

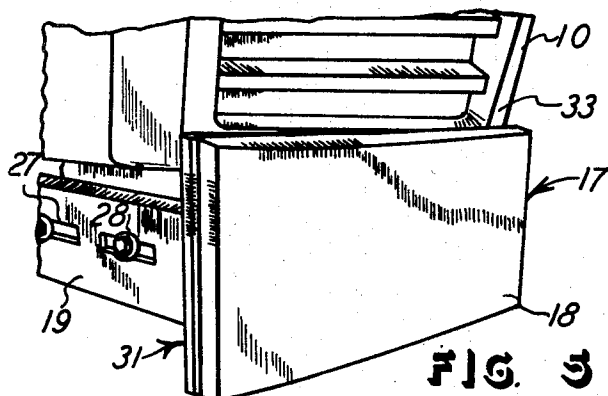
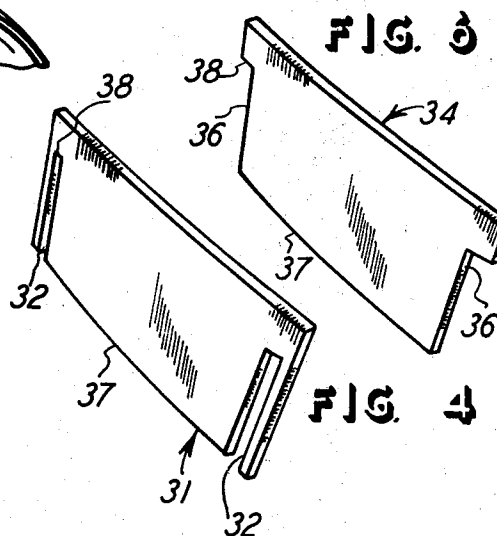
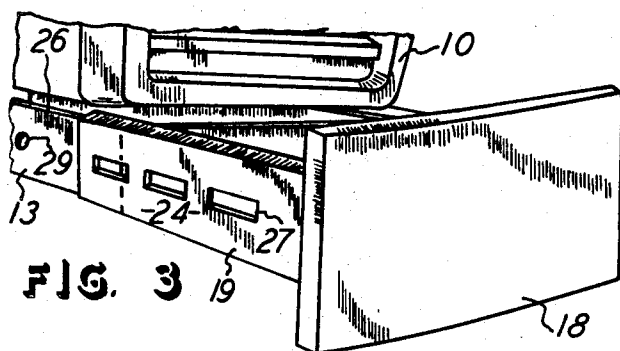
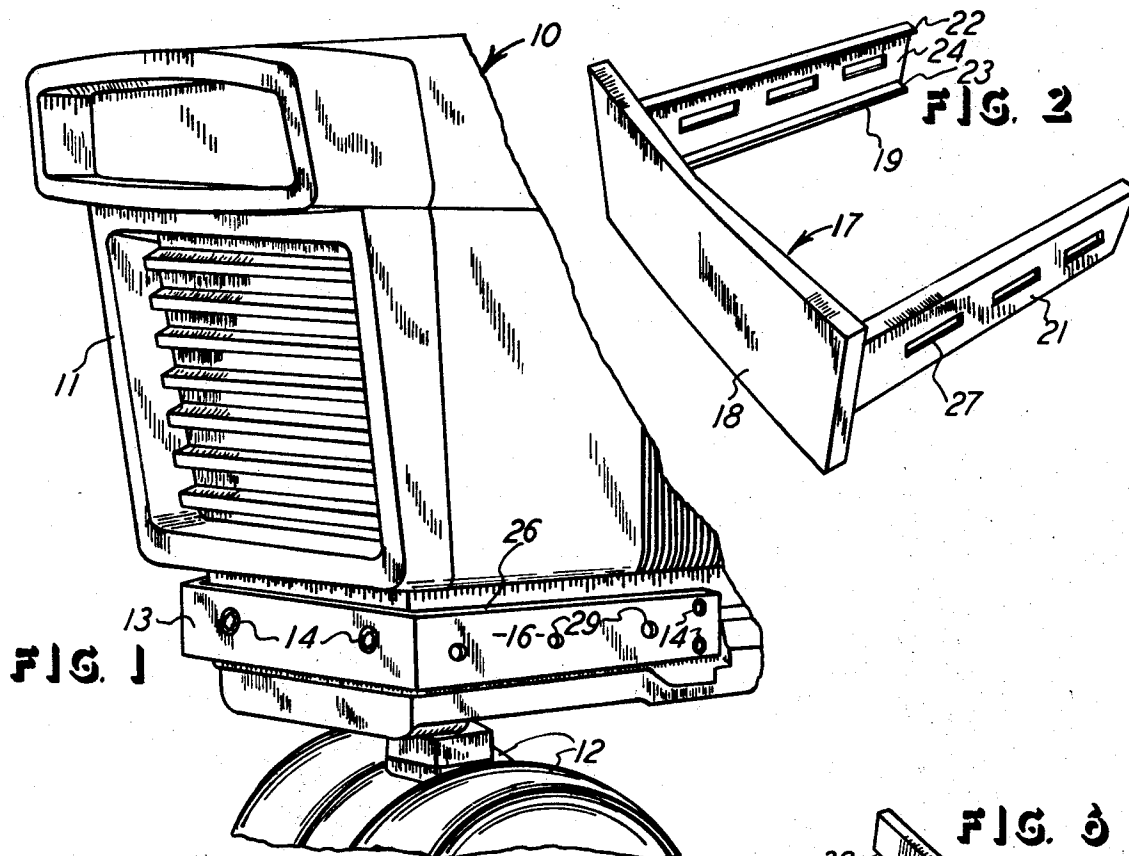
June 30, 1970

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3,517,941

COUNTER-WEIGHT ATTACHMENT FOR A TRACTOR

Filed Sept. 17, 1968



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COUNTER-WEIGHT ATTACHMENT FOR A TRACTOR

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Filed Sept. 17, 1968, Ser. No. 760,331

Int. Cl. B60r 27/00

U.S. Cl. 280—150

3 Claims

ABSTRACT OF THE DISCLOSURE

A counter-weight attachment for a tractor and including a support member for receiving one or more weights at the front end of the tractor. Attachment means exist between the support member and the tractor, and the means renders the support member movable in the fore-and-aft direction of the tractor in accordance with the number of weights held by the support member.

This invention relates to a counter-weight attachment for a tractor. The prior art contains many tractor counter-weight structures which permit a variable number of counter-weights to be placed onto the tractor. Further, these prior art structures are arranged so that the weights are placed immediately adjacent the front ends of the tractors and extend forwardly thereof, depending upon the number of weights positioned on the tractor. Therefore, all of the weights on the tractor are close to the tractor and are generally in abutment with each other as they are arranged in line at the front of the tractor.

However, the support means and the means for attaching the weights are usually relatively complicated both in structure and in the requirements for selectively positioning the various number of weights on the tractor. That is, the support and attachment means commonly include the provision of staggered holes in adjacent weights, and then a plurality of bolts extend through the holes for separately attaching each weight to its adjacent weight. This arrangement requires a specific order of positioning the weights, it requires complex weight shapes, it requires a number of bolts which must be available and then retained for future use when the bolts are not all being used, and it requires time and involvement to remove and to add the weights relative to the tractor.

To avoid at least some of the aforementioned problems attending the prior structures, other prior structures do have provision for a simplified support means and also a simplified shape of weights for readily positioning and removing the weights with respect to the support means. However, in this type of prior structure, the support member generally projects forwardly of the tractor for a fixed distance, and then when one weight is used it is not snugly held by the support member which is commonly set for receiving a greater number of weights. Further, the support member is projecting too far forwardly of the tractor and therefore interferes with the full use of the tractor, and it is a safety hazard. Still further, in order to properly counter-balance the tractor by using weights, the weights must be positioned in specified locations on the tractor, and the weights should not be therefore free to move on their support member.

Accordingly, it is a general object of this invention to provide an improved counter-weight attachment for a tractor, and to overcome the aforementioned problems.

More specifically, it is the object of this invention to provide the counter-weight attachment for a tractor, and with the support member for the weights being movable in the fore-and-aft direction of the tractor so that, regardless of the number of weights on the tractor, all of the weights will be snugly supported and held on the

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tractor. In accomplishing this object, it is also significant that the support member is readily and easily adjustable relative to the tractor, it provides a safe but sturdy support for the weights, it presents only a minimal projection forwardly of the tractor so that it does not interfere with full use of the tractor nor does it obscure the operator's view at the front of the tractor, and the weights are arranged for easy installation and removal relative to the support member.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of the front of a tractor with a portion of this attachment shown.

FIG. 2 is a front perspective view of another portion of this attachment.

FIG. 3 is a front perspective view of a fragment of the tractor and with the attachment mounted thereon.

FIG. 4 is a perspective view of one of the weights.

FIG. 5 is a front perspective view of a fragment of a tractor and with the attachment and weight mounted thereon.

FIG. 6 is a perspective view of another embodiment of a weight useful with this attachment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A tractor, generally designated 10, has a front end 11 and front wheels 12 which engage the ground for supporting tractor 10. A U-shaped member 13 is affixed to the tractor front end 11 by means of screws 14 extending into the tractor 10. The piece 13 is shown to be U-shaped, and it has opposite sides 16 extending along the sides of the tractor 10, and these sides 16 present a track to be described later.

FIGS. 2 and 3 show a support member generally designated 17 and including a front piece 18 and two legs or side pieces 19 and 21. Thus the piece 17 is U-shaped in a plan view when mounted on the tractor, as shown in FIGS. 3 and 5. The side pieces 19 and 21 are adjacent the pieces 16, and the pieces 19 and 21 are shown to be channel pieces which snugly receive the pieces 16 which therefore provide the track for the member 17. Thus the pieces 19 and 21 both have an upper horizontal channel portion 22, a lower horizontal channel portion 23, and an intermediate vertical channel portion 24. The portions 22 and 23 are therefore snugly in sliding contact with the upper and lower surfaces, respectively, of the member 16, such as the upper surface 26 of the member 16.

The pieces 19 and 21 have a plurality of slotted openings 27 extending therethrough, and these openings receive screws 28, as shown in FIG. 5. Also, the pieces 16 have holes 29 which receive the screws 28, and thus the screws 28 are anchored with respect to the tractor, and the screws 28 can be loosened and tightened relative to the tractor and relative to the support member 17. Because of the elongation of the openings or slots 27, and with the elongation being in the fore-and-aft direction of the tractor 10, the support member 17 can be adjustably slid or positioned along the fore-and-aft axis of the tractor 10 and relative thereto. That is, loosening of the screws 28 will permit the sliding of the support member 17 in the fore-and-aft direction of the tractor 10. Also, it will be understood that since there are three openings 29 in each of the two pieces 16, and since there are three slots 27 in each of the pieces 19 and 21, these openings 29 and slots 27 will align in pairs thereof and therefore three screws 28 can be used on each of the pieces 16 on each side of the tractor. Then the support member can be adjusted to the limit of the length of the slots 27. However, if additional adjustment is desired, such as extending the support member 17 to a position

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further forwardly of the tractor 10, then the screws 28 can be removed and the two rearwardly located slots on each of the pieces 19 and 21 can be aligned with the two forwardly located openings 29 on the pieces 16, and their respective screws 28 can be replaced for securing the support member 17 to the tractor.

FIG. 5 shows the support member 17 in a retracted position on the tractor 10, and one weight 31 is mounted on the support member 17. The weight 31 is also shown in FIG. 4, and it has slots 32 on each end of the weight 31 for straddling or receiving the legs or pieces 19 and 21, respectively, of the support member 17. This therefore permits easy installation and removal of the weight 31 relative to the support member 17, and no special attaching means, no special and complicated weight configurations, are required, but the weight is secure with the tractor 10 since the support member 17 is slid rearwardly toward the tractor 10 to snugly hold the weight 31 between the support member front piece 18 and the tractor front surface 33.

FIG. 6 shows another form of a weight, and here a weight 34 is shown and it has notches 36 in opposite ends of the weight. These notches 36 receive the inside portions of the support member legs 19 and 21. Thus, in the weights 31 and 34, the continuous portions of the lower edges 37 of these weights is of a length slightly less than the spacing between the support member legs 19 and 21. Then, the weights have downwardly faced shoulders or surfaces 38 which rest on the portions 22 of the support member 17. Also, the length and height of the support member front piece 18 is the same as the maximum length and height of both of the weights 31 and 34, so the piece 18 is co-extensive with the weights and completely supports the front face of the front weight and substantially conceals the weight for acceptable appearance purposes as well as holding the weight in a secure position.

Therefore, the support member 17 presents a front section 18 which is commonly spaced from the tractor front end, and the support member legs 19 and 21 span the space for attaching to the tractor. Also, the weights 31 or 34 are positioned in the space between the member 18 and the front of the tractor. The screws 28 present attaching means when they extend through the slots 27 and the holes 29, and the release of the attaching means permits the fore-and-aft positioning of the support member 17 to vary the amount of space between the piece 18 and the tractor front end. In this arrangement, the fact that the pieces 19 and 21 are channel shaped, they can therefore be snug with respect to the track pieces 16 so that the entire support of the weights placed on the support member 17 will not be carried by the screws 28.

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This leaves the screws 28 easily releasable for the adjustments mentioned. Also, the threads on the screws 28 will not be damaged since they are not in contact with the adjacent surfaces of the attachment means described herein.

What is claimed is:

1. A counter-weight attachment for a tractor, comprising a U-shaped weight support having spaced-apart legs and a section connected between said legs, said legs being spaced apart a constant distance throughout their lengths, tracks attachable to said tractor, said legs being channels nested with said tracks and said legs being slidable on said tracks for spacing said section relative to said tractor and for movement of said section toward and away from said tractor, attaching means on said support and said tracks for releasably securing said support in selected positions on said tracks for the selective spacing of said section relative to said tractor, weights removably positioned on said support and having a width similar to the spacing between said legs for extending the distance between said legs, said weights having downwardly faced shoulders spaced apart a distance the same as the spacing between said legs for resting said weights on said legs, and said weights being of an overall size the same as that of said section.

2. The subject matter of claim 1, wherein said attaching means includes slots extending in the direction of the lengths of said legs and being disposed in plurality for each one of said legs, and said attaching means includes screws extending into said slots, all for selective spacing of said section from said tractor to snugly hold different pluralities of said weights on said support.

3. The subject matter of claim 2, wherein said tracks and said channels are arranged with said channels facing each other and being nested over said tracks on the sides of the latter away from the facing of said channels, and said channels including upper and lower surfaces in abutment with said tracks for upward suspension of said support on said tracks.

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