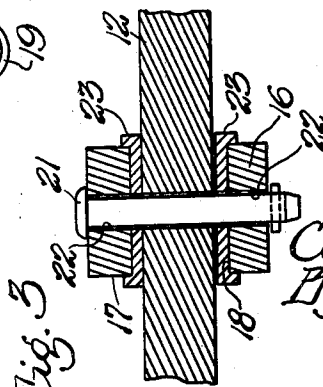
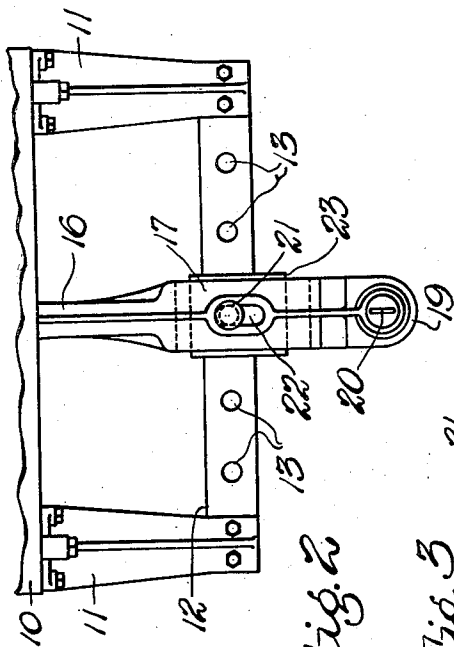
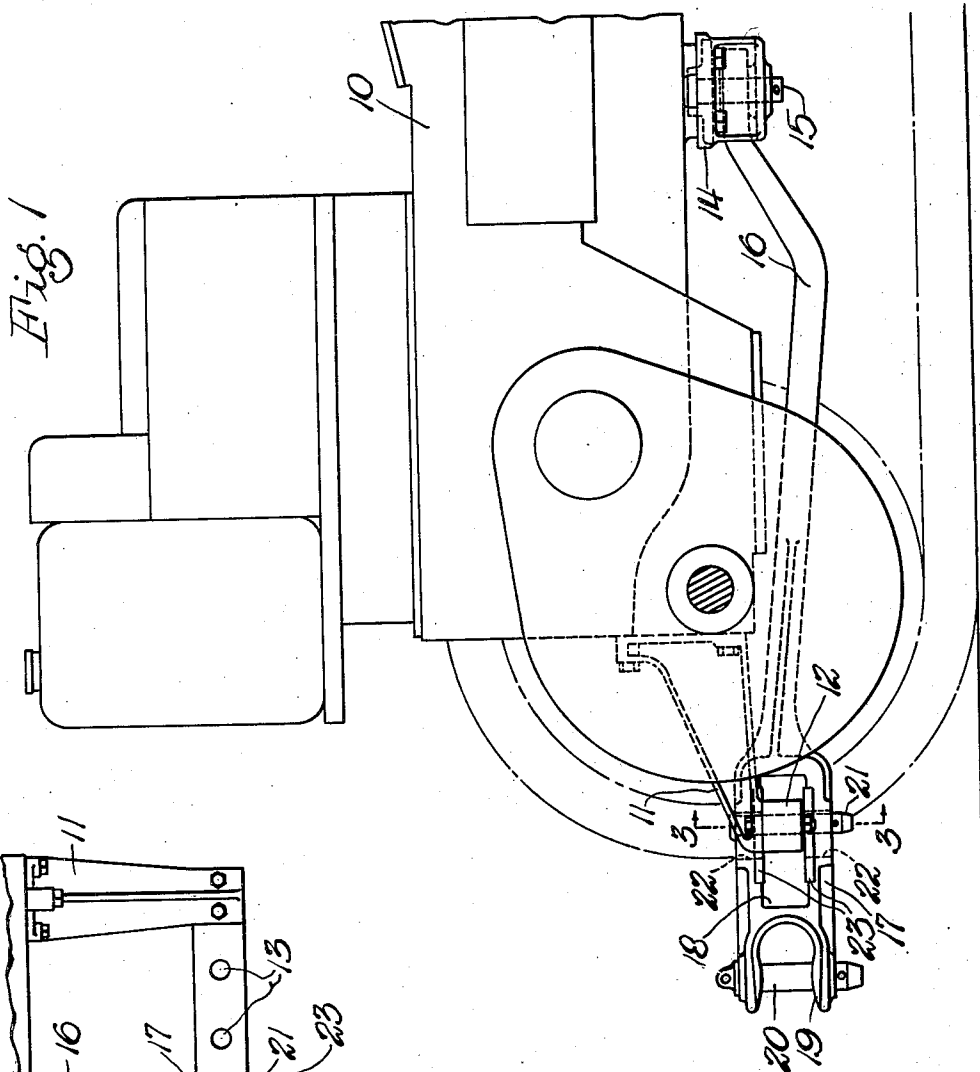


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DRAWBAR STRUCTURE

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DRAWBAR STRUCTURE

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2 Claims. (Cl. 280—33.10)

This invention relates to a draw-bar structure for use with tractors and the like.

In tractor constructions the rear end of the body is usually provided with a rearwardly extending bracket structure serving to mount a transverse draw-bar guide. Pivoted underneath the body of the tractor at a point forwardly of this guide is arranged a draw-bar which extends rearwardly, and adjacent its rear end, is formed suitably to be mounted and guided on said rearwardly disposed guide. As the draw-bar is shifted to various positions left or right on said guide, it is found that considerable wear occurs on the draw-bar at the point where it rubs on the guide. Eventually, the draw-bar wears to such an extent that it can no longer be effectively used and it becomes necessary to replace the draw-bar. This is relatively expensive and it is highly desirable, therefore, that some means be provided whereby the draw-bar will not wear under the conditions above described and whereby the expense of replacing the draw-bar will become unnecessary.

The main object of the invention, therefore, is to provide an improved draw-bar structure including means whereby the draw-bar will not require replacement due to wear caused by its rubbing engagement with the draw-bar guide.

Another object is to provide a simple form of replaceable wear plate means adapted to be associated with the draw-bar and the draw-bar guide in such a manner that the wear which occurs will be on the wear plates and not on the draw-bar or its guide.

Another object is generally to improve draw-bar structures so that the life thereof will be materially enhanced.

Other objects will become apparent to those skilled in this art as the disclosure is more fully made.

For the sake of illustration, a tractor of the crawler type will be shown in the drawing, although it is to be understood that the draw-bar structure of this invention is capable of use with other forms of tractors without departing from the teaching of this invention.

In the sheet of drawings:

Figure 1 is a general side elevational view of the rear end of a crawler tractor with the crawler track nearest the observer removed for the sake of exposing the draw-bar construction to view;

Figure 2 is a plan view of the draw-bar structure per se; and,

Figure 3 is a cross sectional view through the draw-bar, the guide and the wear plates taken

along the line 3—3 of Figure 1, looking in the direction indicated by the arrows.

The tractor has a body 10, the rear end only of which is shown, the rear face of said body carrying at each side a draw-bar guide bracket 11, which brackets extend rearwardly and at their ends rigidly carry a transverse horizontal guide plate 12 formed at intervals with holes 13.

The under side of the body 10, at a point considerably forwardly of the rear end of the body, carries a bracket structure 14 for mounting a vertical pivot pin 15 to which is pivotally connected for horizontal swinging movement a rearwardly extending draw-bar 16. Said draw-bar extends rearwardly underneath the body 10 and at its rear end is enlarged and bifurcated, as at 17, to provide a large transverse, elongated, opening 18, embracing the guide plate 12. In other words, the guide plate 12 passes through this opening 18 so that the draw-bar 16, as it is swung left or right, will be guided by said guide plate 12. The rear end of the draw-bar 16, behind said opening 18, is formed with a clevis 19 including a clevis pin 20. A draw-bar stop pin 21 is passed vertically through a fore and aft elongated opening 22 extending downwardly through the enlarged portion 17 and through an opening 13 in the guide to hold the draw-bar 16 in a position of adjustment on the guide plate 12.

As the bar 16 is swung left or right along the plate 12 to change its position of adjustment upon removal of the pin 21, considerable wear takes place on the enlarged part 17 of the draw-bar where it contacts the guide plate 12 and eventually the bar 16 at the point mentioned becomes worn to such an extent that it must be replaced, and, as this is a relatively expensive part of the tractor, it is desirable that means be provided whereby such replacement will be eliminated. Accordingly, the improved structure of this invention is provided to solve this problem.

Within said opening 18, above the guide plate 12 and below said guide plate 12, are provided a pair of oppositely disposed channel-shaped wear plates 23 made of relatively hard metal with the channel of each piece 23 extending in such a direction as to embrace the respective upper and lower portions of the part 17 of the draw-bar 16. Thus, the respective faces of the channel-shaped wear plates 23 where they engage the guide plate 12 are smooth and may be polished so that free movement of the assembled structure of the draw-bar portion 17 with the plates 23 along the guide plate 12, may be effected. It is to be noted that each of the plates 23 is apertured to

receive the stop pin 21 for the purpose of holding this assembly together in a selected position when the swinging type of draw-bar above described is not to be used. When the pin 21 is not used the wear plates 23 may move fore and aft relative to the draw-bar 16 within the opening 18 as the bar 16 swings to and fro, the plates 23 being longer than the guide member 12 is wide to keep a maximum bearing surface contact of the plates 23 on the member 12.

It can be seen that if any wear takes place between the draw-bar structure and the guide plate 12, such wear will be taken by the plates 23 and guide plate 12, thereby saving the draw-bar 16 itself from wear and thus avoiding the necessity for its replacement. In the event that the plates 23 become worn to such an extent that they no longer serve to hold the assembly properly together, they can very easily be replaced in an obvious manner at relatively small expense. It can, therefore, be seen that a very desirable improvement has been provided for draw-bars for the purpose of increasing the life thereof.

It is the intention to cover all changes and modifications of the example of the invention illustrated for purposes of the disclosure which do not in material respects depart from the spirit and scope of the invention which is hereinafter claimed.

What is claimed is:

1. In a tractor, the combination of a supported transverse draw-bar guide member, a draw-bar pivotally mounted at its front end, the rear portion of said draw-bar having a transversely arranged guide opening for receiving said guide member and being elongated in a fore and aft di-

rection to permit free lateral pivotal movement of said draw-bar, wear plates respectively disposed above and below said draw-bar and being longitudinally movable in said guide opening and slidably engaging said draw-bar and said guide member to maintain maximum bearing surface contact throughout the range of lateral movement of said draw-bar, said wear plates and said draw-bar having cooperating engaging portions to prevent undue lateral displacement therebetween.

2. In a tractor, the combination of a supported transverse draw-bar guide member, a draw-bar pivotally mounted at its front end, the rear portion of said draw-bar having a transversely arranged guide opening for receiving said guide member and being elongated in a fore and aft direction to permit free lateral pivotal movement of said draw-bar, wear plates respectively disposed above and below said draw-bar and being longitudinally movable in said guide opening and slidably engaging said draw-bar and said guide member to maintain maximum bearing surface contact throughout the range of lateral movement of said draw-bar, said wear plates and said draw-bar having cooperating engaging portions to prevent undue lateral displacement therebetween, said guide member being formed with a series of spaced holes, said wear plates and draw-bar having registerable elongated slots, and releasable means adapted to be passed through the slots in the wear plates and draw-bar and a hole in the guide member to lock said parts with the draw-bar in a selected position with respect to the guide member.

CLIFFORD R. ROGERS.