March 1, 1949. D. C. GREWE 2,463,169

ATTACHMENT FOR TRACTORS

Filed Aug. 22, 1945 3 Sheets-Sheet 1

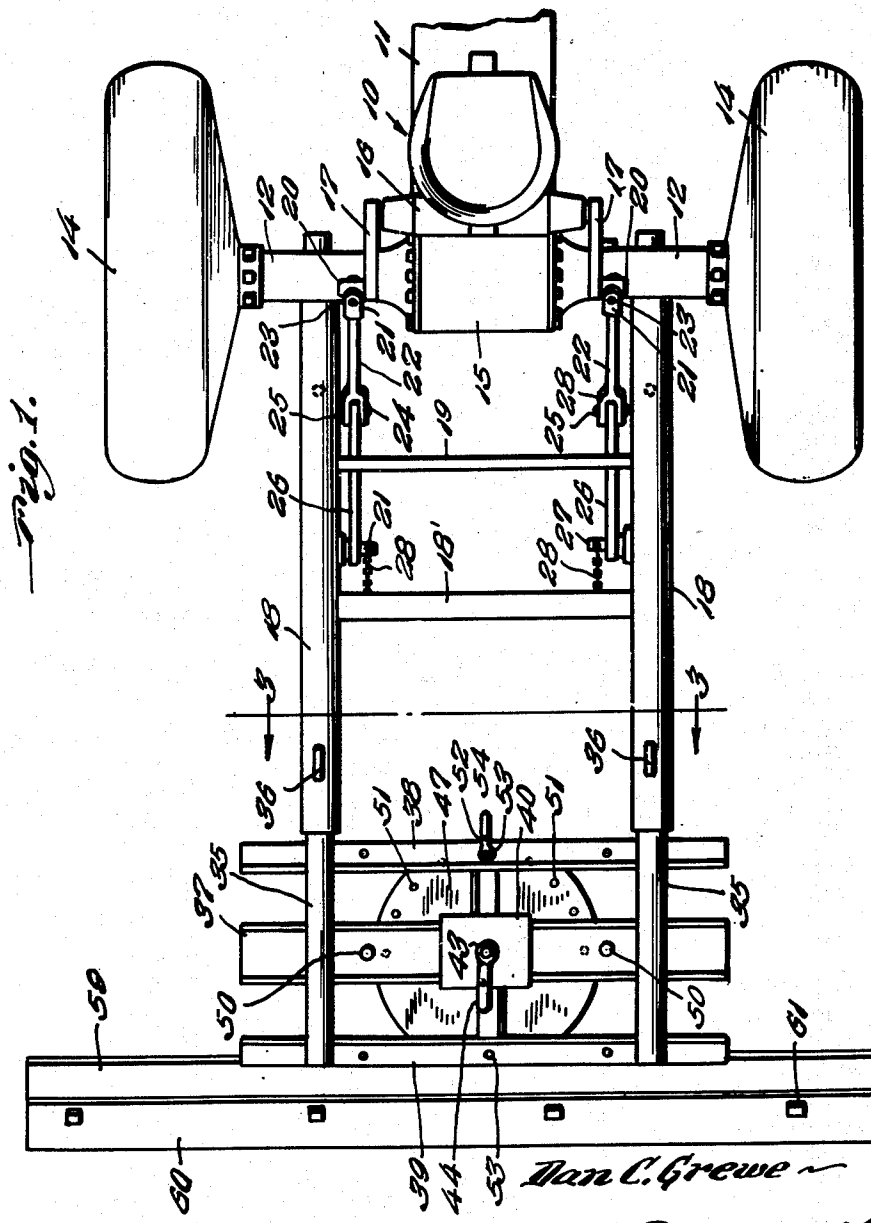


Fig. 1.

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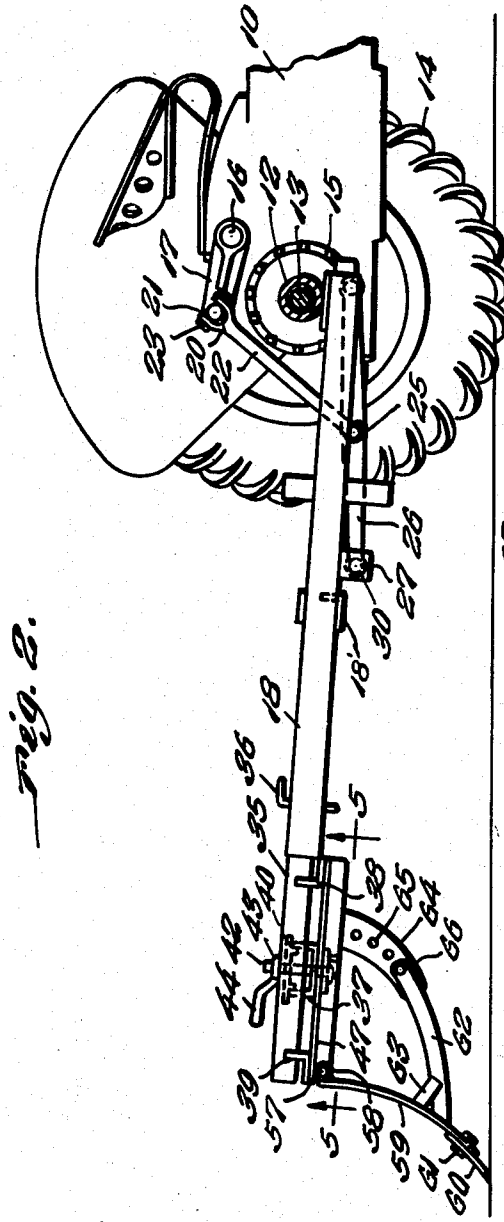


Fig. 2.

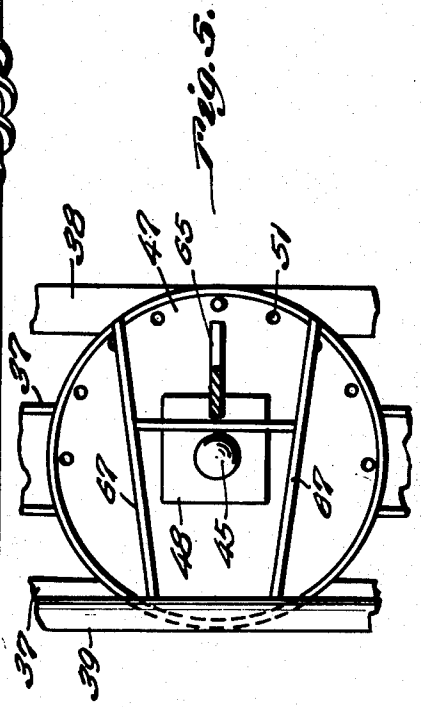


Fig. 5.

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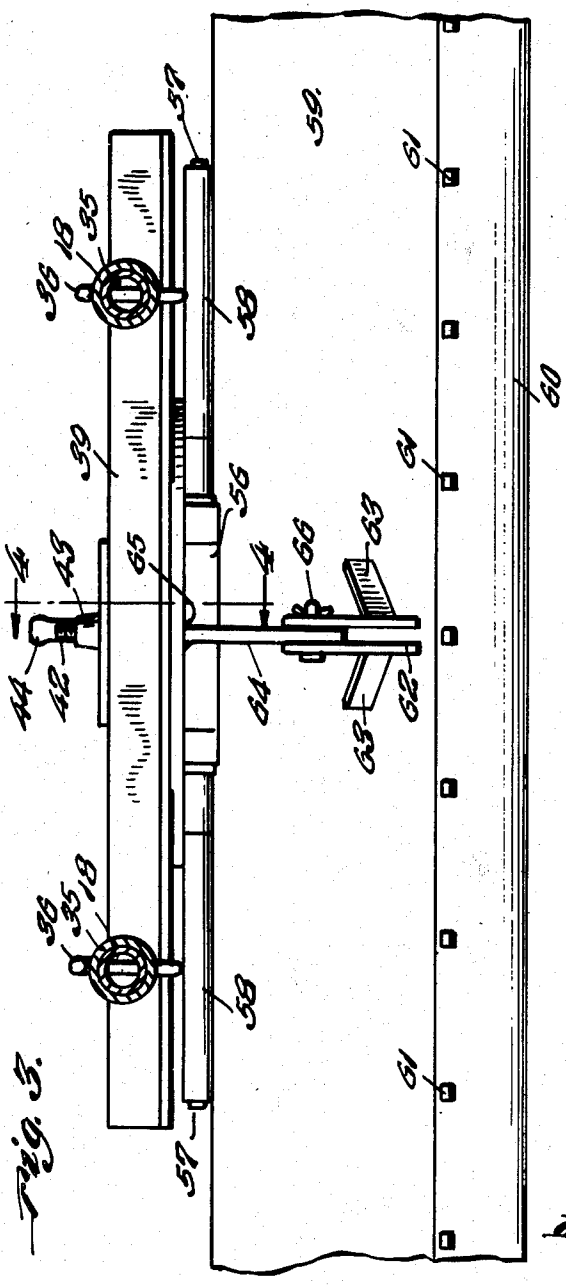


Fig. 3.

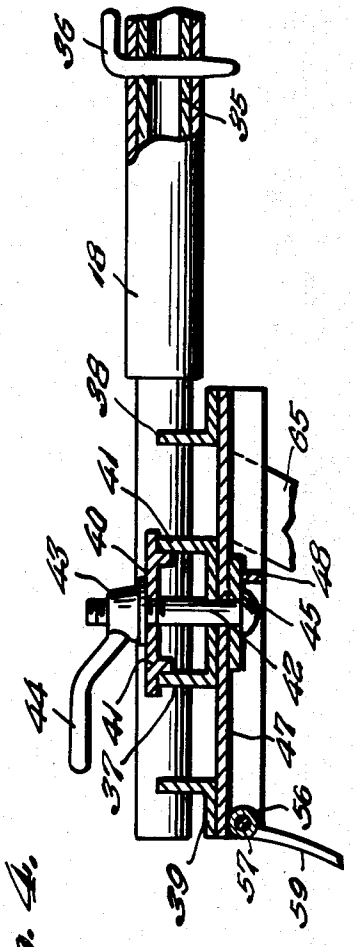


Fig. 4.

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UNITED STATES PATENT OFFICE

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ATTACHMENT FOR TRACTORS

Dan C. Grewe, Arlington, Wash.

Application August 22, 1945, Serial No. 611,939

2 Claims. (Cl. 37—156)

1

This invention relates to an attachment for tractors, and more particularly to a scraper adapted to be attached to any desired conventional type of tractor.

A primary object of this invention is the provision of an improved scraper blade and connection therefor which may be readily and quickly attached to any desired type of tractor incorporating a hydraulic or other power lift in the mechanism thereof.

An additional important object of this invention is the provision of such a scraper blade characterized by extreme flexibility of adjustment, and so arranged that the blade may be utilized either as a pushed or towed blade as desired.

A further object of the invention is the provision of such a scraper characterized by means whereby the angular relation of the blade to the towing tractor may be varied throughout an arc of 360 degrees.

Still another object of the invention is the provision of such a scraper having means whereby the relative lateral position of the blade with respect to the towing vehicle may be varied within relatively wide limits.

A still further important object of the invention is the provision of such a device which may be readily adjusted longitudinally with respect to the distance thereof from the towing vehicle.

Still another object of the invention is the provision of such a scraper characterized by means whereby any of the objects set forth above may be readily achieved with a minimum of difficulty and effort, the adjusting means being comprised of relatively simple, quickly releasable connecting devices.

A still further object of the invention is the provision of such a scraper which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture, assemble and utilize.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings, wherein like reference numerals refer to like parts throughout the several views:

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Figure 1 is a top plan view of one form of device embodying the instant invention shown as attached to a tractor, the tractor being partially broken away.

Figure 2 is a side view, partially in elevation and partially in section disclosing the structure shown in Figure 1,

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Figure 1, as viewed in the direction indicated by the arrows, certain portions thereof being broken away.

Figure 4 is an enlarged sectional view taken substantially along the line 4—4 of Figure 3, certain portions thereof being broken away, and

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 2, certain portions thereof being broken away.

Referring now to the drawings, there is generally indicated at 10 a tractor of any desired conventional design, including a frame 11, a rear axle housing 12, containing a rear axle 13 (see Figure 2), rear driving wheels 14, a differential mechanism 15, a power lift 16, preferably of the hydraulic type, and a pair of oppositely disposed arms 17 extending from the power lift 16.

The power lift and associated mechanism of the instant invention includes a pair of tubular sleeves 18, the extremities of which are adapted to extend beneath the rear axle housing 12 on opposite sides of the differential 15, secured together as by transverse reinforcing members 18' and 19. Secured to the extremities of the arms 17 are lugs 20 to which are secured the bifurcated ends 21 of links 22, as by pins 23. The opposite end of the links 22 terminate in bifurcations 24, through suitable aligned apertures in which pivot pins 25 pass to pivotally secure the extremities of the links to levers 26. The outer end of each of the levers 26 terminates in a collar adapted to surround a pin 27 secured to the inner sides of the tubular members 18, chains 28 or similar mechanism, such as cotter pins, being provided to preclude the displacement of the ends of the levers with respect to the pins. The opposite ends 29 of the levers extend beneath the axle housing 12, the pins 27 being secured, as best shown in Figure 2, to depending lugs 30

which may be welded or otherwise secured to the members 18.

Slidably positioned within the members 18 are two tubular members 35, each provided with a plurality of suitable apertures therein adapted to coact with a pin 36 passed through a suitable aperture in each of the members 18, the arrangement being such that the members 35 may be slid inwardly and outwardly with respect to the members 18, and secured in position by the passage of the pins 36 through a selected hole or aperture, in order to vary the overall length of the assemblage.

Secured transversely across the outer ends of the members 35 is a channel iron 37, on opposite sides of which are secured angle irons 38 and 39, the securing means taking the form of welding or other suitable connection.

As best shown in Figure 4, a plate 40 providing with depending flanges 41 is positioned across an intermediate portion of the channel iron 37, and has a suitable aperture therein through which is passed a bolt 42, a nut 43 provided with an operating handle 44 being positioned on the threaded upper extremity of the bolt. The bolt head 45 serves to secure in related assembly with the channel iron 37, a circular disk 47, a bearing plate 48 being interposed between the head 45 and the disk 47.

As best shown in Figure 1, additional apertures 50 are provided on opposite sides of the channel iron 37 in order that the disk assembly and associated mechanism, to be more fully described hereinafter, may be positioned at various lateral positions with respect to the members 35, it being noted that the bolt 42 is the sole connection between the disk and its associated mechanism, and the frame including the transverse channel iron 37 and the members 35.

The disk 47 is provided with a plurality of apertures 51 positioned radially about its periphery, which apertures are adapted to be selectively engaged as by a pin 52 provided with an operating handle 54. Thus, it will be seen that the disk may be rotated about the bolt 42, and secured in any one of a plurality of selected positions, as by means of the pin 52, which passes through a suitable aperture in the angle iron 38. A corresponding aperture 55 is provided in the angle iron 39, in the event it is desired to rotate the disk completely about a 360 degree arc.

Secured to a peripheral portion of the disk 47 is a sleeve 56, from which extend transversely extending pins 57 adapted to be engaged by sleeves 58 secured in any desired manner to the upper edge of a scraper blade support 59. A scraper blade 60 is secured in any desired manner as by bolts or rivets 61 to the lower edge of the support 59, as best shown in Figures 1 and 3. Thus, it will be seen that the scraper blade and its associated support are secured solely to the disk 47 in pivotal relation with respect thereto.

An arcuate member 62 is fixedly secured in any desired manner, as by riveting, to a central portion of the convex face of the scraper support 59, angularly disposed reinforcing members 63 serving to reinforce the same, and being secured to the support 59, as by welding or the like. The member 62 comprises two spaced identical members, between the extremities of which is adapted to pass a second arcuate member 64 secured, as by welding 65 (see Figure 3), to the underside of the disk 47 at a point opposite the center thereof from the pivotal connection of the scraper blade support. The member 64 is provided with a plurality of spaced apertures 65, adapted to be selectively engaged by a pin 66, passed through suitable aligned apertures in the extremity of member 62, the arrangement being such that the angular relation of the scraper blade support 59 and its associated blade 60 may be varied with respect to the pivotal connections 57 and 58 above described.

Suitable reinforcing angle irons or bars 67 extend across the lower face of the disk 47.

From the foregoing, the operation of the device should now be readily understandable. It will be seen, as above pointed out, that the sole securing means for the scraper to the tractor consists of the connection between the pins 27 and the members 26. It will also be seen that, due to the keys or pins 36, the position of the scraper 60 with respect to the tractor may be varied longitudinally by sliding the members 35 relative to the members 18, and that the angular relation of the scraper blade may be readily varied about an arc of 360 degrees, in accordance with the selected holes 51 of the disk, and the aperture in the members 39 or 38, through which the pin 52 is passed. It will also be seen that the entire assemblage of the scraper blade may be moved transversely with respect to the frame, in accordance with the hole 50 in which the bolt 42 is positioned.

When it is desired to lift the device, it will be readily understood that by actuating the hydraulic mechanism to move the arms 17, the links 22 will lift the levers 26, and, correspondingly, the supporting members 18 and the mechanism associated therewith, the inner extremities of the members 18 abutting the underside of the axle housings 12, which serves as a fulcrum to lift the same. When the hydraulic mechanism is released, the angle iron 19 serves as a stop, by its abutment with the draw-bar of the tractor, to preclude the ends of the members 18 from dropping completely to the ground.

From the foregoing, it will now be seen that there is herein provided a device accomplishing all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a device of the character described, a frame including hollow tubes adapted to be secured to a tractor having a power lift, extensible members slidable in said tubes, means connecting said tubes to said power lift for movement thereby, a scraper blade transversely secured to said members, means for adjustably securing said blade on the member for angular adjustment of the blade with respect to said members in a horizontal plane, and comprising a transverse member secured between said first-mentioned members, a disk rotatably secured to said transverse member, and means securing said blade to said disk for rotation therewith.

2. In a device of the character described, a frame including hollow tubes adapted to be secured to a tractor having a power lift, extensible members slidable in said tubes, means connecting said tubes to said power lift for movement thereby, a scraper blade transversely secured to said members, means for adjustably securing said

blade on the members for angular adjustment of the blade with respect to said members in a horizontal plane, and comprising a transverse member secured between said first-mentioned members, a disk rotatably secured to said transverse member, means securing said blade to said disk for rotation therewith, said last-mentioned means including a pivotal connection between the blade and disk supporting the blade for angular adjustment with respect to the disk in a vertical plane, an arcuate member secured to said blade, a second arcuate member secured to said disk, and means for adjustably connecting said arcuate members together to vary the angular relation of said blade with respect to said disk in a vertical plane.

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