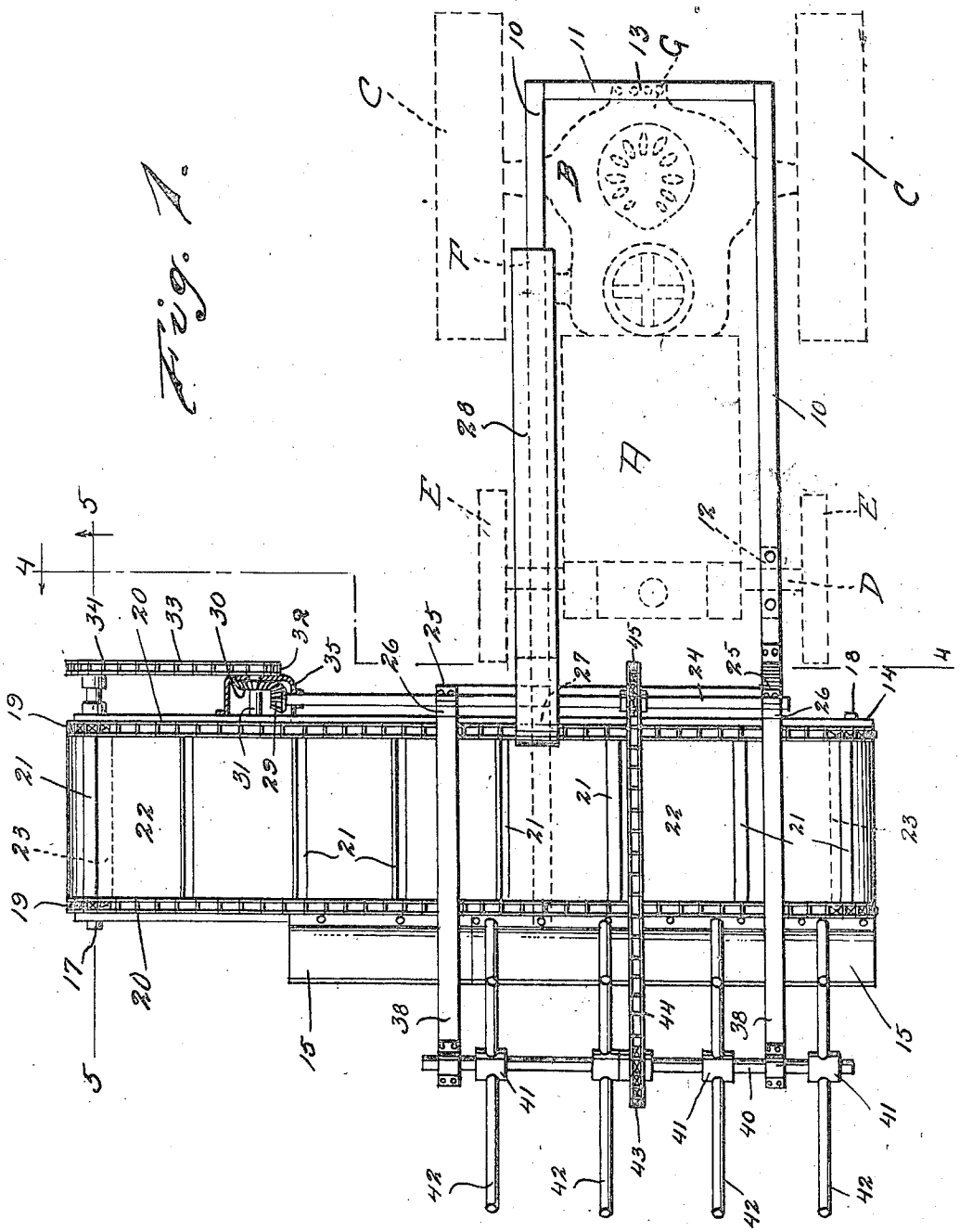
July 24, 1923. 1,462,901

G. S. BRECHT

SNOWPLOW

Filed Dec. 9, 1922 4 Sheets-Sheet 1

Fig. 1.



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SNOWPLOW

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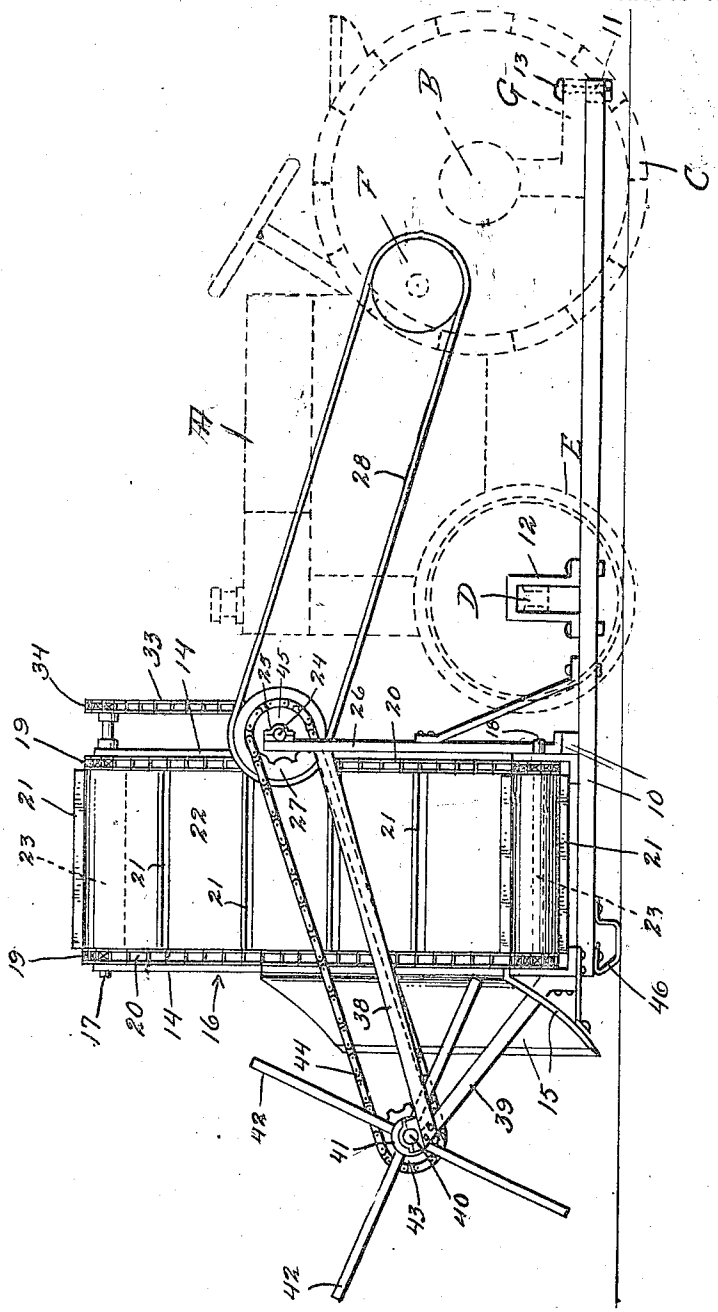

Fig. 2.

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SNOWPLOW

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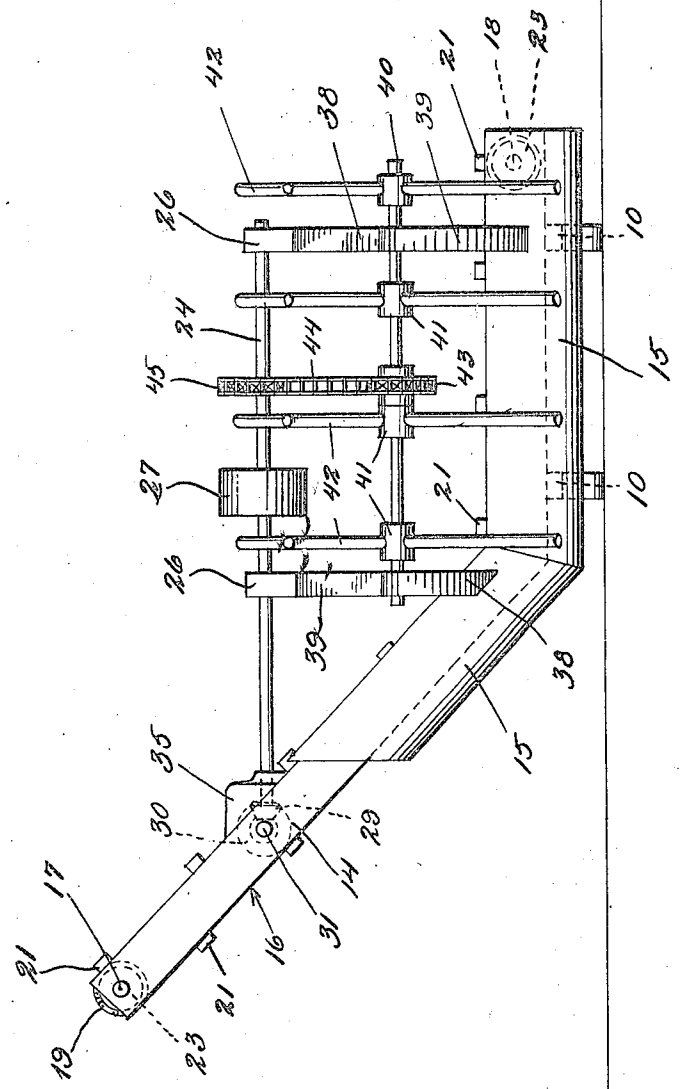
Fig. 5.



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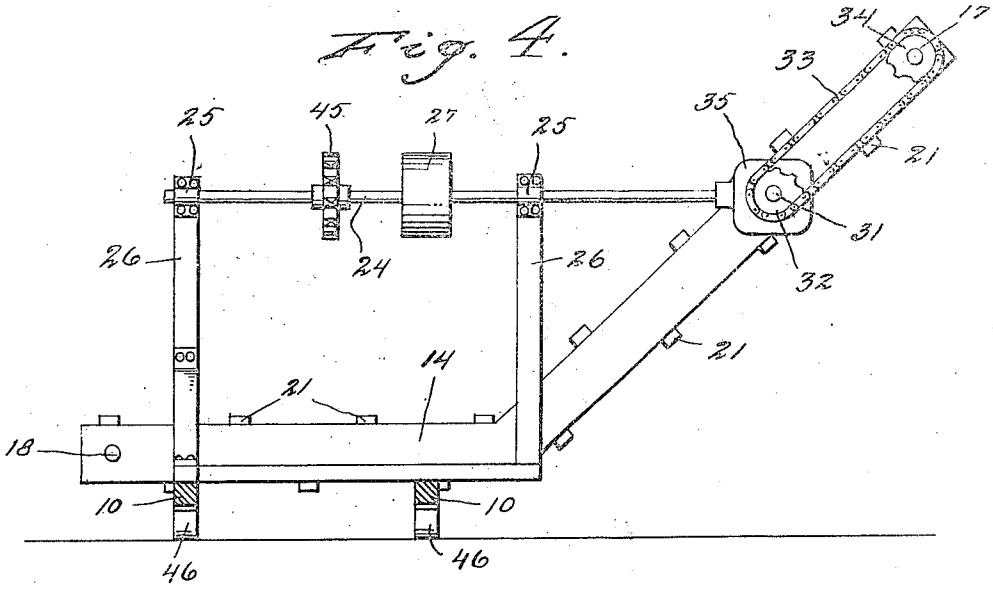
SNOWPLOW

Filed Dec. 9, 1922 4 Sheets-Sheet 4

Fig. 4.



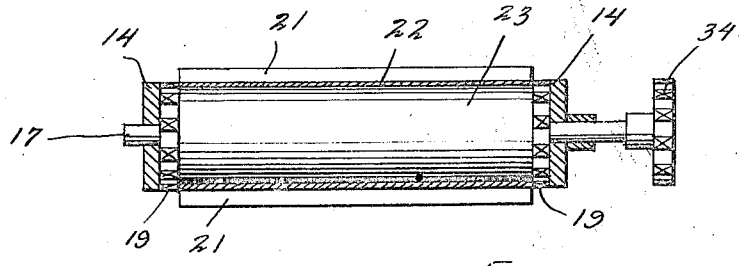


Fig. 5

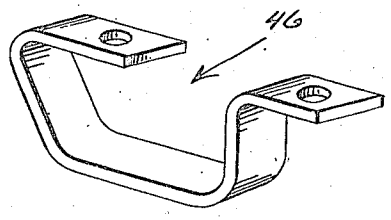


Fig. 6.

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Patented July 24, 1923. 1,462,901

UNITED STATES PATENT OFFICE.

GEORGE S. BRECHT, OF BALTIC, SOUTH DAKOTA, ASSIGNOR TO A. L. STEWART, OF CANTON, SOUTH DAKOTA.

SNOWPLOW.

Application filed December 9, 1922. Serial No. 605,960.

To all whom it may concern:

Be it known that I, GEORGE S. BRECHT, a citizen of the United States, residing at Baltic, in the county of Minnehaha and State of South Dakota, have invented certain new and useful Improvements in Snowplows, of which the following is a specification.

This invention relates to a snow plow attachment for tractors and has for its object the provision of a novel snow plow structure equipped with a supporting frame designed to be clamped upon the front and rear axles of an ordinary tractor, the device including a laterally moving conveyor driven by the power pulley of the tractor so that snow will be scraped up and deposited at one side of the roadway traveled over.

An important object is the provision of a device of this character which is equipped with a rotary beating device located in advance of the plow and which is for the purpose of breaking up any encrusted snow so that it may be received properly upon the conveyor and be discharged therefrom.

Another object is the provision of a device of this character in which the blade and forward portion of the frame supporting it are angular in shape so as to form a sloping bank which will prevent caving down of the snow after it has been thrown to one side of the road.

An additional object is the provision of a device of this character which will be comparatively simple and inexpensive to manufacture, easy to install and operate, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which

Figure 1 is a top plan view of the device mounted upon a tractor.

Figure 2 is a side elevation.

Figure 3 is a front view.

The remaining figures are detail views.

Referring more particularly to the drawings, the letter A designates a portion of a tractor, B represents the draw-bar mounting thereof, C the rear wheels, and D the front axle carrying the front wheels E. The letter F represents the pulley which is provided for the purpose of obtaining power for driving any desired devices. The tractor is represented very diagrammatically by dotted lines as it forms no part of the present invention but is for the purpose of merely illustrating the application of my attachment.

In carrying out my invention I provide a rectangular frame which includes longitudinal bars 10 connected at their rear ends by a transverse bar 11. This frame is designed to be placed in embracing relation to the tractor inwardly of the wheels and below the axles thereof, and I provide clamps 12 which are engageable upon the front axle, for the purpose of holding the frame properly in position. The cross member 11 is connected with the draw-bar mounting, as shown at 13.

This frame may be constructed of any desired material though angle iron of some preferred cross sectional configuration is highly advantageous as being comparatively light for its strength.

Carried by the forward ends of the longitudinal bars 10 is an elongated transversely disposed frame 14 upon the forward side of which is secured a shoe or blade 15 which is curved in cross section, as shown, and which is angular in shape. This frame 14 is likewise angular in shape to define an incline 16 which is for the purpose of forming a sloping bank when the device is used. At its ends the frame 14 carries shafts 17 and 18 journaled therein and carrying sprockets 19 about which are trained conveyor chains 20 connected by slats 21 and secured upon the edges of an apron 22. It is preferable that the shafts 17 and 18 carry rollers 23 which support the ends of the apron.

The drive means comprises a horizontally extending shaft 24 which is journaled in suitable bearings 25 carried by vertical supports 26 rising from the frame 14. Intermediate its ends, this shaft carries a pulley 27 about which is trained a belt 28 which is in turn trained about the power pulley F of the tractor. At one end the shaft 24 carries a bevel gear 29 meshing with a bevel gear 30 mounted on a countershaft 31 which carries a sprocket 32 about which is trained a chain 33 which is also trained about a sprocket 34 on the shaft 17. It is naturally preferable that some preferred housing 35

be provided for inclosing the gearing for preventing it from becoming clogged with snow, mud, dirt and the like. It is of course apparent that there will be a certain amount of slack on the lower stretch of the conveyor but this will not be any handicap and might be taken care of in any conventional manner.

Carried by the frame 14 and projecting in advance thereof are arms 38 terminating in bearings 39 through which is journaled a shaft 40 which is horizontally disposed and which carries a hub 41 from which radiate beater arms 42, for the purpose of breaking up any encrusted snow. The shaft 40 carries a sprocket 43 about which is trained a chain 44 which extends rearwardly and which is trained about a sprocket 45 on the shaft 24.

In order to support the mechanism when the front wheels of the tractor drop into any depressions in the roadway, I provide shoes 46 which are mounted on the undersides of the forward ends of the frame bars 10. These shoes prevent the blade 15 from striking against any obstructions and being broken or otherwise damaged.

In operation the tractor is propelled along the ground in the usual manner, and it will be apparent that the power pulley F will operate through the gearing and sprocket and chain mechanism described to drive the conveyor structure and also to rotate the beater. The blade or shoe 15 will naturally cut and scrape up the snow and cause it to be deposited onto the constantly moving conveyor. The slats 21 will prevent the snow from slipping down the inclined portion of the conveyor and will elevate the snow to the top of the frame 14 where the snow will be distributed upon the side of the roadway. The rotation of the beater arms insures breaking up of any encrusted or icy snow so that the chunks thereof may be deposited properly on the conveyor to be carried away thereby. Owing to the fact that the blade and transverse frame have an inclined portion, it is quite obvious that the device will operate to cut a sloping bank and in this way caving in of the pile of snow at the side of the roadway will be prevented.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simply constructed and inexpensive snow plow attachment which may be easily mounted upon a tractor to be carried and operated thereby. The device will very efficiently scrape up and remove all accumulations of snow, ice and the like from roadways and render them fit for traffic. Owing to the simplicity of the construction and fewness of the parts it is apparent that there is nothing to get out of order and that the device should have a long life and satisfactorily performs all its functions.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. A snow plow attachment for tractors comprising a frame adapted to be placed in embracing relation to a tractor inwardly of the wheels thereof and equipped with clamps engageable with the front axle and means for connection with the draw-bar mounting, a transverse frame carried by the forward end of said main frame and located in advance of the tractor, a scraping blade carried by said transverse frame and a conveyor mounted within said transverse frame and driven from the power pulley of the tractor.

2. A snow plow attachment for tractors comprising a frame adapted to be placed in embracing relation to a tractor inwardly of the wheels thereof and equipped with clamps engageable with the front axle and provided with means for connection with the rear portion of the tractor, a transverse frame carried by the forward end of said main frame and located in advance of the tractor, a scooping and scraping blade carried by said transverse frame, a conveyor mounted within said transverse frame and driven from the power pulley of the tractor, and a rotary horizontally disposed beater journally supported in advance of said transverse frame for breaking up encrusted snow.

3. A snow plow attachment for tractors comprising a frame adapted to be placed in embracing relation to a tractor inwardly of the wheels thereof and equipped with means engageable with the front axle and means for connection with the rear portion, a transverse frame carried by the forward end of said main frame and located in advance of the tractor, a scooping blade carried by said transverse frame, and a conveyor mounted within said transverse frame and driven from the power pulley of the tractor.

4. A snow plow attachment for tractors comprising a main frame designed to be mounted at opposite sides of a tractor, clamping means carried by said frame for securing it to the tractor, a transverse frame located in advance of the tractor and carried by the forward end of said main frame, said transverse frame projecting considerably beyond one side of the tractor and said projecting portion being upwardly inclined, a blade of angular shape carried by the forward edge of said transverse frame, and a conveyor carried by said transverse frame and driven from the power pulley of the tractor.

5. A snow plow attachment for tractors comprising a main frame designed to be mounted at opposite sides of a tractor, clamping means carried by said frame for securing it to the tractor, a transverse frame located in advance of the tractor and carried by the forward end of said main frame, said transverse frame projecting considerably beyond one side of the tractor and said projecting portion being upwardly inclined, a blade of angular shape carried by the forward edge of said transverse frame, and a conveyor carried by said transverse frame and driven from the power pulley of the tractor, said drive consisting of a horizontal shaft supported above the transverse frame and having a drive connection with said power pulley, a counter shaft having gear connection with said first named shaft, and carrying a sprocket, a sprocket associated with one end of the conveyor, and a chain trained about both of said sprockets.

6. A snow plow attachment for tractors comprising a main frame designed to be mounted at opposite sides of a tractor, clamping means carried by said frame for securing it to the tractor, a transverse frame located in advance of the tractor and carried by the forward end of said main frame, said transverse frame projecting considerably beyond one side of the tractor and said projecting portion being upwardly inclined, a blade of angular shape carried by the forward edge of said transverse frame, and a conveyor carried by said transverse frame and driven from the power pulley of the tractor, said drive consisting of a horizontal shaft supported above the transverse frame and having a drive connection with said power pulley, a counter shaft having gear connection with said first named shaft and carrying a sprocket, a sprocket associated with one end of the conveyor, and a chain trained about both of said sprockets, forwardly extending arms carried by the transverse frame, a rotary member journaled in said arms and carrying beaters engageable with the snow to break the crust thereof, and shoes carried by the undersides of the forward ends of the frame.

In testimony whereof I hereto affix my signature.

GEORGE S. BRECHT.