Dec. 15, 1953 E. V. BRISCOE 2,662,614

STABILIZING SLED FOR DITCHERS

Filed June 24, 1950 2 Sheets-Sheet 1

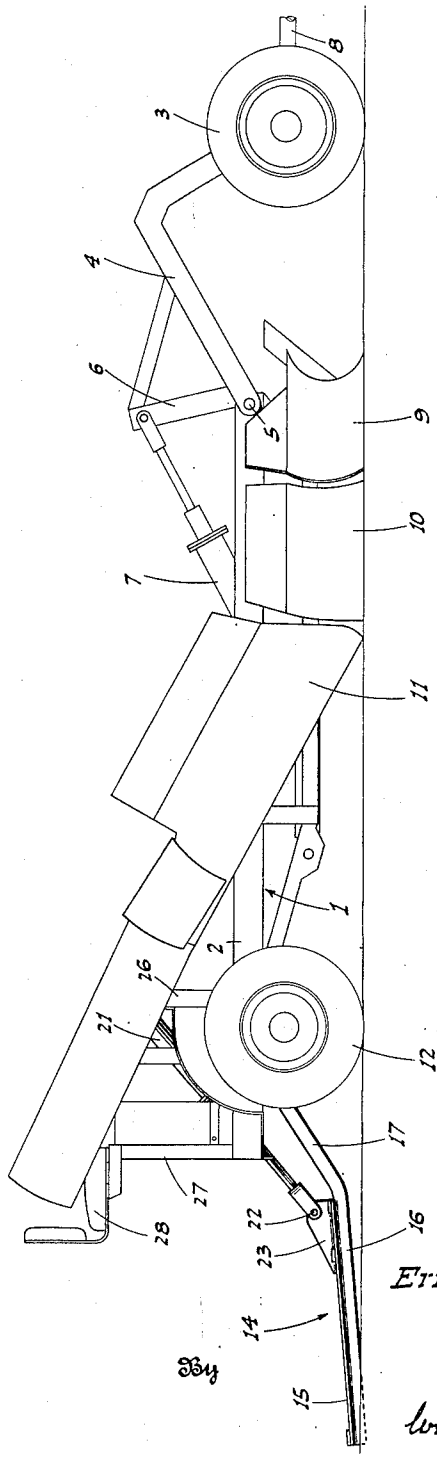


Fig. 1

Inventor
Ernest V. Briscoe

By

ATTORNEYS

Dec. 15, 1953 E. V. BRISCOE 2,662,614

STABILIZING SLED FOR DITCHERS

Filed June 24, 1950 2 Sheets-Sheet 2

Fig. 2

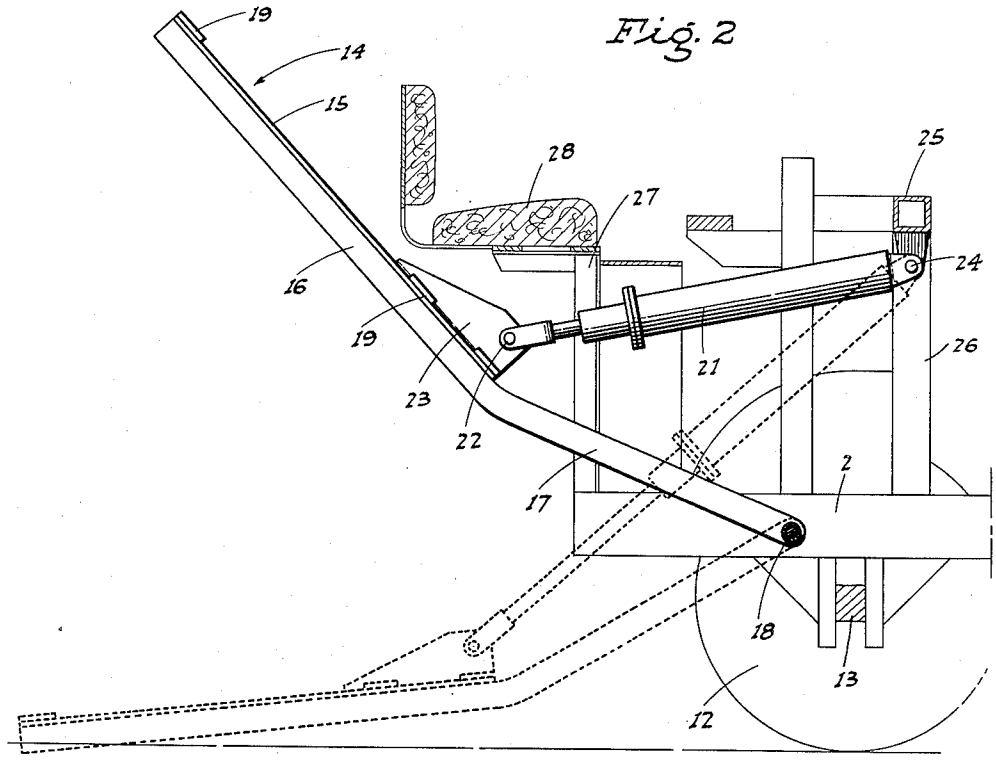
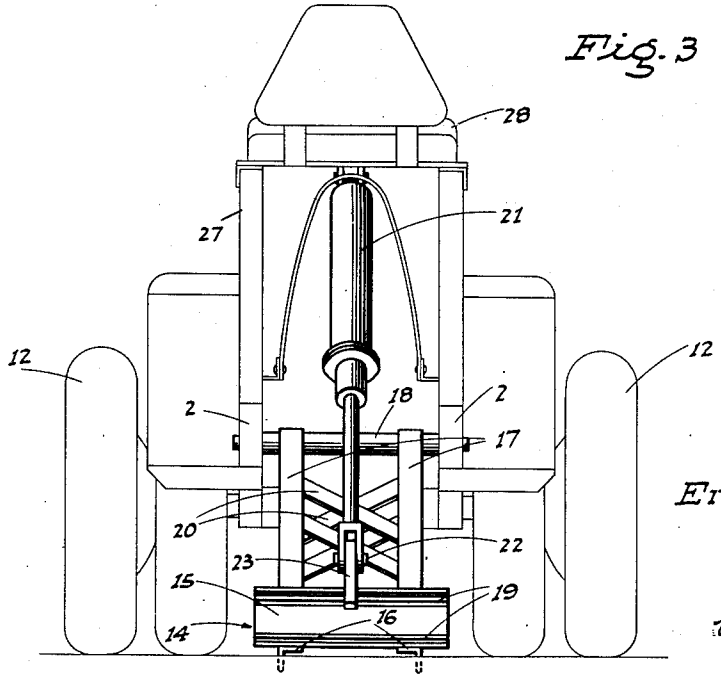


Fig. 3



Inventor

Ernest V. Briscoe

ATTORNEYS

Patented Dec. 15, 1953

2,662,614

UNITED STATES PATENT OFFICE

2,662,614

STABILIZING SLED FOR DITCHERS

Ernest Victor Briscoe, Kerman, Calif.

Application June 24, 1950, Serial No. 170,184

1 Claim. (Cl. 188—7)

1

The instant invention pertains to an improvement in an implement for digging or cleaning ditches; the implement being tractor-drawn, adapted to travel in the ditch, and having a scraper blade assembly operative to scrape the bottom and sides of the ditch and to deposit the spoil material on top of the ditch banks.

The implement is wheel-supported, and by reason of its relatively great weight may tend to bog or skew at the rear end when traveling in a ditch wherein the bottom is soft, as when wet.

It is therefore the major object of this invention to provide a novel stabilizing sled for the implement at the rear thereof; such sled effectively supporting the implement against bogging, and guiding such implement against lateral sliding or skewing at the rear.

A further object of the invention is to provide a stabilizing sled, for the purpose described, which is mounted on the implement for adjustment between a lowered working position and a raised position for transport.

An additional object of the invention is to provide a stabilizing sled, as above, having a power mechanism associated therewith for selectively adjusting said sled between working and non-working positions.

It is also an object of the invention to provide a stabilizing sled, for ditchers, which is rugged but simple in structure; readily adapted to ditchers of the type described; and when in use greatly improving the support and tracking of the implement.

Still another object of the invention is to provide a practical and reliable stabilizing sled for ditchers, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings:

Fig. 1 is a side elevation, somewhat diagrammatic, of a ditcher having the stabilizing sled mounted in connection therewith, with said sled shown in its lowered or working position.

Fig. 2 is an enlarged fragmentary sectional elevation of the rear end portion of the ditcher with the stabilizing sled shown in full lines in its raised or transport position, and in dotted lines in its lowered or working position.

Fig. 3 is a rear end elevation of the ditcher showing the stabilizing sled in its lowered or working position.

Referring now more particularly to the characters of reference on the drawings, the stabilizing sled is here shown as mounted in connection with a ditcher which includes a longitudinal main frame, indicated generally at 1, which main frame has transversely spaced side beams 2.

2

At the forward end the longitudinal main frame 1 is supported, from a front wheel truck 3, by means of a gooseneck 4 pivoted to the frame, as at 5. A post structure 6 upstands from the rear end of the gooseneck 4 in rigid relation, and is adapted to be swung to and fro by a power cylinder 7 which connects between said post structure and the main frame 1. In this manner articulation between the gooseneck 4 and main frame 1 is accomplished for the purpose of adjusting the front end elevation of the latter. The front wheel truck 3 includes a tongue 8 whereby the implement is coupled to a tractor in draft relation.

The scraper blade assembly which the implement includes for scraping the bottom and sides of a ditch comprises a lister plow 9 suspended from the forward portion of the main frame 1, with extension blades 10 mounted in connection with said frame and projecting rearwardly from corresponding rear ends of the lister plow 9.

The extension blades 10 are disposed to deliver onto the lower ends of upwardly and rearwardly diverging main scraper blades 11 of substantial length, which scraper blades 11 are suitably mounted in connection with the main frame 1.

At the rear end, the main frame 1 is supported by transversely spaced rear wheels 12 carried on opposite ends of an axle 13, which axle is disposed below the side beams 2 some distance forwardly of the rear ends of the latter.

The stabilizing sled, for the above described ditcher, is disposed at the rear end of the latter, and is indicated generally at 14.

The sled 14 comprises a rectangular but elongated sled plate 15 of heavy-duty gauge, and transversely spaced, longitudinally extending runners 16 are affixed to the under side of the sled plate 15 adjacent, but short of, opposite side edges of the latter.

The runners 16 are preferably of angle iron, and ahead of the sled plate 15 are bent upwardly relative to the extended longitudinal plane of said plate so as to form transversely spaced mounting arms 17.

At their forward ends the mounting arms 17 project between the side beams 2 and are journaled to a cross shaft 18 which extends between said side beams. The rear portion of the main frame 1 is open between the side beams 2 so that

the mounting arms 17 may swing vertically between their full line and dotted line positions, as in Fig. 2.

The assembly of the sled plate 15 and the runners 16, together with the mounting arms 17, is strengthened by suitable cross members 19 affixed to the top of the sled plate 15, and corresponding cross bracing 20 between the mounting arms 17.

A power cylinder 21 is pivotally connected at its rear end, as at 22, to an attachment web 23 which upstands from the front of the sled plate 15 centrally of its sides. At its upper or forward end the power cylinder 21 is pivoted, as at 24, to the top cross member 25 of an upstanding U-frame 26 included in the main frame 1 ahead of the cross shaft 18.

At its rear end the main frame 1 also includes an upstanding, U-shaped straddle frame 27 which supports an operator's seat 28.

The power cylinders 7 and 21 are selectively and independently controlled by a valve regulated, fluid pressure supply system (not shown), which system includes valves mounted within reach of the operator from the seat 28.

When the above described stabilizing sled is to be used, the power cylinder 21 is actuated to extend the same whereby the sled 14 is thrust downward to its full line position as in Figs. 1 and 3, and the dotted line position as in Fig. 2.

The sled 14 is positively maintained in this lowered or working position by the power cylinder 21, and as the implement advances in the ditch, such sled rides on the bottom of the ditch, stabilizing the rear end of the implement, preventing the rear wheels 12 from bogging, and causing the implement to properly track lengthwise in the ditch without skewing to one side or the other. The sled plate 15 assures of the aforesaid stabilizing of the implement, while the runners 16 cause the desired tracking of said implement.

It is preferred that when the sled 14 is in its lowered working position it have a slight upward inclination in the direction of travel.

When the sled 14 is not needed, or when the implement is being transported from place to place, the power cylinder 21 is contracted, swinging the sled upwardly to its full-line position, as in Fig. 2, and in which position it is wholly out-of-the-way, and does not in any manner obstruct normal forward travel of the implement.

The herein described stabilizing sled makes possible the use of a ditcher, of the type disclosed, in a ditch whose bottom is soft or boggy, as when wet or when the ground is of loose character; the sled when in lowered or working position maintaining the rear end portion of the implement against bogging, and causing it to track properly without skewing towards one ditch bank or the other. As a result the scraper blade assembly may work accurately to form or clean the bottom and sides of the ditch and to deposit the spoil material on top of the ditch banks.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

A stabilizing attachment for a ditcher having a longitudinal frame and wheels supporting the rear of the frame, said attachment including a pair of arms, horizontally coaxial pivots adapted to connect forward ends of said arms to the rear of the frame, said arms being bent vertically between their ends to provide front and rear portions lying in the same vertical plane at an obtuse angle to each other, the front ends of the front portions being mounted on said pivots and the rear ends of the rear portions being normally engaged in the ground over which the ditcher travels, said rear portions being inclined at a small acute angle to the ground when engaged therewith, a platform constituting a sled fixed on top of the rear portions of said arms and having its rear portion engaging on top of the ground to slide thereover upon sinking of the rear ends of the arms into the ground, said platform extending the full length of the rear portions of said arms from the bends to the rear extremities of the arms, and means to forcibly move the arms and platform between ground engaging position and a position clear of the ground.

ERNEST VICTOR BRISCOE.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
Re. 20,990	Wright	Jan. 24, 1939
782,643	Custelin	Feb. 14, 1905
1,320,129	Foster	Oct. 28, 1919
1,372,396	Blackburn	Mar. 22, 1921
1,625,226	Simmons	Apr. 19, 1927
1,719,313	Scott	July 2, 1929
1,812,663	Petersen	June 30, 1931
1,990,101	Smith	Feb. 5, 1935
2,101,661	Wagler	Dec. 7, 1937
2,297,938	Briscoe	Oct. 6, 1942
2,459,016	Cohen	Jan. 11, 1949
2,507,774	Foley	May 16, 1950

FOREIGN PATENTS

Number	Country	Date
316,963	Great Britain	Aug. 7, 1929