July 8, 1958 W. D. SAMPSON 2,841,898

MEDIUM WEIGHT DIRT MOVING MACHINE

Filed July 27, 1953 4 Sheets-Sheet 1

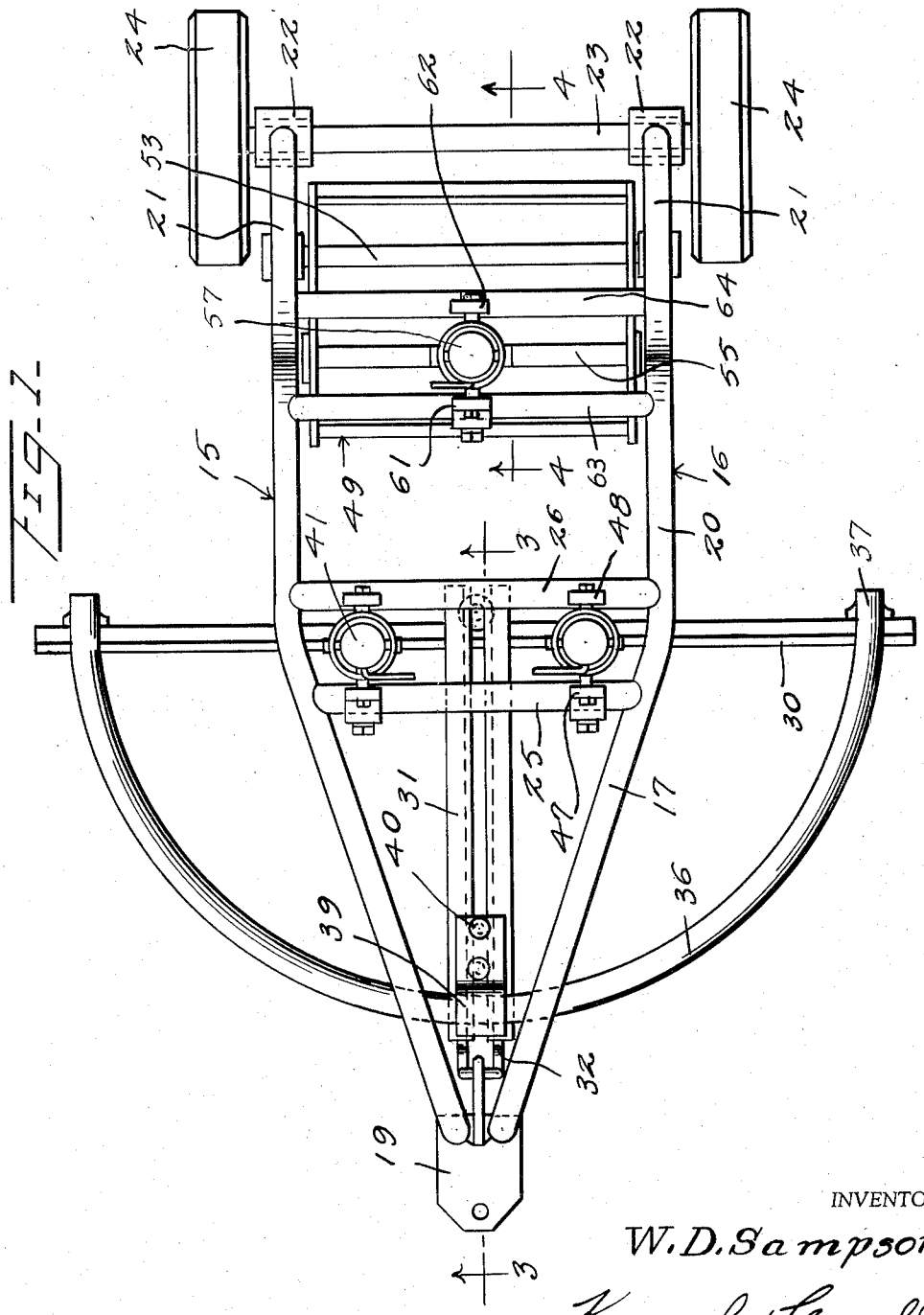


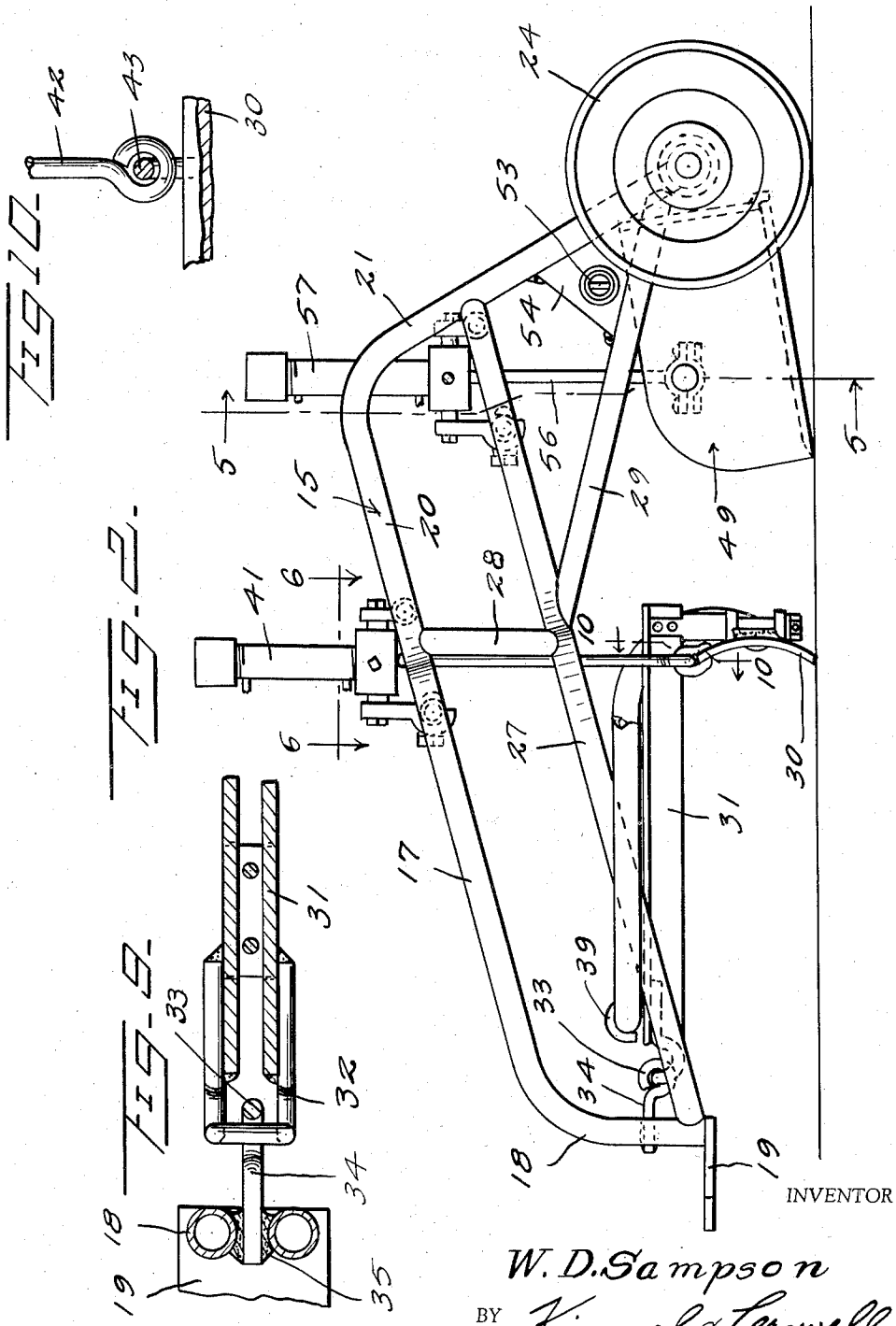
FIG. 1.

INVENTOR
W. D. Sampson
BY Kimmel & Crowell
ATTORNEYS

July 8, 1958 W. D. SAMPSON 2,841,898

MEDIUM WEIGHT DIRT MOVING MACHINE

Filed July 27, 1953 4 Sheets-Sheet 2



July 8, 1958 W. D. SAMPSON 2,841,898

MEDIUM WEIGHT DIRT MOVING MACHINE

Filed July 27, 1953 4 Sheets-Sheet 3

FIG. 3.

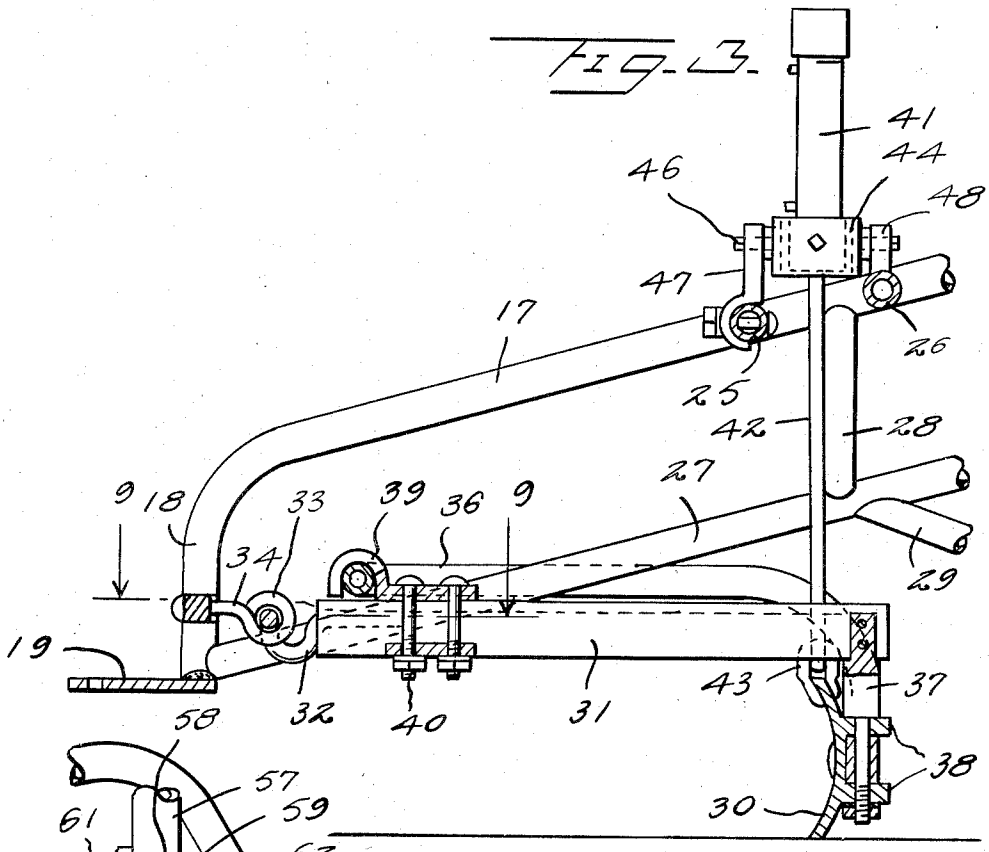
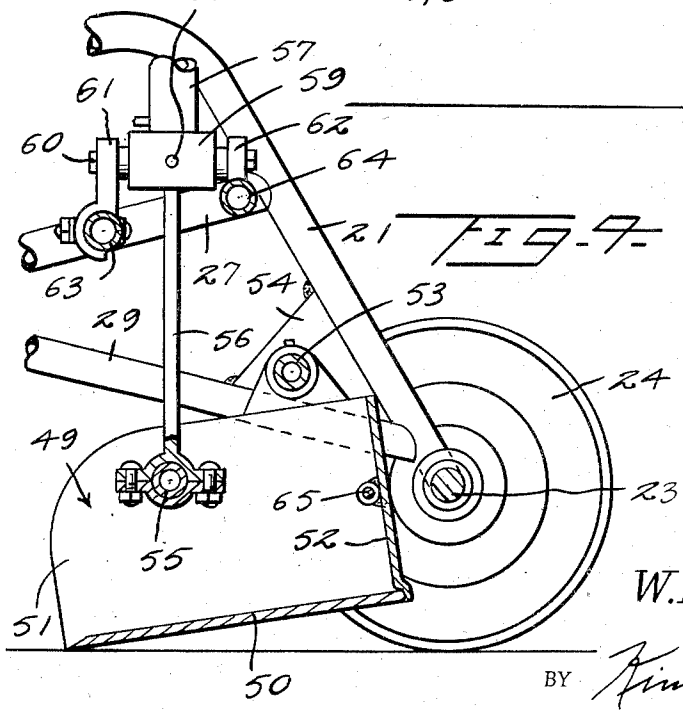


FIG. 4.



INVENTOR

W. D. Sampson

BY Kimmel & Crowell

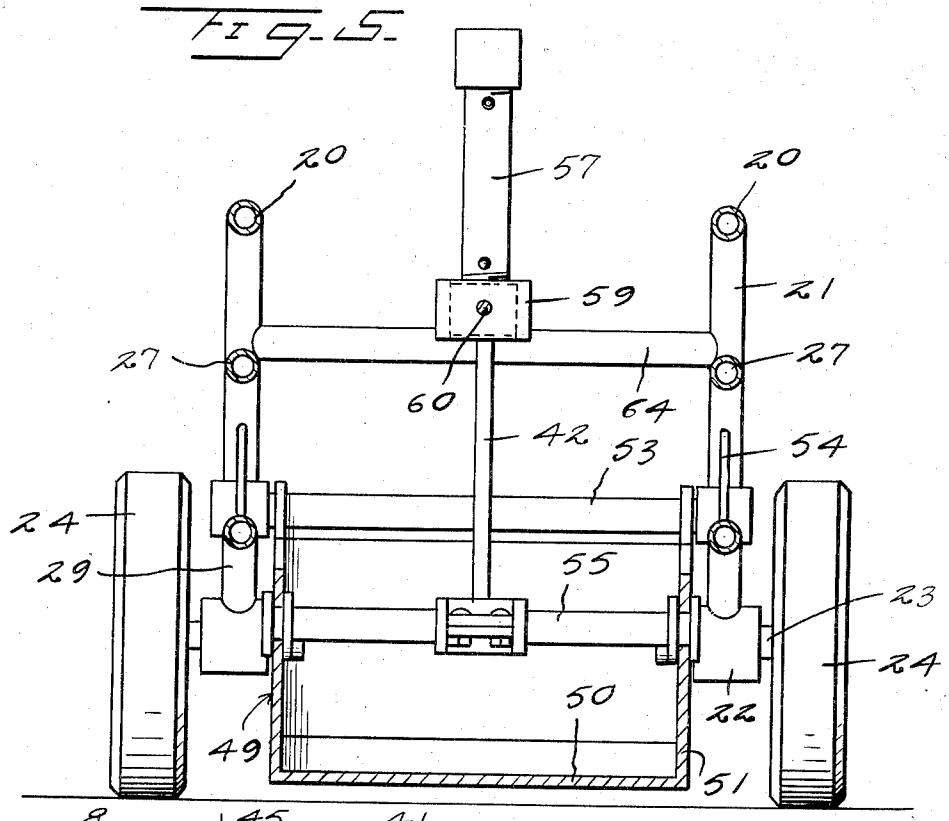
ATTORNEYS

July 8, 1958 W. D. SAMPSON 2,841,898

MEDIUM WEIGHT DIRT MOVING MACHINE

Filed July 27, 1953 4 Sheets-Sheet 4

Fig. 5.



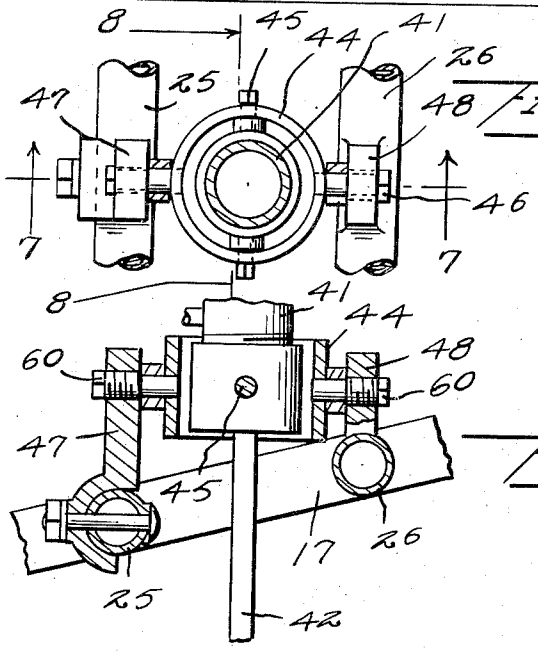


Fig. 6.

Fig. 8.

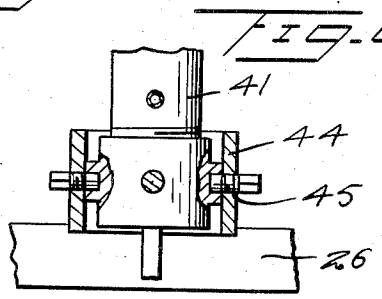


Fig. 7.

INVENTOR

W. D. Sampson

BY Kimmel & Crowell

ATTORNEYS

United States Patent Office 2,841,898 Patented July 8, 1958

2,841,898

MEDIUM WEIGHT DIRT MOVING MACHINE

Will D. Sampson, San Antonio, Tex., assignor to Engineering Industries Corporation, San Antonio, Tex., a corporation of Texas

Application July 27, 1953, Serial No. 370,416

1 Claim. (Cl. 37—168)

This invention relates to a dirt moving machine.

An object of this invention is to provide a dirt moving machine which can be attached to a tractor and connected with the hydraulic system of the tractor.

Another object of this invention is to provide a dirt moving attachment for tractors which comprises a mobile frame, and a scoop carried by the frame for picking up the dirt loosened or moved by the scraper blade.

A further object of this invention is to provide a dirt moving attachment for tractors which includes hydraulic means for actuating or adjusting the scraper blade and the scoop, so that the operator of the tractor can control the operation of the blade and scoop.

With the above and other objects in view, my invention consists in the arrangement and combination of details disclosed in the drawings and specification and then more particularly pointed out in the appended claim.

In the drawings:

Figure 1 is a plan view of an earth moving machine constructed according to an embodiment of this invention.

Figure 2 is a detailed side elevation of the machine.

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a sectional view taken on the line 5—5 of Figure 2.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 2.

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 6.

Fig. 8 is a fragmentary sectional view taken on the line 8—8 of Figure 6.

Figure 9 is a fragmentary sectional view taken on the line 9—9 of Figure 3.

Figure 10 is a fragmentary sectional view taken on the line 10—10 of Figure 2.

Referring to the drawings, the numeral 15 designates generally a frame structure which is formed of opposite side members 16. The side members 16 are formed of upwardly and rearwardly inclined tubular bars 17 disposed in rearwardly divergent relation, and each of the bars 17 are provided at their forward ends with downturned extensions 18. The downturned extensions 18 are secured at their lower ends to a draft plate 19. The side members 16 also include parallel side bars 20 formed as integral extensions of the bars 17 and the parallel bars 20 have projecting downwardly and rearwardly therefrom, rear bars 21. The rear bars 21 are secured at their lower rear ends to bushings 22 through which an axle 23 engages and a pair of wheels 24 are mounted on the opposite ends of the axle 23.

A pair of transversely disposed connecting bars 25 and 26 are fixed between the bars 17 and the bars 20. A longitudinally bent bracing bar 27 is fixed between the forward bar members or extensions 18 and the rear members 21 and a connecting or bracing bar 28 is secured between each bar 27 and the forward portions of each upper bar 20.

A downwardly and rearwardly inclined bracing bar 29 is also fixed between each bracing bar 27 and the lower rear ends of the rear bars 21. A plow or earth moving blade 30 is disposed below the frame 15 and is secured to the rear ends of a pair of longitudinal angle bars 31. The angle bars 31 are connected together at their forward ends by a connecting member 32 which is constructed in the form of an upturned clevis which is secured to an eye 33 carried by a bolt 34 fixed as at 35 between the forward bars 18.

A substantially semi-circular bar 36 having downturned rear ends 37 is fixed to a pair of lugs 38 carried by the blade 30 and the semi-circular bar 36 is adjustably secured to the angle bars 31 by means of a clamp 39 fixed by bolts 40 to the forward portions of the angle bars 31. The semi-circular bar 36 provides a means whereby the blade may be angularly adjusted with respect to the line of travel of the machine. The blade 30 is adapted to be vertically adjusted by means of a pair of hydraulic cylinders 41, which are secured between the connecting bars 25 and 26.

The cylinders 41 have extending therefrom, a piston rod 42 which is connected at its lower end to an eye 43, secured to the upper portion of the blade 30. Each cylinder 41 is mounted for substantial universal movement by means of a collar 44 which is pivotally secured to the lower end of a cylinder by means of a pair of oppositely disposed pivot members 45.

The collar 44 is rockably mounted on the connecting bars 25 and 26 by means of pivot members 46 which engage through upstanding supports or bearings 47 and 48 secured to the bars 25 and 26, respectively. The pivot members 46 are disposed at right angles to the pivot members 45.

The machine herein disclosed, also includes a scoop 49 which is formed of a bottom plate 50, opposite side members 51 and a pivoted rear wall or gate 52. The scoop 49 is pivotally secured to the rear portion of the frame 15, being rockably mounted on a transversely disposed tubular shaft 53 which is secured between a pair of webs 54 which are fixed in the angle from between the rear members 21 and the bracing members 29.

A tubular shaft 55 is secured between the side walls 51 of the scoope 49 and the lower end of a connecting rod 56 is rockably mounted on the shaft 55. The connecting rod 56 is secured to a hydraulic piston (not shown) which is slidable in a rear hydraulic cylinder 57. The cylinder 57 is mounted for universal rocking movement on a pair of pivot members 58 extending through a collar 59 and collar 59 is rockably mounted on a pair of pivot members 60 secured to upstanding support members 61 and 62 which are fixed to a pair of transversely disposed connecting bars 63 and 64. The connecting bars 63 and 64 are fixed between the rear portions of the connecting or bracing bar 27.

The rear gate 52 of the scoop 49 is pivotally or hingedly secured as at 65 and may be provided with latching means for holding the gate 52 in closed position at the time the scoop is being filled and the filled scoop is moved with the machine to a place for dumping the material in the scoop.

In the use and operation of this device, the frame structure 15 is connected by means of the draft plate 19 to a tractor, which preferably includes a hydraulic system, whereby the hydraulic members 41 and 57 may be connected with a hydraulic pressure means. When it is desired to scrape the dirt on the surface of the ground, the scraping blade 30 is lowered and the angular position of blade 30 is adjusted by means of the

clamp 39. The loosened dirt may be picked up by the scoop 49 at which time the blade 30 is raised and the scoop 49 lowered at its forward end. When scoop 49 is substantially filled with dirt, the forward end of scoop 49 is raised by hydraulic member 57 so that the dirt may be moved to the desired location, at which point gate 52 is opened and scoop 49 raised to a dumping position.

The machine hereinbefore described is designed as a relatively small dirt moving machine which can be readily connected with a tractor or the like so as to level or move dirt as may be desired.

What is claimed is:

A dirt moving machine comprising a pair of laterally spaced upwardly sloping rearwardly diverging frame members, a pair of laterally spaced upwardly sloping rearwardly diverging lower frame members arranged in vertically spaced parallel relation to said first-named frame members, means connecting the adjacent forward ends of said upper and lower frame members, means extending transversely between said upper frame members and connected thereto anchoring said upper frame members in spaced relation, downwardly and rearwardly sloping parallel rear frame members secured to said upper and lower frame members, wheels journalled on the free ends of said rear frame members, means secured to the forward end of said machine for connecting said machine to a tractor, a scraper blade, a semi-circular bar fixed to said blade, means pivotally securing said semi-circular bar to said first-mentioned means, and means on said upper frame members for vertically adjusting said scraper blade.

References Cited in the file of this patent

UNITED STATES PATENTS

1,913,883	Hinds	June 13, 1933
2,090,732	Neff et al.	Aug. 24, 1937
2,195,607	Wilson et al.	Apr. 2, 1940
2,197,390	Arndt	Apr. 16, 1940
2,300,801	Parker	Nov. 3, 1942
2,311,639	Click	Feb. 23, 1943
2,577,340	Macdonald	Dec. 4, 1951