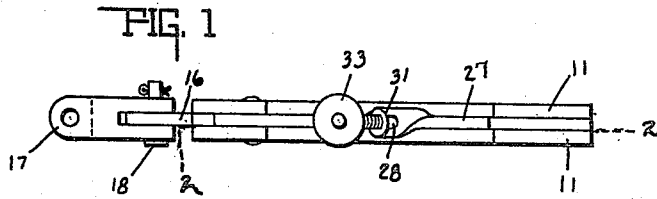
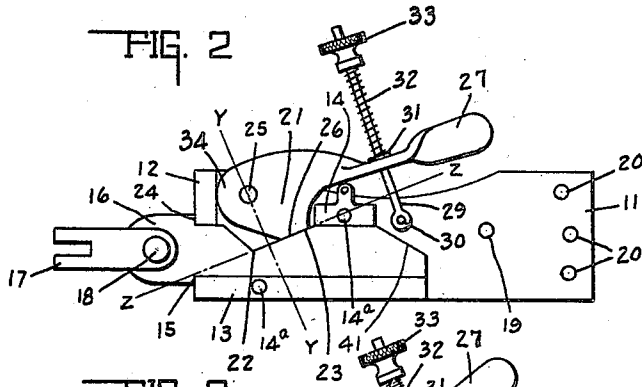
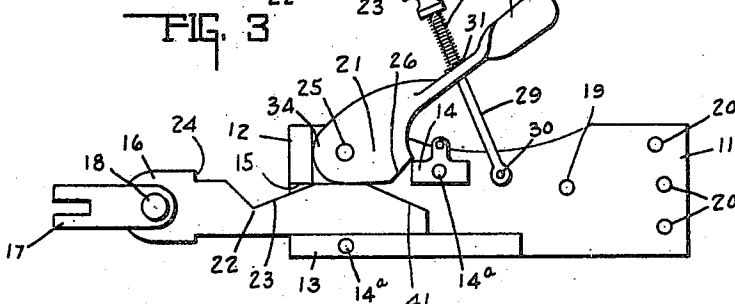
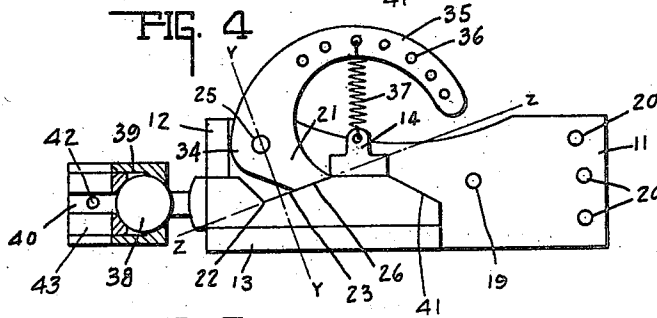
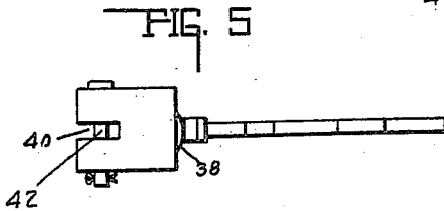


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ATTACHMENT FOR TRACTOR PLOWS.
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1,410,486.

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ATTACHMENT FOR TRACTOR PLOWS.

1,410,486.

Specification of Letters Patent. Patented Mar. 21, 1922.

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To all whom it may concern:

Be it known that I, GRANDVILLE W. H. LEE, a citizen of the United States, and a resident of Columbus, county of Bartholomew, and State of Indiana, have invented a certain new and useful Attachment for Tractor Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide an improved attachment for plows and the like which are drawn by tractors, or other suitable means, and wherein the same is provided with a sliding and a yielding connection which may be readily connected and disconnected.

Another feature of the invention is in making the yielding connection adjustable with respect to the forces applied which are necessary to disconnect the sliding connection.

A further feature of the invention is the arrangement of means on the attachment whereby plows or the like may be adjustably secured to the attachment for plowing or cultivating the ground to the desired depth.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Fig. 1 is a top plan view of the attachment. Fig. 2 is a cross sectional view of the same taken on the line 2-2 of Fig. 1 and shows the yielding connection in the connected position. Fig. 3 is a view similar to Fig. 2, but shows the parts in disconnected position. Fig. 4 is a view similar to Fig. 2 showing a modified form of the yielding and locking means, the parts being in the same relative position as those shown in Fig. 2. Fig. 4 also shows in section a modified form of the clevis. Fig. 5 is a plan view of the same.

In the drawings 11 indicates a pair of similar side plates, the same being spaced apart, preferably in parallel relation, by the spacing and guide blocks 12, 13 and 14, the same being secured to one or both of said plates in any suitable manner. The parallel plates may be secured together in any preferred manner, that herein shown being the bolts 14^a, the same extending through spacing blocks as well as the side plates. The spacing blocks 12 and 13 provide an opening

15 in which may be inserted the novel and improved drawbar 16, the same carrying a clevis 17 pivotally mounted thereon at 18. Upon the opposite end of the assembled structure there are provided a plurality of holes 19 and 20, the holes 20 being positioned with respect to the hole 19, so that a plow or the like may be adjustably secured between the side plates by bolts or the like extending through the desired openings.

The improved and yielding connection comprises the improved drawbar 16, a locking lever 21 and suitable tension means engaging the locking lever. Herein the guide plates 13, 12 and 14 provide a slot wherein the drawbar may be inserted. The drawbar is herein shown provided with a notch 22 having an inclined face 23. The drawbar is also provided with a shoulder portion 24, which limits the inward movement of the drawbar when the same is inserted in the slot 15.

The locking lever 21 is pivoted at 25 to the frame. Herein the lever is shown provided with a cam face 26, the same engaging the cam face 23 of the drawbar to hold the drawbar in the slot. The locking lever 21 has an outwardly and rearwardly extending handle portion 27, the same having an opening 28 provided therein. A rod 29, pivotally supported by the frame at 30, extends upwardly and through the opening 28. A washer 31 is positioned on said rod adjacent the arm 27 of the locking lever and provides a seat for one end of a spring 32 also carried by the rod, the other end being adjustably secured thereon by a finger nut 33, whereby the compression of said spring may be adjusted. When the nut is screwed down upon the rod the force exerted by the spring upon the lever arm of the locking lever is greater than when the nut is at the end of said rod. It will be noted that the slot 28 in the arm of the locking lever is of such shape that the rod extends loosely through the same at all times. The locking lever is also provided with a substantially arcuate portion 34, the same being continuous with the locking portion 26.

To insert the drawbar 16 into the slot 15, the arm 27 of the locking lever is raised upwardly compressing the spring member 32 until the drawbar is in the position within the frame, as shown in Fig. 2. The arm 27 is thereupon released and the locking lever, under the influence of the spring 32, rotates

until the cam face 26 of the lever engages or contacts the inclined face 23 of the drawbar.

Herein the line Y—Y is a perpendicular
5 dropped from the pivotal center of the locking lever to the inclined face 23 of the drawbar, line Z—Z indicating the slope of said face. It will be noted that the intersection of said line will fall without the arcuate or
10 the cam face portions of the locking lever.

When the plow or similar instrument attached to the frame encounters an obstruction, the tractor or other pulling means exerts a force upon the drawbar to carry the
15 plow through the obstruction. Should the obstruction be greater than the pull applied, the face 23 cams the lever through the cam face 26 and rotates the same to the position shown in Fig. 3, whereupon
20 the drawbar is pulled from the slot 15. The cam face 26 is shown as the yielding lock member. The amount of force necessary to rotate or rock the locking lever from the locking to unlocked position, shown respectively in Figs. 2 and 3, may be varied by
25 varying the compression in the spring member 32 by means of the nut 33, as previously described. When the drawbar has been removed from the slot, the locking lever returns to locking position under the influence
30 of the spring 32. The spacing guide block 14, however, limits the downward movement of the locking lever so that the arm 27 may be readily grasped to raise the lever as described. The drawbar is herein provided
35 with an inclined face 41 upon the rearward end. The drawbar after being inserted in the slot 15 may be forced into said slot and into the locking position by backing the tractor or the like, the inclined face
40 41 engaging the locking lever 21 substantially at the junction of the continuous arcuate and cam faces 34 and 26 respectively. The locking lever is thus raised to the position
45 shown in Fig. 3 and returns to the locking position, as shown in Fig. 2, when the drawbar has been inserted sufficiently, whereupon the cam face 26 will engage the inclined face 23 of the drawbar.

50 In Fig. 4 there is shown a modified form of locking lever. With this form of lever the rod and nut is omitted. The locking lever is herein shown provided with an arcuately and rearwardly extending portion 35. This rearwardly extending portion is provided
55 with a plurality of holes 36. To the spacing block 14 is secured one end of a

tension spring 37, the other end being secured in any one of the holes 36. It will be noted that the operation of the attachment is the same as previously described, the forces being the same, and in this instance the adjustment may be varied by securing the spring nut in the suitable hole 36.

60 In Figs. 4 and 5 there is shown a ball and socket clevis, the ball being indicated by 38, the socket member by 39 and the clevis portion 40 being formed in the opposite end of the socket 39. The clevis pin 42 is here shown securing the ball retaining
65 member 43 within and to the socket member 39.

The invention has been described in great detail and it is to be understood that the same is not to be limited thereby as many
70 modifications thereof will suggest themselves to those skilled in the art and will come within the scope of this invention.

The invention claimed is:

1. A coupling device including a pair of
80 plates, spacing means interposed therebetween, a drawbar slidable between said plates, and a locking lever pivotally mounted between said plates and yieldingly locking said drawbar within the same, said spacing
85 means limiting the rotation of said locking lever when the drawbar has been removed from the plates.

2. A coupling device including a pair of
90 plates, spacing means interposed therebetween, a draw bar slidable between said plates, a locking lever pivotally mounted between said plates and yieldingly locking said draw bar within the same, an arm extending from said lever, said spacing means
95 limiting the movement of the arm and the lever in one direction, and yielding means limiting the movement of the arm in the opposite direction.

3. A coupling device including a pair of
100 plates, spacing means interposed therebetween, a draw bar slidable between said plates, a locking lever pivotally mounted between said plates and yieldingly locking said draw bar within the same, an arm extending from said lever, said spacing means
105 limiting the movement of the arm and the lever in one direction, and adjustable yielding means limiting the movement of the arm in the opposite direction.

110 In witness whereof, I have hereunto affixed my signature.

GRANDVILLE W. H. LEE.