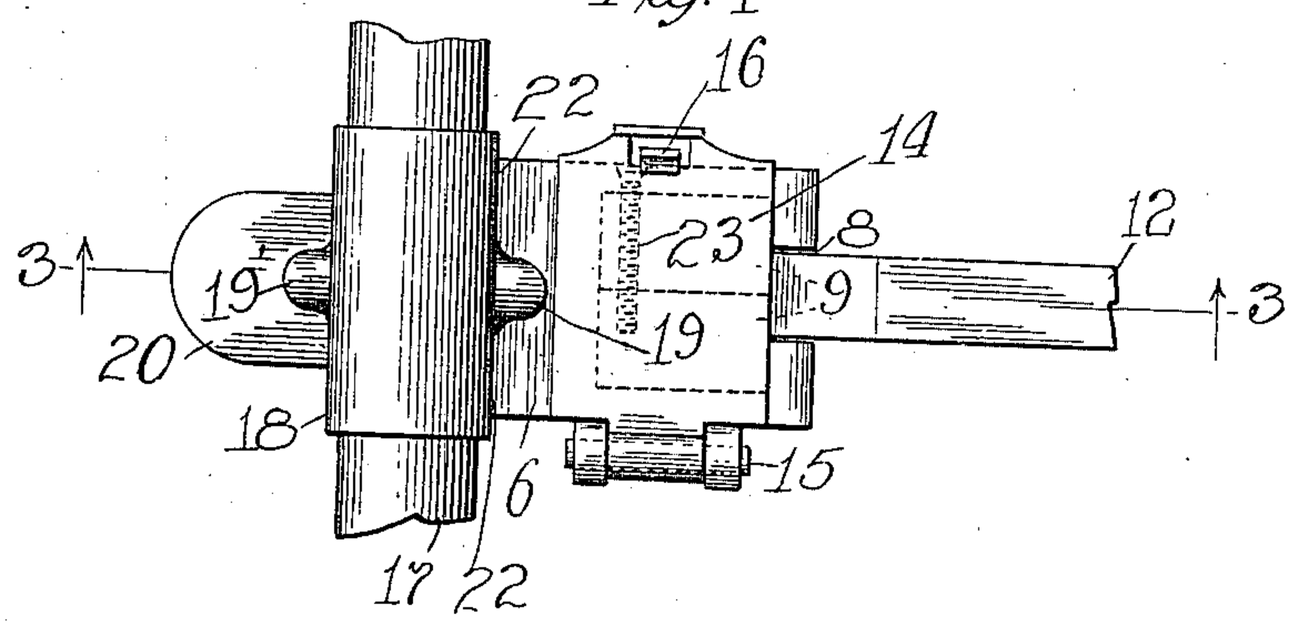


Fig. 2

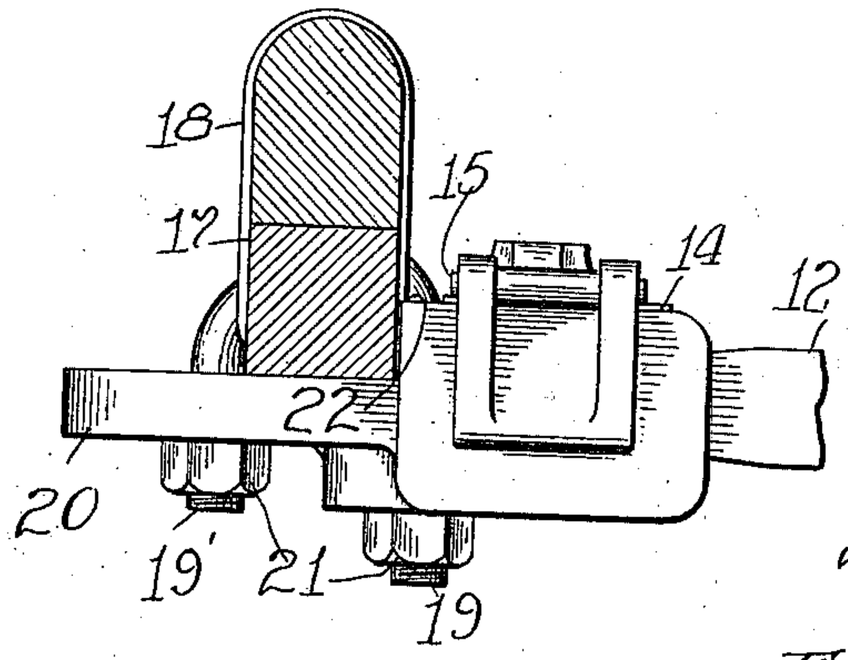


Fig. 3

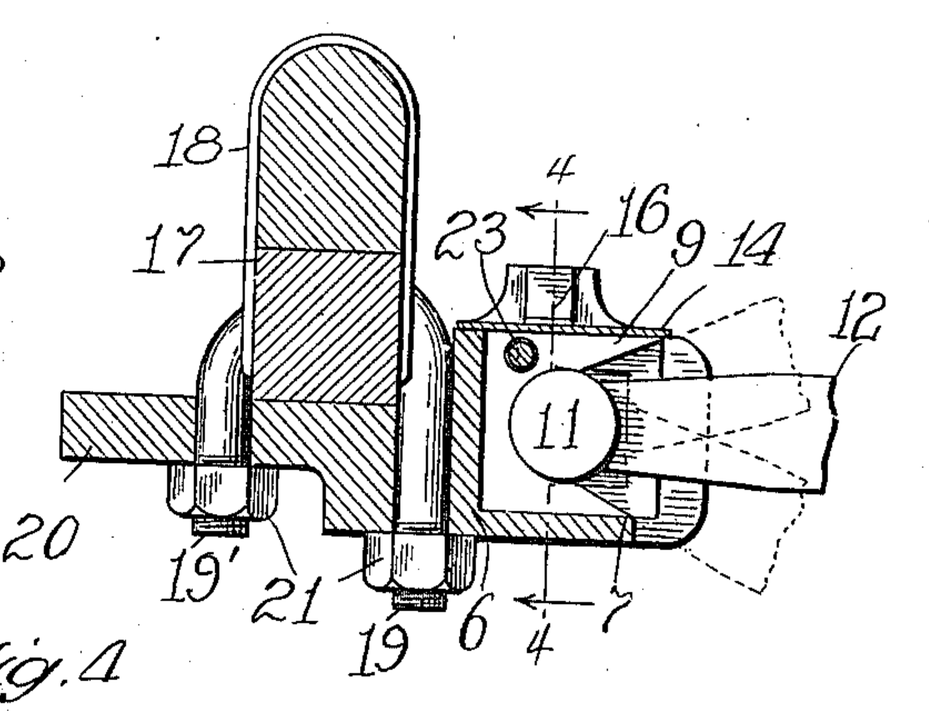


Fig. 4

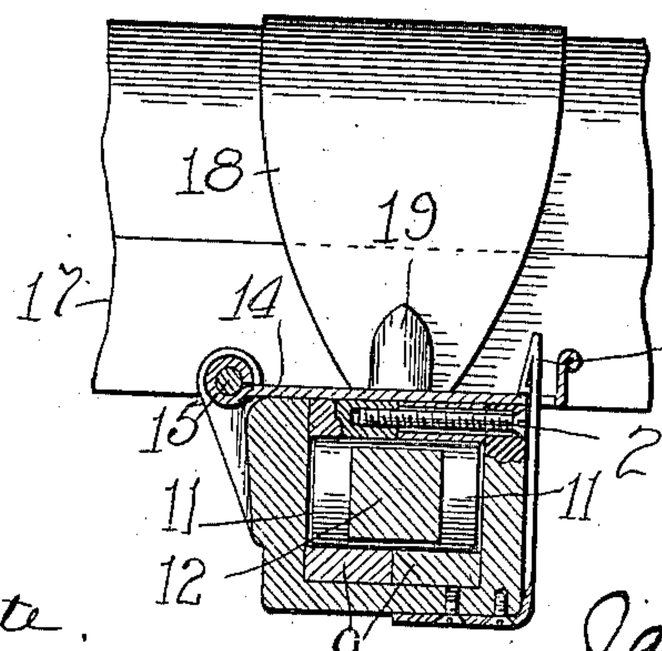
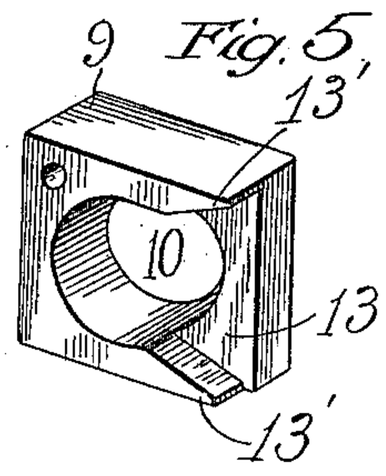


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JACOB HOFSTETTER, OF EVANSTON, ILLINOIS.

THILL-COUPLING.

974,792. Specification of Letters Patent. Patented Nov. 8, 1910.

Application filed August 26, 1909. Serial No. 514,678.

To all whom it may concern:

Be it known that I, JACOB HOFSTETTER, of the city of Evanston, county of Cook, State of Illinois, United States of America, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to improvements in thill couplings and its object is to provide a coupling of simple but strong and substantial construction, which will permit the thill to be easily and quickly removed and replaced.

A further object is to reduce the wear of parts and provide for a free movement of the thill in the coupling.

In the accompanying drawings Figure 1 is a top plan view of the invention. Fig. 2 is a side elevation, showing the axle in section. Fig. 3 is a sectional view on line 3—3 of Fig. 1. Fig. 4 is a sectional view on line 4—4 of Fig. 3. Fig. 5 is a detail view of one of the bearing blocks.

Referring to the drawings, 6 designates the coupling member which is secured to the axle. This member is in the form of a box or housing which has a socket 7 open at the top and is provided with a slot 8 in its front wall.

Two bearing blocks 9 are seated in the socket 7 and these blocks have circular openings 10 to receive trunnions 11 on the draw iron 12 and recesses 13 in front of said openings to accommodate the draw iron. The top and bottom walls 13′ of the recesses are inclined to permit a wide range of movement for the thill. The bearing blocks are snugly but removably fitted in the socket and they take all the wear of the thill and can be replaced as required. A latch 14 is hinged at 15 on the box and it engages a spring finger 16 which locks the latch against the blocks to hold them in place.

The box is made fast to the axle 17 by a clip 18, the bolt arms 19, 19′, of which pass downward through an integral rearward extension 20 on the box and are secured by nuts 21. The axle has a firm and rigid bearing against shoulders 22 on the rear wall of the box (Fig. 1).

My invention is simple in construction, inexpensive to manufacture, and strong, substantial and durable. It permits the thill to swing freely in a vertical direction and locks the thill securely and substantially against sidewise movement. The bearing blocks take all the wear of the thill on the coupling and the novel construction and arrangement of parts reduces this wear to a minimum.

The box or housing and its extension and also the bearing blocks are preferably made of malleable iron; the draw iron and its pintles of soft steel, and the clip and its bolts are usually made in one piece by drop forging. The diameter of the axle varies, and therefore I prefer in casting the box or housing to provide an opening or seat for the forward bolt arm 19, only, the aperture for the rear bolt arm 19′ being drilled when the coupling is applied, thus enabling it to be adapted to axles of varying diameter. This rearward extension is made long enough so that considerable variation is permitted. This extension being made integral with the box or housing affords a rigid abutment for the nuts and a firm bearing for the coupling upon the axle.

I prefer that the pair of bearing blocks shall snugly fit the interior of the box or housing and that the trunnions shall be of such length as to closely contact the side walls of the box or housing, thus preventing any play which would cause wear or movement to produce rattling.

It will be obvious that the draft and thrust being usually in a horizontal plane and the bearing blocks fitting snugly in the box or housing there is no tendency for the bearing blocks to work up, and therefore the hinged cover plate may be of thin material since it is not subjected to strain. The cover plate is employed to prevent accidental displacement of the bearing blocks, as for example, when the cross-bar of the thill is struck a blow by a kicking horse, and it also serves to prevent the entrance of dust and moisture through the top of the housing.

To prevent the separation and loss of the parts a binding screw 23 may pass through one of the bearing blocks and be tapped into the other.

While I have described with particularity the various features of my improvement as combined in a single structure, it will be obvious that my invention is not limited to precise structural details, nor to the employment of all of said novel features in a single structure, since some of said features are

capable of independent use and also of being used with other elements of different specific form.

What I claim and desire to secure by Letters Patent is:

1. In a thill coupling, the combination of a draw-iron having trunnions, a box or housing adapted to be secured to an axle, a pair of bearing blocks seated in and filling the box and provided on their inner faces with openings for receiving the trunnions on said draw-iron, and binding means for drawing together said blocks in a direction parallel to the axis of said trunnions and at a right angle with the axis of the draw-iron, substantially as described.

2. In a thill coupling, the combination of a draw-iron having trunnions, a box or housing adapted to be secured to an axle, a pair of bearing blocks seated in and filling the box and provided on their inner faces with openings for receiving the trunnions on said draw-iron, and a binding screw passing through said blocks and adapted to draw the same together in a direction parallel to the axis of said trunnions and at a right angle with the axis of the draw-iron, substantially as described.

JACOB HOFSTETTER.

Witnesses:
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