Oct. 12, 1948. L. ATKINSON 2,451,054

SELF-ALIGNING SWINGING DRAWBAR

Filed June 18, 1946 2 Sheets-Sheet 1

FIG. 1.

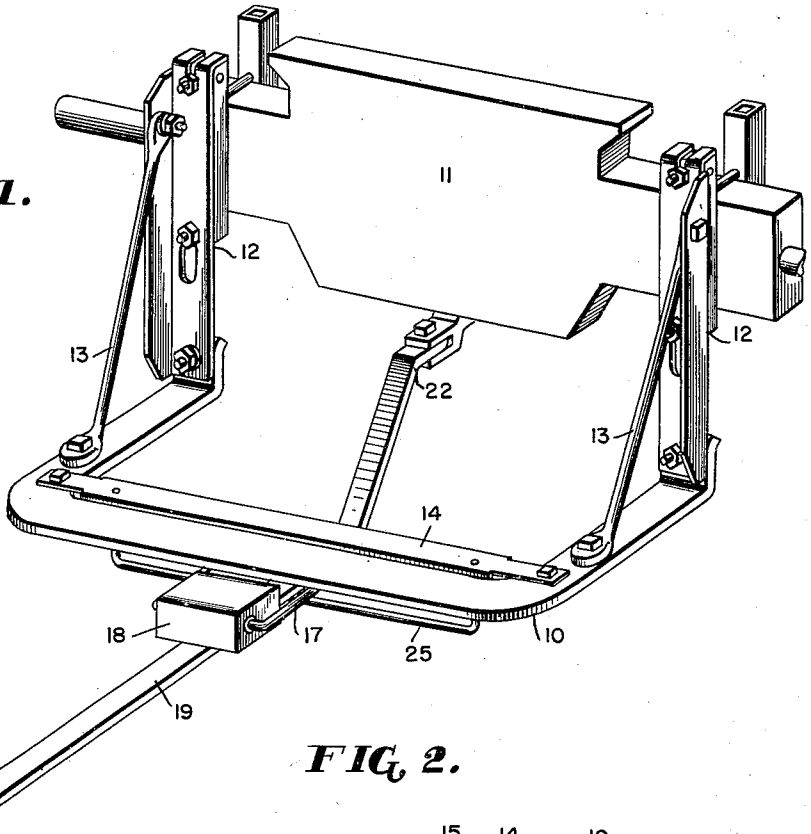
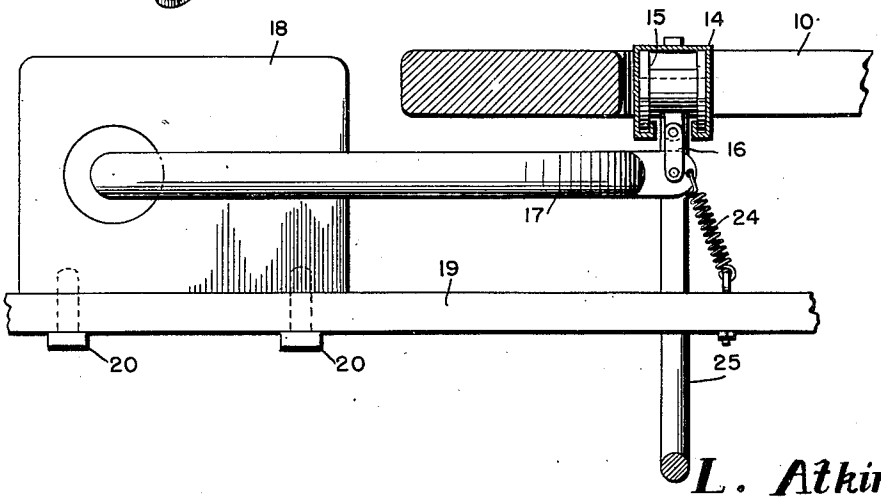


FIG. 2.



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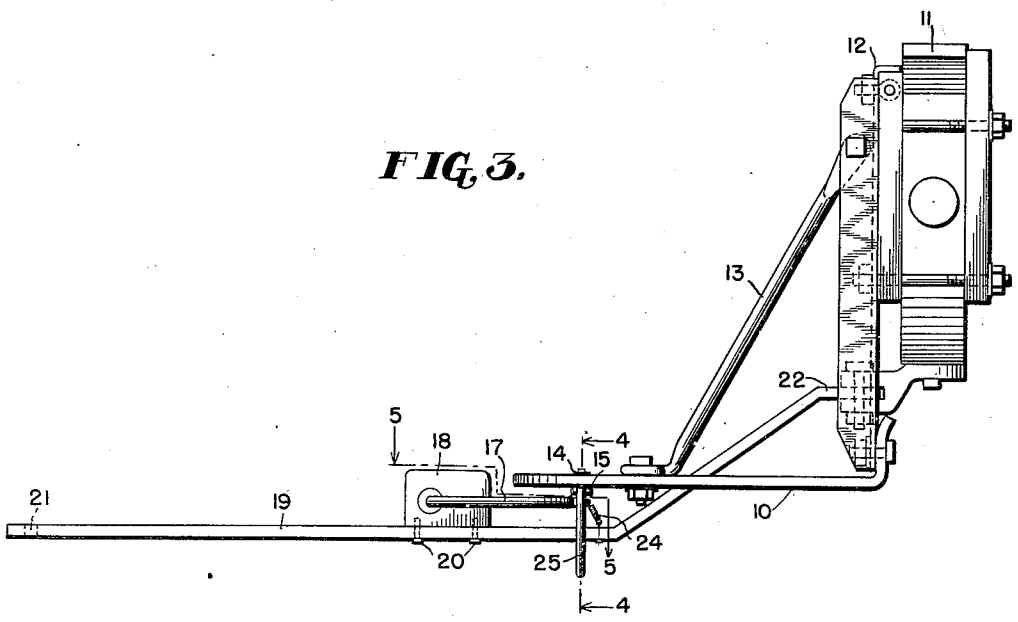
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FIG. 3.



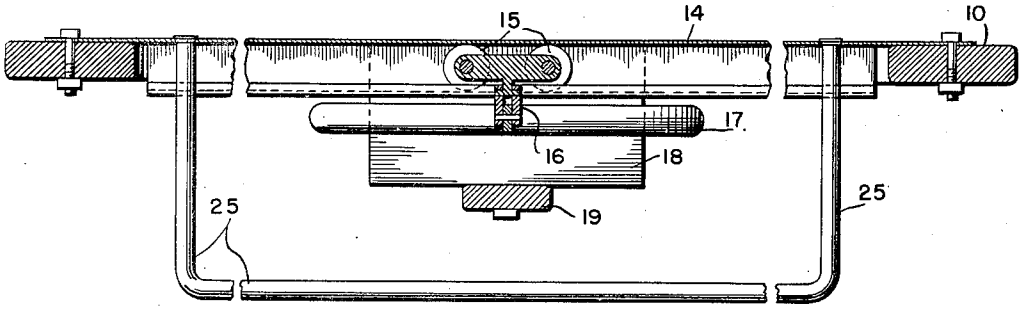


FIG. 4.

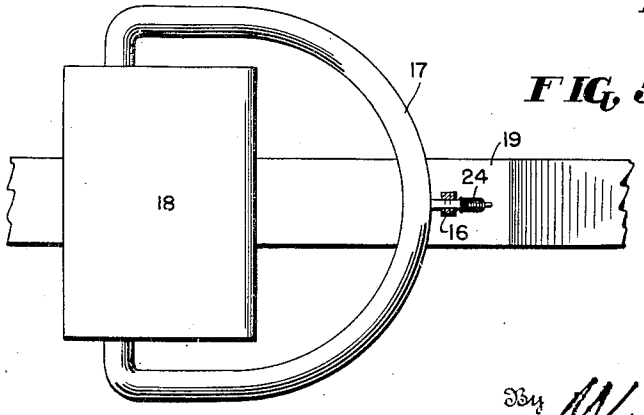


FIG. 5.

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SELF-ALIGNING SWINGING DRAWBAR

Linwood Atkinson, Hillman, Mich.

Application June 18, 1946, Serial No. 677,554

10 Claims. (Cl. 280—33.44)

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My invention pertains to an improvement in drawbars for tractors or other heavy vehicles used for heavy loads, and has for its object to give the proper line of draft when applied to such vehicle under all circumstances. All such drawbars formerly in use are rigidly attached to the regular drawbar in such a manner as to give the proper line of draft horizontally only, whereas the present invention provides for correct line of draft both horizontally and vertically.

For this purpose my invention uses a shock absorber on the swinging drawbar with arms attached by linkage to rollers guided on the regular drawbar, such swinging drawbar passing under said regular drawbar, which is raised, allowing freedom of action of the swinging drawbar. The latter will thus automatically find the correct line of draft. The swinging drawbar is provided with a spring on the under side of the rollers, whereby it becomes raised to a higher position when not in use. The shock absorber has the function to hold the swinging drawbar steady, by retarding said drawbar in its vertical movement.

These and other objects and advantages will be made clear in the subjoined description aided by the attached drawing which forms part of this application.

In the drawing, one embodiment of the invention is illustrated and shown.

Figure 1 is a perspective assembly view;

Figure 2 is a side view partly in section of some details in larger scale;

Figure 3 is a diagrammatic view in side elevation;

Figure 4 is a sectional view taken on line 4—4 of Figure 3; and

Figure 5 is a section on line 5—5 of Figure 3.

Like reference numerals denote the same details in the different views of the drawing.

In the drawing, reference numeral 10 denotes the regular drawbar which is fixed on the axle 11 of a tractor in the usual manner as by bars 12 and braces 13. Behind the flat, transverse portion of the regular drawbar 10 is secured in parallel relation thereto a track member 14 adapted to support the rollers 15 of a small trolley for running on said track 14 from end to end. From the trolley is suspended by links 16 a claw arm 17 between the claws of which is pivoted a shock absorber of any suitable kind, here diagrammatically shown at 18.

A suitable type of shock absorber is the double acting "Delco absorber" which retards the motion of the swinging drawbar 19 in its vertical action.

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The shock absorber 18 is secured on top of the swinging bar 19 by cap screws 20 near its pulling end which is provided with an eye 21 for a draw pin. The other end of the swinging drawbar 19 extends forwardly beneath the regular drawbar 10 sufficiently to permit the pivotal attachment of its upwardly bent end 22 to the axle 11.

The swinging bar 19 is yieldingly supported by a spring 24 from the rear end of the arm 17. In order to limit the motion of the swinging drawbar 19 a bracket 25 is welded beneath the track member 14 to provide a rectangular space therewith to permit said bar with a vertical lift of about six inches in said space and a horizontal swing between the ends of the track. Thus the trolley rollers 15 will also be prevented from running off the track and the shock absorber 18 to be protected from injury from obstructing objects on the ground.

It is to be understood that the invention as herein disclosed may be varied from the details described and shown without departure from the spirit of the subjoined claims.

I claim:

1. A tractor hitch with self-adjusting drawbar in combination with a stationary transverse drawbar member, comprising a track member secured parallel to and substantially level with said stationary drawbar, an auxiliary drawbar pivoted at one end of the tractor for limited horizontal and vertical swinging movement and extending beyond said stationary drawbar beneath the same, a runner element on the track, a shock absorber secured on the auxiliary drawbar adjacent to said track to move horizontally with the auxiliary drawbar, and a coupling between the runner element and the shock absorber whereby the shock absorber is made to function upon vertical swinging movement of the auxiliary drawbar.

2. A tractor hitch as described in claim 1, with a bracket beneath said track, forming a rectangular enclosure in which said auxiliary bar lies.

3. A tractor hitch as described in claim 1, in which said means consist of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber.

4. A tractor hitch as described in claim 1, in which said means consist of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, and a spring

normally sustaining the weight of said auxiliary bar on said arm.

5. A tractor hitch as described in claim 1, in which said means consist of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, said trolley being provided with rollers for running on said track.

6. A tractor hitch as described in claim 1, in which said means consist of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, said trolley being provided with rollers for running on said track, and a spring normally sustaining the weight of said auxiliary bar on said arm.

7. A tractor hitch with self-adjusting drawbar in combination with a stationary transverse drawbar member, comprising a track member secured parallel to and substantially level with said stationary drawbar, an auxiliary drawbar pivoted at one end to the tractor and extending beyond said stationary drawbar beneath the same, terminating with a draw pin eye; a shock absorber secured on the auxiliary drawbar adjacent said track and means permitting limited horizontal and vertical swinging of the auxiliary drawbar from its pivoted end, said means consisting of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber.

8. A tractor hitch with self-adjusting drawbar in combination with a stationary transverse drawbar member, comprising a track member secured parallel to and substantially level with said stationary drawbar, an auxiliary drawbar pivoted at one end to the tractor and extending beyond said stationary drawbar beneath the same, terminating with a draw pin eye; a shock absorber secured on the auxiliary drawbar adjacent said track and means permitting limited horizontal and vertical swinging of the auxiliary drawbar from its pivoted end, said means consisting of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, and a spring normally sustaining the weight of said auxiliary bar on said arm.

9. A tractor hitch with self-adjusting drawbar in combination with a stationary transverse drawbar member, comprising a track member secured parallel to and substantially level with said stationary drawbar, an auxiliary drawbar pivoted at one end to the tractor and extending beyond said stationary drawbar beneath the same, terminating with a draw pin eye; a shock absorber secured on the auxiliary drawbar adjacent said track and means permitting limited horizontal and vertical swinging of the auxiliary drawbar from its pivoted end, said means consisting of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, said trolley being provided with rollers for running on said track.

10. A tractor hitch with self-adjusting drawbar in combination with a stationary transverse drawbar member, comprising a track member secured parallel to and substantially level with said stationary drawbar, an auxiliary drawbar pivoted at one end to the tractor and extending beyond said stationary drawbar beneath the same, terminating with a draw pin eye; a shock absorber secured on the auxiliary drawbar adjacent said track and means permitting limited horizontal and vertical swinging of the auxiliary drawbar from its pivoted end, said means consisting of a bracket beneath said track, forming a rectangular space beneath the same for said auxiliary bar, a trolley on said track and arm and link connection between said trolley and said shock absorber, said trolley being provided with rollers for running on said track, and a spring normally sustaining the weight of said auxiliary bar on said arm.

LINWOOD ATKINSON.

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