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TRACTOR HITCH

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2 Sheets-Sheet 1

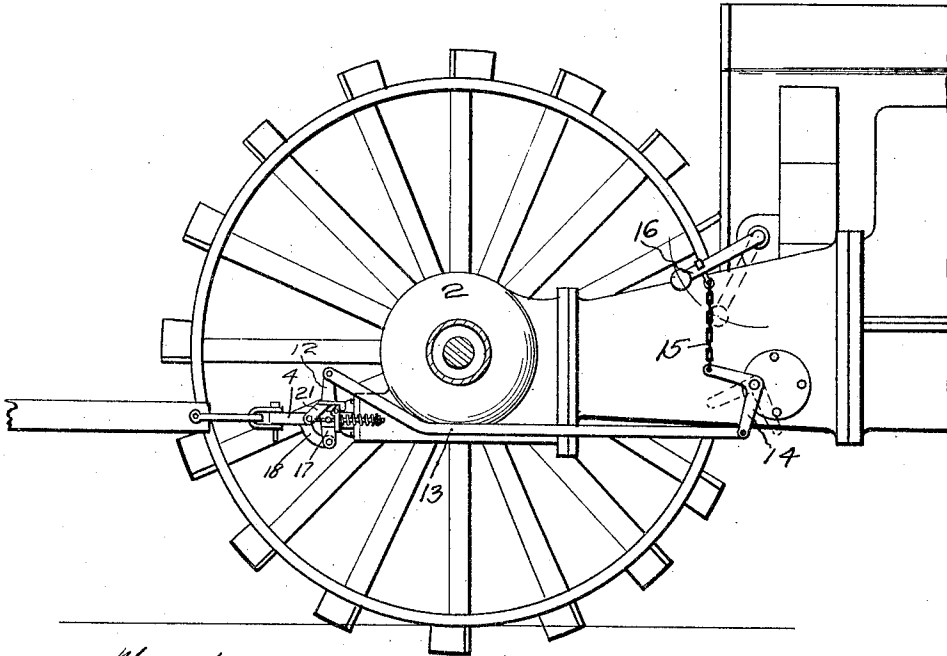


Fig. 1.

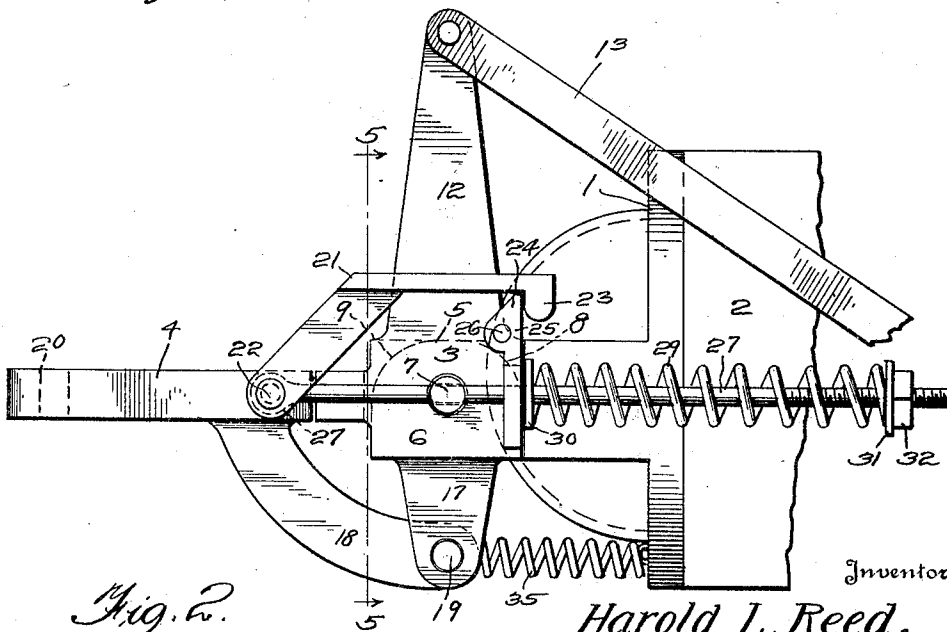


Fig. 2.

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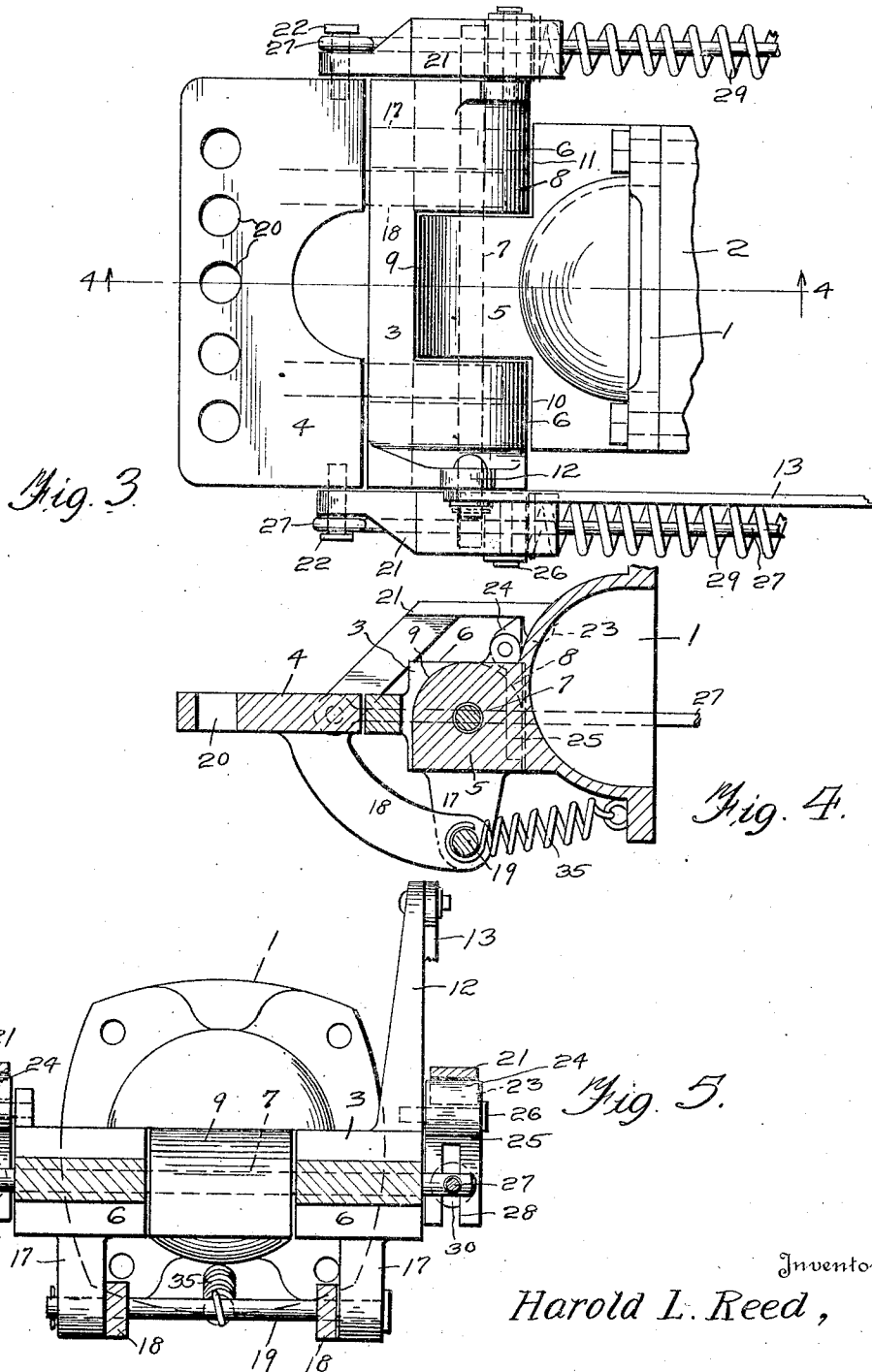
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TRACTOR HITCH.

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The object of the invention is to provide a device of the character above mentioned which enables the hitching of a tractor to a load to be moved in such a way that in the event of an excessive strain tending to cause the tractor to rear, as is common, the clutch of the tractor will be immediately released and automatically restored to operative position on the removal of the obstruction or backing up of the tractor. It is a further purpose to provide means for automatically disconnecting the tractor clutch in the event of the latter's rearing from causes other than an excessive load or obstruction to the movement of the latter.

With these objects in view the invention consists in a construction and combination of parts of which a preferred embodiment is shown in the accompanying drawings, wherein:—

Figure 1 is a side elevational view showing the application of the invention and illustrating so much of a tractor as is necessary to a complete understanding of the operation of the device.

Figure 2 is an enlarged elevational view of the invention.

Figure 3 is a top plan view.

Figure 4 is a central vertical sectional view on the line 2—2 of Figure 3.

Figure 5 is a sectional view taken on the line 5—5 of Figure 3.

The invention contemplates the employment of a base casting 1 bolted or otherwise suitably secured to the tractor 2, an intermediate casting 3 having a pivotal connection with the base casting 1, and a draft casting 4 having a pivotal connection with the intermediate casting. The base casting is formed with a rearwardly extending lug 5 which is swiveled by the terminal lugs 6 of the intermediate casting 2, both the lugs 5 and 6 being formed with aligned bores for the reception of the pin 7. The lugs 6 on the intermediate casting are opened on their upper edges as indicated at 8 and the lug 5 similarly opened as indicated at 9 which provides respectively the shoulders 10 and 11 on the base and intermediate casting which limit their relative pivotal movement in one direction, the rounded corners permitting pivotal movement in the other direction. The normal positions of the base

casting and intermediate casting bring the shoulders 10 and 11 into abutting relation and precludes pivotal movement of the intermediate casting in a direction to move the upstanding arm 12 in a direction away from the tractor on which the device is attached but will permit movement of the castings so that the arm may move toward the tractor and thus impart movement to the push rod 13 of which one terminal is pivotally connected to the arm 12. The push rod 13 is the means of connection between the arm 12 and a bell-crank lever 14 pivotally mounted on the tractor frame and connected by means of a chain or other flexible member 15 with the clutch pedal 16 of the tractor. Obviously forward movement of the push rod will rock the bell-crank lever in such a direction as to depress the arm connected with the chain and cause a depression of the clutch lever 16 to open the tractor clutch. In the event of the tractor rearing from some cause such as an obstruction encountered by one of its driving wheels, the tendency is to rock the base casting, notwithstanding rearing movement, relative to the intermediate casting which is the equivalent of movement of the intermediate casting to rock the arm 12 towards the tractor, thus imparting the pushing movement to the rods 13 necessary to release the tractor clutch.

The relative movement of the base and intermediate castings is effected with the pin 7 as a pivot.

The invention is also designed to actuate the clutch pedal 16 to release the clutch on the application of an excessive load or an obstruction to the movement of the load to the tractor and to this end the draft casting 4 is pivotally connected with the intermediate casting, the latter being provided with depending ears 17 and corresponding ears 18 formed on the draft casting, a pivot pin 19 passing through the ears 17 and 18. The draft casting is provided with a plurality of eyes 20 for the attachment of chains or other draft appliances and it will be obvious from the drawings that if no other connection than the pin 19 exists between the draft and intermediate castings, a pull on the former will be transferred to the pin 19 and from it to the intermediate

casting with the result that the latter may be rocked on the pin 7 as a pivot and effect swinging movement of the arm 12 toward the tractor with a resultant push on the rod 13 and the release of the clutch. The draft and intermediate castings are designed to be releasably connected, however, in the plane of the body portion of the latter and to this end the latch members 21 are pivotally mounted by means of cap screws 22 on opposite sides of the draft casting, the depending noses 23 of the latch members dropping into engagement by gravity with noses 24 of pawls 25 which are pivotally secured by means of cap screws 26 with the intermediate casting. Since the pawls 25 are pivotally mounted, it is necessary to yieldingly restrain them if the latch members are to be released to permit swinging movement of the draft casting with reference to the intermediate casting and to this end there are provided the eye bolts 27, the eyes of which are engaged by the cap screws 22 securing the latch members 21 to the draft casting. The shanks of the eye bolts pass diametrically through appropriate openings in the extremity of the pin 7 and project forwardly of the base casting 1 and are straddled forwardly of the pin 7 by the lower extremities of the pawls 25, which are forked or bifurcated as indicated at 28. Compression springs 29 surround the shanks of the eye bolts and bear one end against washers 30 abutting the bifurcated portions of the pawls 25 and the other end against corresponding washers 31 against which are seated adjusting nuts 32 threaded on the extremities of the eye bolts.

In the normal position of the parts, when the tractor is moving its load, the latch members 21 have their noses 23 in engagement with the noses 24 of the pawls 25 and this engagement obtains as long as the load on the tractor does not exceed a force sufficient to compress springs 29. In the event of the load exceeding the point determined upon by the adjustment of the springs 29 through the nuts 32, the pull on the draft casting is communicated through the latches 21 to the pawls 27 and the latter are rocked on their pivotal connections, compressing the springs 29, until a position is reached where the noses 23 are disengaged from the nose 24 and the draft casting may rock on the pin 19 as a pivot, thus communicating rocking movement to the intermediate casting to move the arm 12 forwardly and effect release of the clutch as above described. Thereupon, of course, the tractor will stop and the obstruction interfering with the movement of the load may be removed after which backing of the tractor by throwing in the reverse will permit the springs 29 to draw the draft casting back to its normal position, when the rounded

portions 33 of the noses 23 of the latch members 21 will slide over the inclined portion 34 of the nose 24 of the pawls 25 and thus effect reengagement of the latch members and pawls.

In order to maintain the base and intermediate castings in the relative positions where their respective shoulders 10 and 11 will be in abutting relation, a spring 35 is provided and tensioned between the pin 19 and a pin on the base casting. The application of this spring makes it unnecessary to rely on gravity to return the intermediate casting to normal position after having operated the push rod to release the tractor clutch.

Having described the invention, what is claimed as new and useful is:—

1. A tractor hitch comprising base, intermediate and draft castings, a pivot pin connecting the main and intermediate castings, a pivot pin connecting the intermediate and draft castings and eccentric to the first said pin, latch members carried by the draft casting, pivotal pawls carried by the intermediate casting and engaged by the latch members, and spring actuated connections between the draft and intermediate castings and pawls.

2. A tractor hitch comprising a base casting, an intermediate casting having a pivotal connection with the base casting, a draft casting having a pivotal connection with the intermediate casting eccentric to the first said pivotal connection, latch members carried by the draft casting, pivotal pawls carried by the intermediate casting, and springs bearing upon the pawls to yieldingly preclude pivotal movement of the latter, said springs being operatively connected with the draft casting.

3. A tractor hitch comprising a base casting, an intermediate casting, a pin pivotally connecting the main and intermediate castings to provide for relative pivotal movement between the latter, a draft casting, a pin pivotally connecting the draft and intermediate castings eccentric to the first said pivot point, pivotal latch members carried by the draft casting, pivotal pawls carried by the intermediate casting and engaged by said latch members, eye bars connected with the draft casting, and springs encircling the eye bars and bearing against said pivotal pawls to yieldingly maintain them in a position for engagement with said latch members.

4. A tractor hitch comprising a base casting, an intermediate casting, a pivot pin pivotally connecting the base and intermediate castings, a draft casting having a pivotal connection with the intermediate casting eccentric of said pin, latch members pivotally mounted on the intermediate casting, eye bars having terminal pivotal con-

nections with the draft casting and passing
slidably through eyes formed in the ex-
tremities of said pin, pawls pivotally mount-
ed on the intermediate casting and having
5 bifurcated extremities straddling said eye
bars and noses for engagement with said
latch members, and compression springs in
surrounding relation to the eye bars and
bearing upon the bifurcated extremities of
the pawls. 10
In testimony whereof he affixes his signa-
ture.

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