

July 3, 1945.

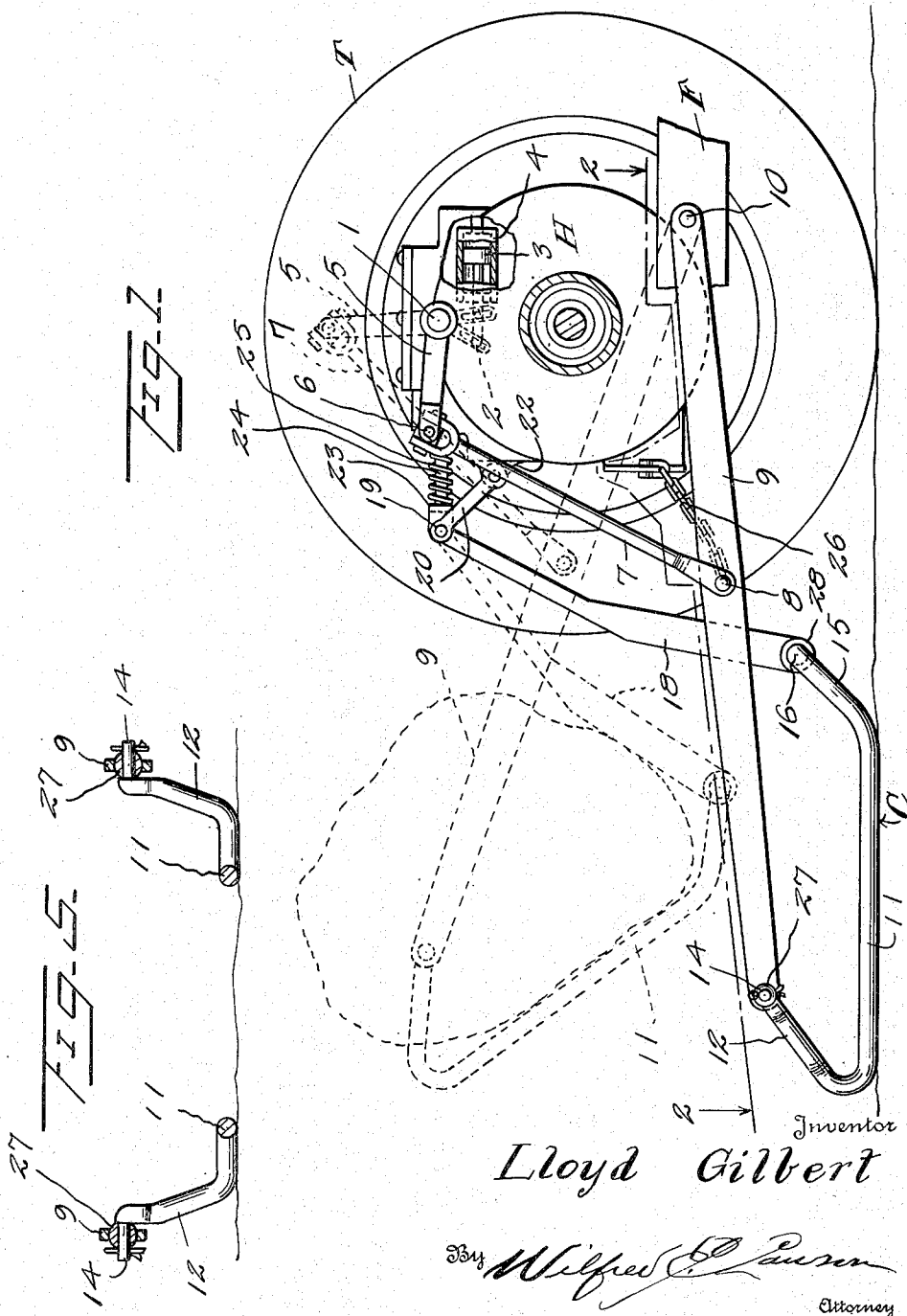
L. GILBERT

2,379,797

STONE CARRIER ATTACHMENT FOR TRACTORS

Filed Dec. 3, 1943

2 Sheets-Sheet 1



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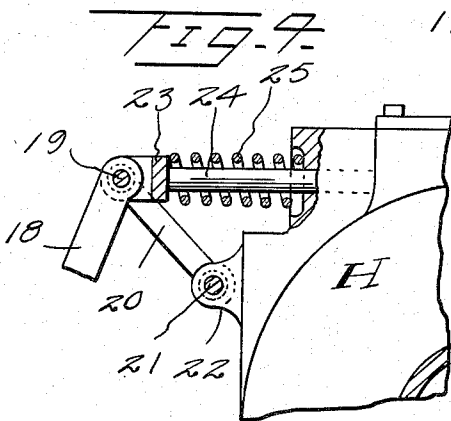
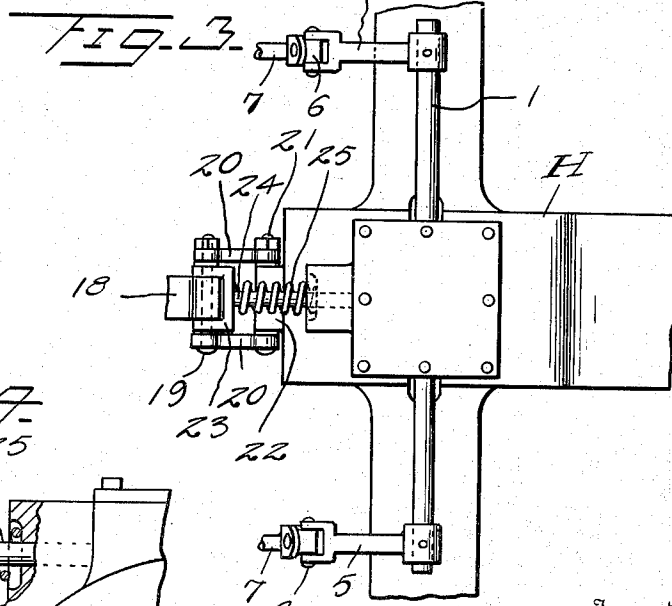
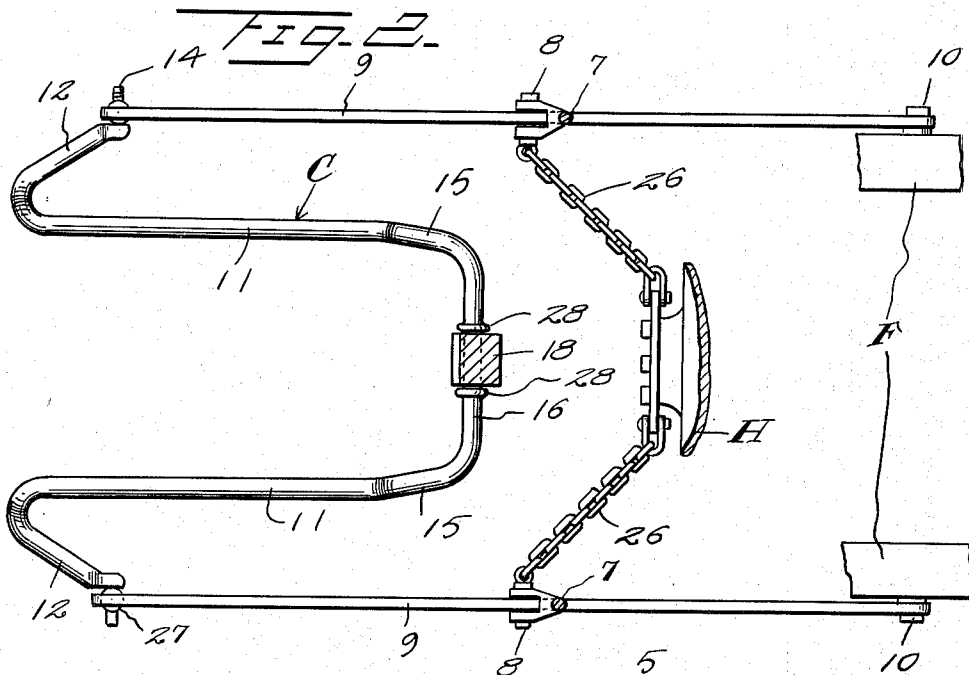
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2 Sheets-Sheet 2



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STONE CARRIER ATTACHMENT FOR
TRACTORS

Lloyd Gilbert, Ravenna, Mich.

Application December 3, 1943, Serial No. 512,813

5 Claims. (Cl. 214—130)

This invention relates to a stone carrier attachment for tractors, and it is an object of the invention to provide an attachment of this kind to be applied to a tractor which includes a hydraulic attachment as standard equipment and wherein the attachment is so constructed and mounted as to easily pick up stones of a weight up to approximately 1,500 pounds and readily transport the same and also wherein the attachment can be readily and conveniently employed to shunt or roll about stones which are of extreme size and weight.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved stone carrier attachment for tractors whereby certain important advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a fragmentary view partly in section and partly in side elevation illustrating a stone carrier attachment constructed in accordance with an embodiment of my invention, a second position of certain of the parts being shown in dotted lines;

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a fragmentary view in top plan illustrating certain features of the invention as herein disclosed;

Figure 4 is a fragmentary view partly in section and partly in side elevation of the structure illustrated in Figure 3; and

Figure 5 is a transverse sectional view taken through the forward portion of the carriage.

As disclosed in the accompanying drawings, 1 denotes a rock shaft at the rear portion of the tractor T which is herein disclosed as within the upper portion of the rear housing H and extending out beyond opposite sides thereof. This shaft 1 within the housing is provided with a depending rock arm 2 operatively engaged with the hydraulically operated piston 3 working within a cylinder 4. The cylinder 4 is in proper communication with a small pump to be driven off the tractor motor and under ready control from the seat of the tractor, as by a small lever. As the mounting and operation of the rock shaft 1 forms no part of the present invention but is a part of the usual form of farm tractor, it is believed that a diagrammatic showing of the same is sufficient.

The extremities of the shaft 1 are provided with

the outwardly disposed rock arms 5 to the outer extremities of which are operatively engaged, as at 6, the rigid links 7 of desired length which, in turn, are operatively connected, as at 8, with the elongated rigid arms 9 at a point closely adjacent to but inwardly of the longitudinal centers thereof.

These arms 9 have their inner extremities pivotally connected, as at 10, with the frame or chassis F of the tractor, whereby the arms 9 are mounted for up and down swinging movement. The arms 9 are at all times substantially parallel as determined by the rigid link 7 and it is believed to be readily apparent that upon requisite movement of the piston 3, the arms 9 may be raised or lowered as desired.

Located between the forward or outer end portions of the arms 9 is the stone carriage C, herein disclosed as formed of one length of bar material of requisite gauge. The carriage C is formed to provide the relatively long side members 11 which constitute runners which may readily run over the ground surface when the carriage C is in its lowermost position.

The forward extremities of these side members 11 are continued by the upwardly directed and forwardly inclined posts 12 each provided at its upper extremity with the outwardly and laterally disposed trunnions 14 each of which is rotatably disposed through the outer or free extremity of an arm 9, whereby the carriage C as a unit has swinging movement independently of and relative to the arms 9.

The rear extremities of the side members 11 are continued by the upwardly and forwardly inclined posts 15 terminating a material distance below the upper extremities of the posts 12. The upper portions of these posts 12 are inwardly rounded and connected by an integral cross member 16 which is at an elevation above the side members 11.

Rotatably engaged, as at 17, with the central portion of the cross member 16 of the carriage C is the lower extremity of a heavy rigid member or bar 18. This bar 18 has its upper end portion pivotally engaged by the bolt 19 between the upstanding short rigid links 20, the lower extremities of which are pivotally connected, as at 21, with an outstanding lug 22 carried by the top portion of the housing H.

Straddling the upper portion of the bar 18 is the forked head 23 and with which the bolt 19 is also operatively engaged. This head 23 is carried by a shank 24 disposed toward the upper portion of the housing H and surrounding the

shank 24 and interposed between the head 23 and the adjacent upper portion of the housing H is an expansible coiled spring 25 of requisite tension and which serves to constantly urge the upper pivoted end portion of the bar 18 outwardly to assure the most effective operation of the carriage C and also to assure the bar 18 to be in effective position to serve as a retaining back for the carriage C to assure the desired maintenance of a stone to be handled in proper position upon the carriage C and particularly when the carriage C is elevated to transport the stone from one location to another.

Interposed between and connecting the inner portions of the arms 9 and the lower portion of the housing H are the flexible members 26 herein disclosed as heavy chains. Each of these members or chains 26 is of a length to hold the arms 9 against outward spread under the weight of a stone received upon the carriage C.

It is believed to be readily apparent from the foregoing description and from the accompanying drawings that the carriage C upon proper manipulation of the tractor T may be caused to properly engage a stone of considerable size and lift the same so that the stone can be readily moved. It is also believed to be readily apparent that the applied attachment can be used with facility to shunt or shift a stone too large to be lifted by the carriage C.

As is clearly pointed out in the drawings, it is to be noted, as at 27, that the connection between the arms 9 and trunnions 14 is of a universal type to assure such flexible movements as may be necessary.

It is also to be noted that the cross member 16 at opposite sides of the member or bar 18 and closely adjacent to such member or bar is surrounded by the rings or annular members 28 welded or otherwise rigidly mounted and which rings or annular members 28 serve to prevent relative shifting of said cross member 16 and the rigid member or bar 18 which otherwise would have a tendency to get the attachment out of balance or effective position.

From the foregoing description it is thought to be obvious that a stone carrier attachment for tractors constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated.

What is claimed is:

1. A stone carrier attachment for use in connection with a vehicle including power operated rock arms at an end thereof, members having pivotal connection with the vehicle at an end thereof, means connecting said members to the rock arms for raising and lowering the members upon swinging movement of the rock arms, a carriage positioned between the forward portions of the members comprising an open frame having upstanding front posts pivotally coupled with the forward extremities of the members, spaced side portions and a rear cross member, and a rigid upstanding back bar pivotally coupled with the rear cross member of the carriage and with the vehicle.

2. A stone carrier attachment for use in connection with a vehicle including power operated rock arms at an end thereof, members for pivotal connection with the vehicle at an end thereof, means for connecting said members to the rock arms for raising and lowering the members upon swinging movement of the rock arms, a carriage positioned between the forward portions of the members and including upstanding front posts pivotally engaged with the forward extremities of the members, a rear cross member, and an upstanding back bar operatively engaged with the rear member of the carriage and with the vehicle, said carriage being formed from a single length of material and including substantially parallel side members constituting runners with the upstanding posts at the forward extremities of said members, the cross members being at the rear extremities of the side members and upwardly offset with respect thereto.

3. A stone carrier attachment for use in connection with a vehicle including power operated rock arms at an end thereof, bar members each having pivotal connection at one end with the vehicle, lift links connecting said members to the rock arms for raising and lowering the members upon swinging movement of the rock arms, a carriage positioned between the other ends of the members comprising a substantially U-shaped frame having the side portions thereof disposed substantially parallel with the ground and pivotally coupled at their free ends with the said other ends of the members, an upstanding back bar pivotally coupled between the yoke portion of said U-shaped carriage frame and with the vehicle, and means for constantly urging outward and downward pressure upon the upstanding bar.

4. A stone carrier attachment for a vehicle, comprising a carriage member having spaced parallel side bars designed to position upon the ground in parallel relation with the path of travel of the vehicle, the said side bars at the ends nearest the vehicle being extended upwardly and transversely to form a cross connecting yoke, the free end portions of the bars being inclined upwardly and laterally toward the adjacent vehicle, means extending forwardly at an elevation above the yoke and connecting the laterally inclined ends of the bars with the vehicle for facilitating the raising of the free ends of the bars, and means pivotally connecting the central part of the said yoke portion with the vehicle and providing a rigid fulcrum arm for the yoke end of the carriage.

5. A stone handling carriage comprising a substantially rectangular frame open at one end, the frame comprising spaced substantially parallel side bars designed to slide over the ground, the side bars at one end of the frame being extended upwardly obliquely and then extended transversely to form a cross connecting yoke, the free ends of the side bars at the other end of the frame being bent to extend upwardly at an acute angle to the adjacent side bars and extending laterally outwardly.

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