July 17, 1951

B. F. ARPS

SNOW AND DIRT MOVING AND TERRACING ATTACHMENT FOR TRACTORS

2,560,711

Filed March 28, 1947

4 Sheets-Sheet 1

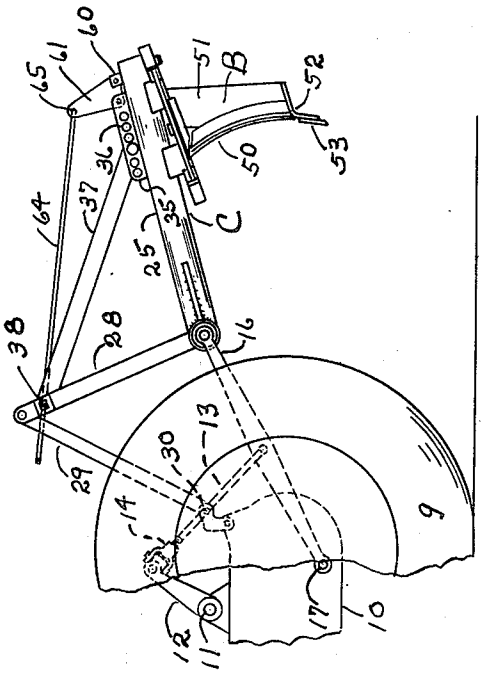


FIG. 2

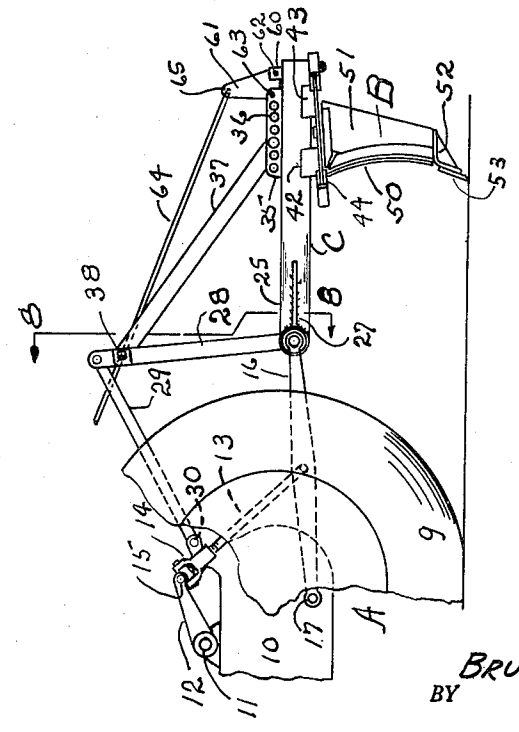


FIG. 1

INVENTOR.

BRUNO F. ARPS

BY

ATTORNEY

July 17, 1951

B. F. ARPS

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4 Sheets-Sheet 2

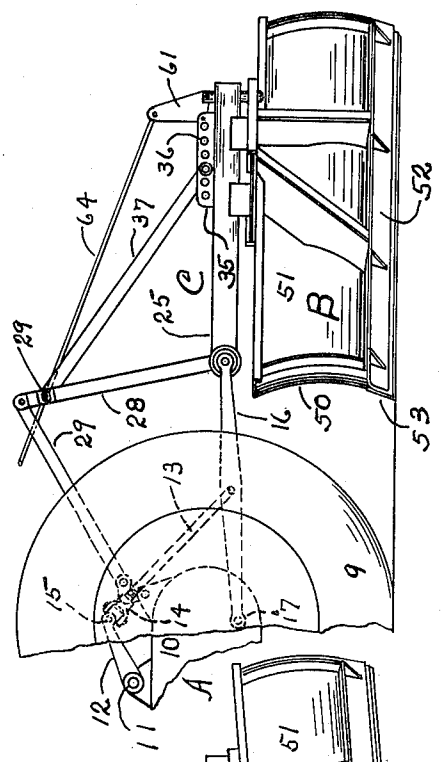


FIG. 4

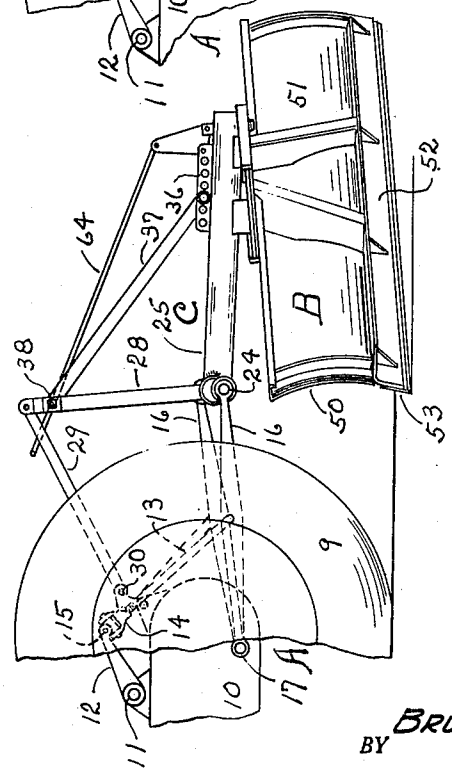


FIG. 3

INVENTOR.

BY BRUNO F. ARPS

A. S. Kroth

ATTORNEY

July 17, 1951

B. F. ARPS

2,560,711

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4 Sheets-Sheet 3

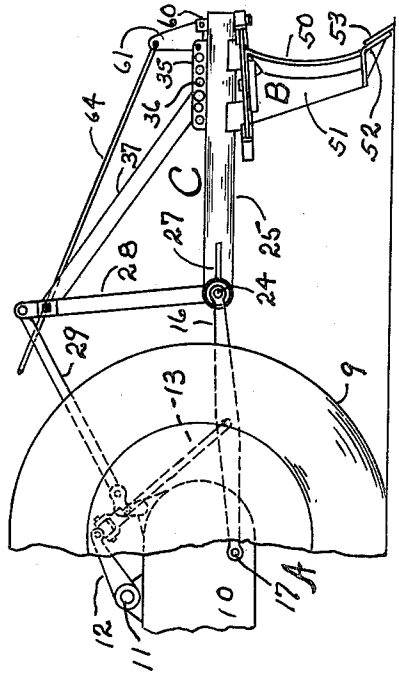


FIG. 6

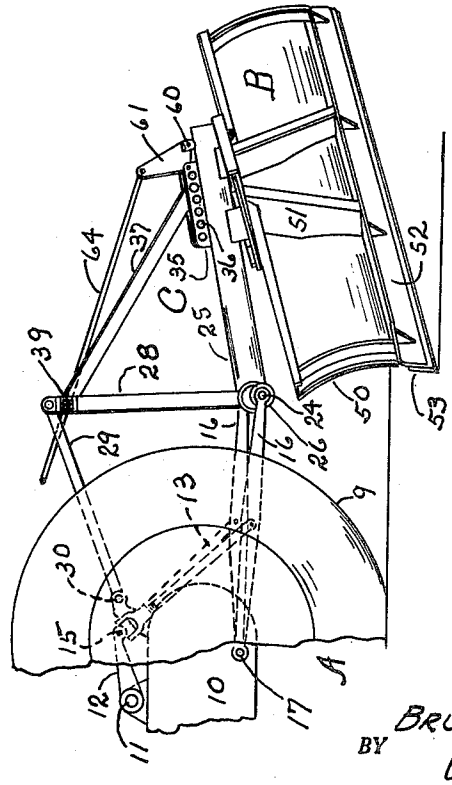


FIG. 5

INVENTOR.
BRUNO F. ARPS
BY
A. S. Krolz
ATTORNEY

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SNOW AND DIRT MOVING AND TERRACING ATTACHMENT FOR TRACTORS

Filed March 28, 1947 4 Sheets-Sheet 4

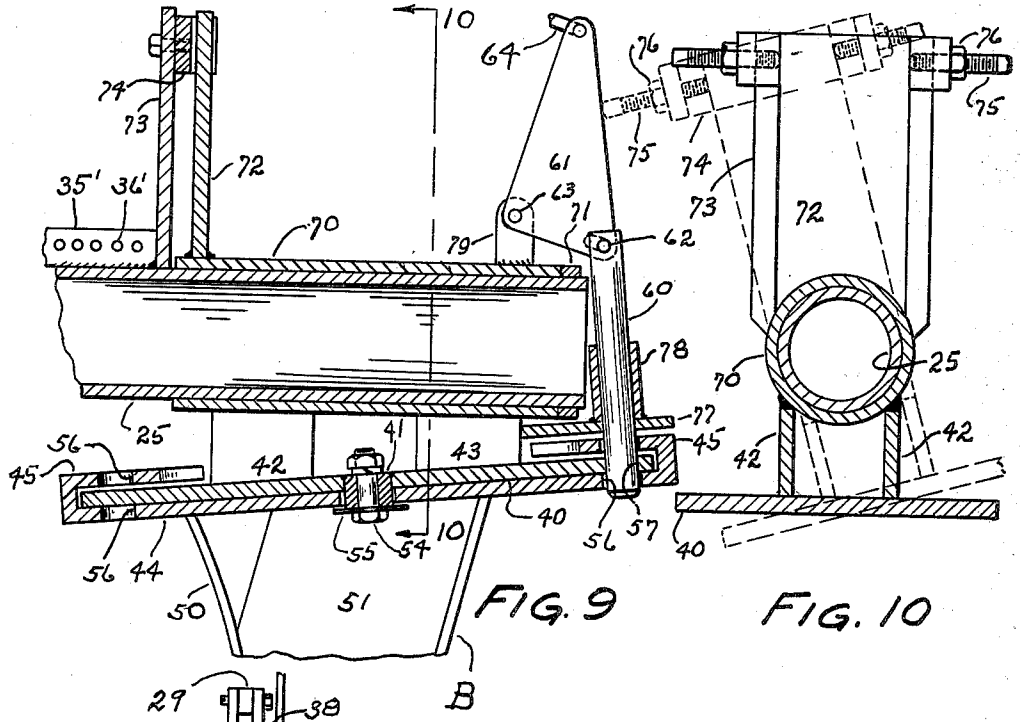


FIG. 9

FIG. 10

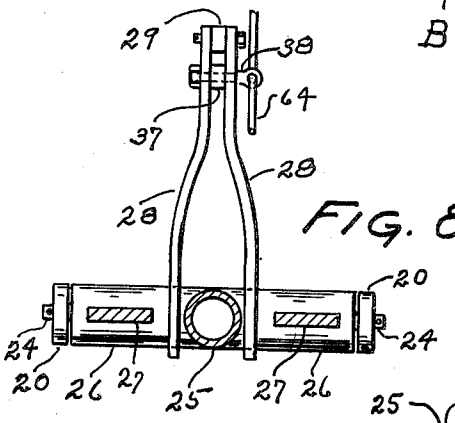


FIG. 8

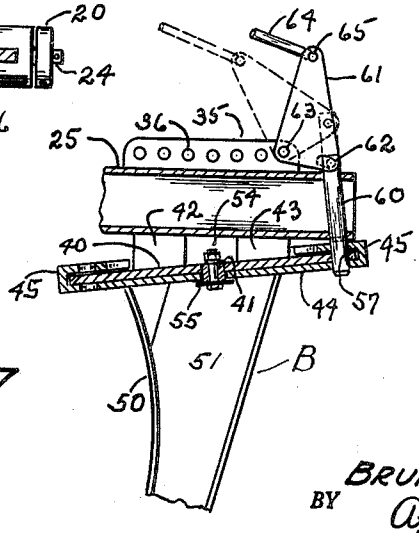


FIG. 7

INVENTOR.
BRUNO F. ARPS
BY
ATTORNEY

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UNITED STATES PATENT OFFICE

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SNOW AND DIRT MOVING AND TERRACING ATTACHMENT FOR TRACTORS

Bruno F. Arps, New Holstein, Wis.

Application March 28, 1947, Serial No. 737,897

3 Claims. (Cl. 37—156)

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The present invention relates to a scraper attachment for tractors with means whereby the scraper blade may be adjusted for scraping, bull dozing, terracing, and moving dirt or snow forward, rearward, or to the right or left.

Objects of the present invention are to provide a device of the character which is simple, easily operated, easily attached and detached and easily adjusted for the various operations and can be manufactured at low cost, and is strong, efficient and durable.

To these and other useful ends my invention consists of parts, combinations of parts or their equivalents and mode of operation, as hereinafter described and claimed and shown in the accompanying drawings in which:

Fig. 1 is a side elevational view of my device as attached to a conventional tractor with the blade in its lowered position and positioned substantially parallel to the ground and at right angle to the direction of travel.

Fig. 2 is a drawing illustrating the device as shown in Figure 1 but in a raised position.

Fig. 3 is a view similar to Figure 1 except that the scraper blade is positioned at an angle to the direction of travel and tilted for certain road work and moving the dirt or snow to the right.

Fig. 4 is a view similar to Figure 3 but with the blade positioned parallel to the road or ground surface.

Fig. 5 is a view similar to Figure 3 except with the blade considerably tilted for terracing.

Fig. 6 is a view similar to Figure 1 except with the blade reversed for bull dozer work.

Fig. 7 is a fractional enlarged sectional view of the rear end of the device illustrating the locking means for the blade bracket.

Fig. 8 is an enlarged sectional view of the device as viewed from line 8—8 of Figure 1.

Fig. 9 is an enlarged vertical sectional view of the rear end of a modification of my device illustrating a fraction only of the blade carrying bracket.

Fig. 10 is a view looking from lines 10—10 of Figure 9, the holding bracket for the blade being omitted.

As thus illustrated the tractor is designated by reference character A the scraper blade including its holding bracket is designated by reference character B. The tractor is provided with a power lift the ram of which (not shown) is generally positioned within the tractor frame 10 having ground wheels 9 and is connected to a transverse shaft 11, the ends of which protrude and to which generally rearwardly extending arms 12—12 are secured, the free ends of these arms being connected to the draw bars 16—16 by means of rods 13—13 which are screw threaded into heads 14—14, see Figure 1, the heads being

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pivotally connected to the rear ends of arms 12 as at 15—15.

Generally this connection between members 14 and 12 is in the form of a universal joint so the lower ends of rods 13 may swing sidewise as well as forward and rearward for a purpose which is obvious. The threads of members 13 and 14 have considerable length so the right or left hand draw bars 16 may be at their rear ends raised or lowered independently. Draw bars 16 are pivotally connected to the opposite sides of the tractor as at 17.

Thus far I have shown and described a power lifting mechanism of a conventional tractor with means for adjusting the rear ends of the draw bars vertically independently.

The main frame of my device in its entirety is designated by reference character C. Member C consists preferably of a tube 25, the forward end of which is preferably electric welded to a transverse tube 26. This transverse tube is preferably secured to tube 25 by means of braces 27—27 preferably by electric welding: the rear ends of members 16 are pivoted to the ends of member 26 as at 24. Vertically extending bars 28—28 (see Figure 8) are pivoted at their lower ends around tube 26, and converge as illustrated in Figure 8 to a width suitable for pivotally receiving a forwardly extending link 29 which is pivoted to the tractor frame as at 30.

The rear end of link 29 is considerably higher than pivot 30 therefore as the power lift raises member 26 the upper end of bars 28 will swing forward. Tube 25 has secured to its upper edge a plate 35 having a number of spaced holes 36. I provide a link 37 which is at its upper end secured to bars 28 by means of an eye bolt 38 as shown in Figure 8, and the other end of link 37 may be secured to any one of the openings 36, for raising and lowering the rear end of tube 25 relative to its front end.

Thus it will be seen that when the power lift acts to lift the device, the rear end of tube 25 will travel upward faster than the front end as clearly illustrated in Figures 1 and 2.

Referring now to Figure 7; I provide a plate 40 having rigidly therewith a downwardly projecting boss 41, the ends of this plate for a considerable width being on a radius with member 41. This plate is secured to tube 25 by means of four posts 42—42 and 43—43. Another plate 44 is provided having upwardly and overhanging members 45 adapted to loosely embrace member 40 and being pivotally mounted on member 41 as indicated.

I provide a scraper plate 50 which is suitably mounted on brackets 51, the brackets being secured to plate 44. At the bottom of members 51 I secure a bracket 52 having secured thereto a scraper blade 53. It will be understood that

members 51 and 52 make up a frame for the support of the scraper plate 50 and blade 53.

It will be seen that member 41 will act as a pivot mounting for member B. In order to provide free movement of member 44, I provide a bolt 54 and a washer 55, the bolt extending through member 41 and holding the washer freely against the lower side of member 44. Members 44 and 45 are provided with a series of registering holes 56 which are on a radius with member 41, and member 40 is provided with front and rear centrally positioned holes 57 which will register with any one of holes 56. I provide a a locking pin 60 which is adapted to extend through holes 56 and 57 and also through holes in tube 25 (see Figure 7).

I provide a triangular plate 61 which is pivotally secured to pin 60 as at 62, member 61 being pivoted to member 35 as at 63. The upper end of member 61 is pivotally secured to a rod 64 as at 65 the rod extending upwardly and forwardly and through the opening in eye bolt 38 and to within reach of the operator of the tractor. Thus generally if the operator wishes to change the transverse angle of member B a forward pull on rod 64 will release member B and then by moving the tractor forwardly or rearwardly the transverse angle of member B to the direction of travel may be changed and the position locked by pushing rearwardly on rod 64 when the openings 56 are in alignment with an opening 57. Clearly member B may be reversed and held in the position shown in Figure 6 for bull dozing or adjusted to any angle transverse to the direction of travel.

I will now describe the modification shown in Figures 9 and 10:

Member B is exactly like member B of the other figures and members 40 and 41 are similar. I provide a tube 70 which is rotatably held on tube 25 by means of a collar 71. Plate 35' is secured to the top of tube 25 preferably somewhat forward of the position shown in the other figures or tube 25 may be lengthened for the purpose. A post 72 is secured to tube 70 near the front end thereof, another post 73 is secured to tube 25 directly in rear of member 35.

A transverse U-shaped member 74 is secured to the top of member 73, the flanges of member 74 having screw threaded therein bolts 75 with lock nuts 76. Thus by adjusting bolts 75 the upper end of member 72 may be moved to the right or left relative to member 73 and the transverse angle of member B adjusted accordingly. Thus without changing links 13 the angle of member B may be changed or the two adjustments may be used to bring about an extreme angle of adjustment.

In this modification preferably a plate 77 is secured to members 43 having a tube 78 into which pin 60 is slidably mounted. A post 79 is secured to tube 70 to which member 61 is pivotally mounted as at 63 so that the turning of member B on pivot 41 may be brought about very similar to this adjustment provided for in the other figures.

It will be seen that I have provided a scraper attachment for tractors having the characteristics mentioned in the preamble of this specification; that I have provided a novel modification with means for angling the blades independent of the power lift connections; that the blades may be adjusted transversely by the operator of the tractor from his position on the seat and that the rear end of the main frame of the device is adjustable and raised more rapidly than the front. Thus it will be seen from the foregoing that I have provided a very simple easily understood and easily operated device.

Having thus shown and described my invention, I claim:

1. A snow and dirt moving device in combination with a tractor having a power lift, comprising rearwardly extending transversely spaced draw bars pivoted at their front ends to the tractor and having operating connections to said power lift, a transversely positioned member having its ends pivoted to the rear ends of said draw bars, a longitudinally positioned tube having its front end rigidly secured to said transverse member midway the ends thereof, forming a T-shaped frame, a generally vertically positioned post mounted at its lower end on the front end of said frame, a brace forming a connection between the upper end of said post and said longitudinally positioned tube a distance in rear of said transverse member, another post rigidly secured to said longitudinally positioned tube adjacent the rear end of said brace, another tube rotatably mounted on the longitudinally positioned tube with its front end adjacent the other post, a third post rigidly secured to the front end of said other tube, a connection between the upper ends of said other and third post having means for transversely adjustably securing the third post to the other posts to thereby determine the turned position of said other tube, a plate secured to the lower side of said other tube, another plate swively connected to the underside of said first plate, means whereby the other plate may be turned and locked to the first plate in predetermined positions, a bracket having a scraper blade and mounted on the under side of said other plate.

2. A device as recited in claim 1 including, said first post being transversely hingedly mounted on said T-shaped frame, said brace connection to said longitudinally positioned tube being longitudinally adjustable, whereby the rear end of the longitudinally positioned tube may be adjusted vertically relative to the first post.

3. A device as recited in claim 1 including, said means for locking the plates together comprising, a number of holes in said first and second plates concentric with the axis of said swivel, an anchored pin adapted to extend into two of the holes in the plates for locking the second plate into adjusted position, a forwardly extending bar operatively connected to said locking pin, its front end being within reach of the tractor operator and means whereby the second plate may be released and by manipulating the tractor, the scraper blade may be adjusted on its plate swivel and locked into position by the operator while on the seat of the tractor.

BRUNO F. ARPS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
383,751	Miller et al.	May 29, 1888
2,309,750	Carrington	Feb. 2, 1943
2,346,757	Horner	Apr. 18, 1944