Dec. 9, 1930. E. A. BRATTLIEN 1,784,331

SNOWPLOW

Filed April 23, 1929 4 Sheets-Sheet 1

Fig. 1.

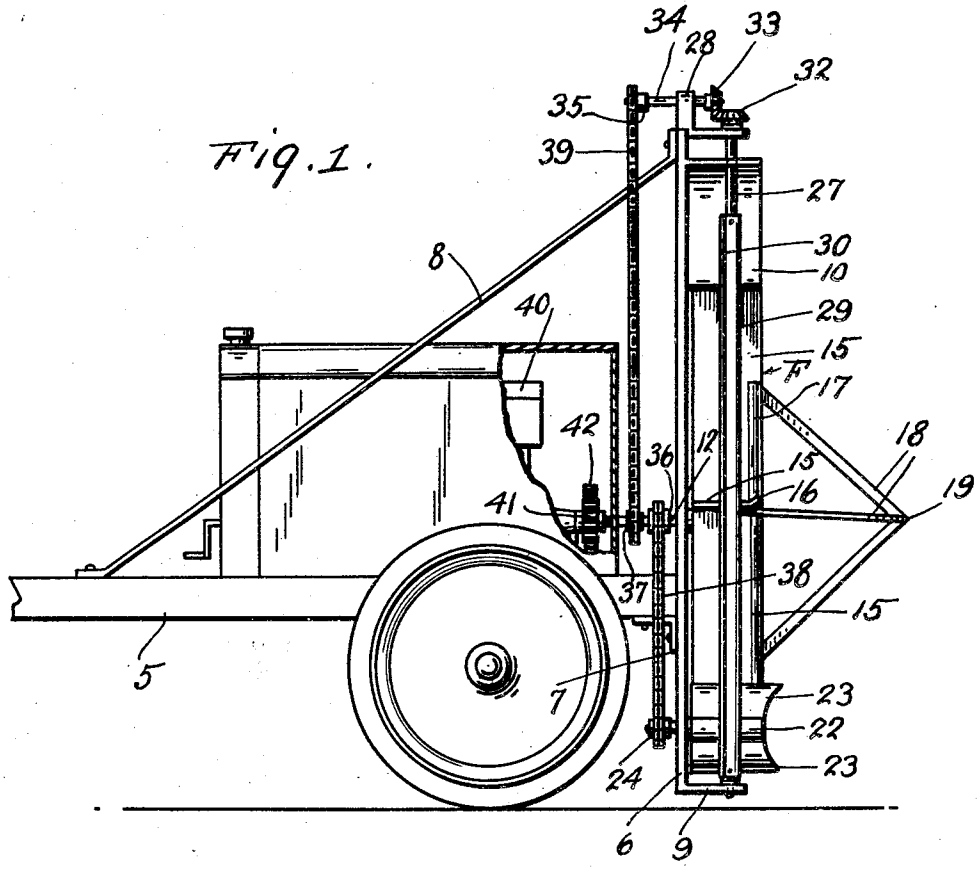


Fig. 6.

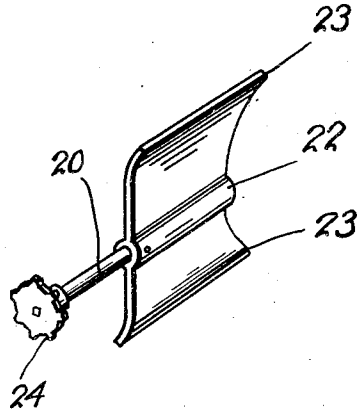
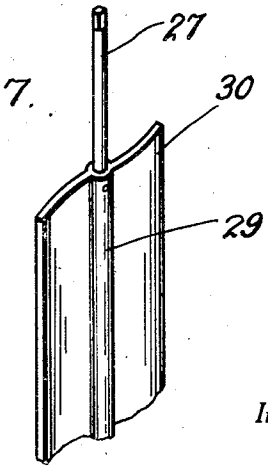


Fig. 7.



Inventor

E. A. Brattlien

By Clarence A. O'Brien

Attorney

Dec. 9, 1930. E. A. BRATTLIEN 1,784,331

SNOWPLOW

Filed April 23, 1929 4 Sheets-Sheet 2

Fig. 2.

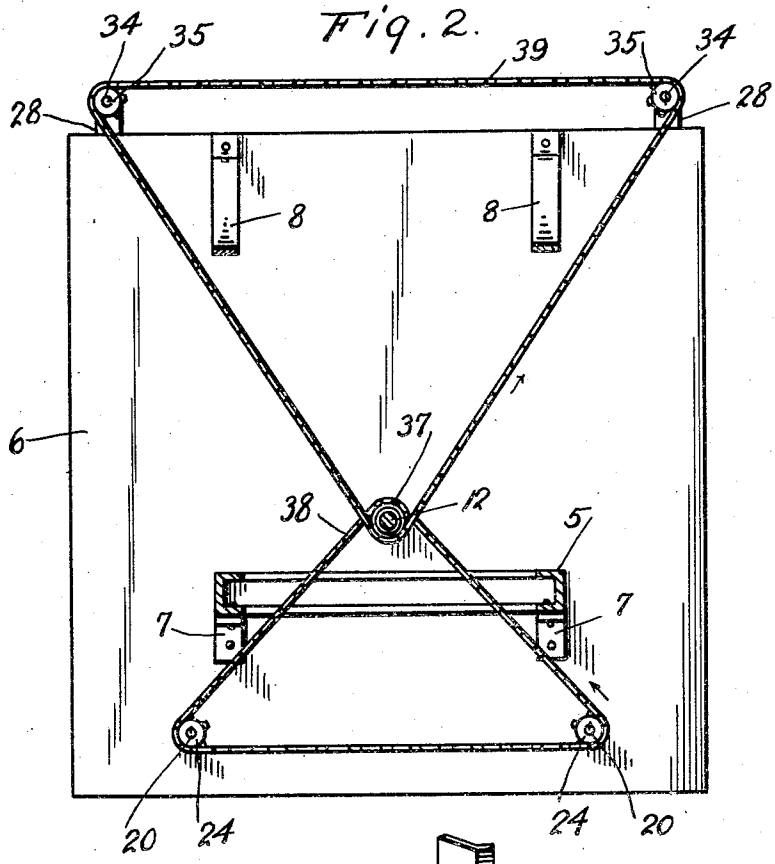
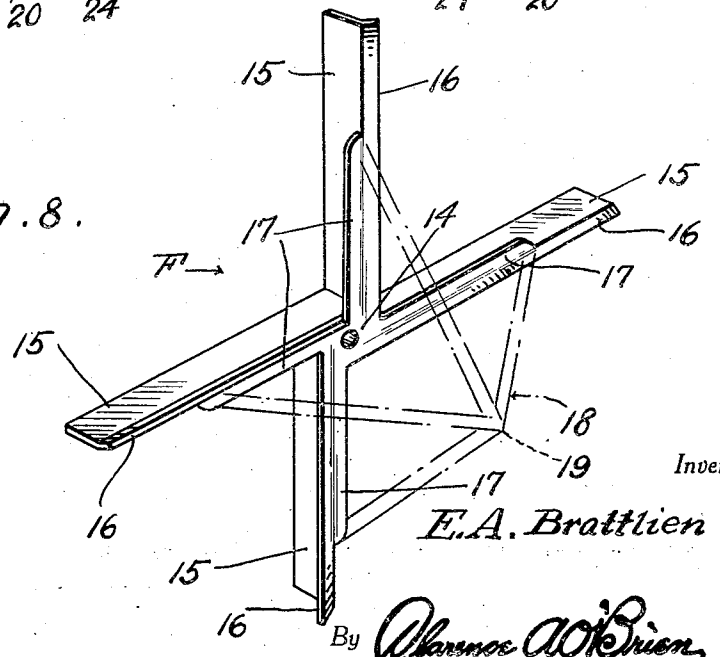


Fig. 8.



Inventor

E. A. Brattlien

By Clarence A. O'Brien

Attorney

Dec. 9, 1930. E. A. BRATTLIEN 1,784,331

SNOWPLOW

Filed April 23, 1929 4 Sheets-Sheet 3

Fig. 3.

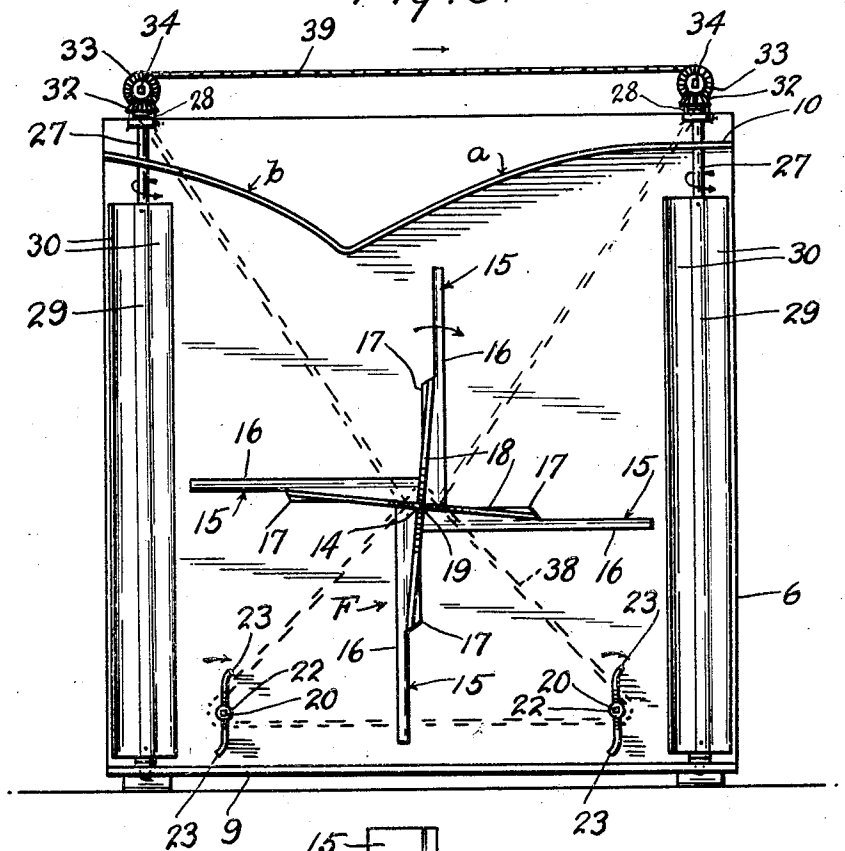
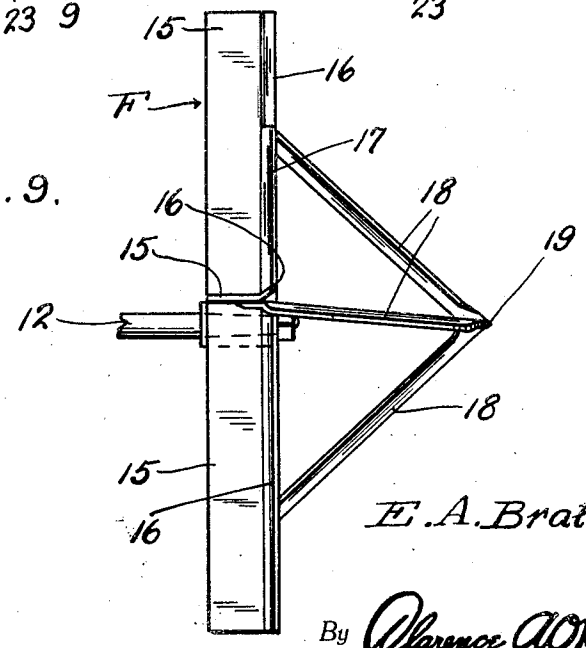


Fig. 9.



Inventor

E. A. Brattlien

By Clarence A. O'Brien

Attorney

Dec. 9, 1930. E. A. BRATTLIEN 1,784,331

SNOWPLOW

Filed April 23, 1929 4 Sheets-Sheet 4

Fig. 4.

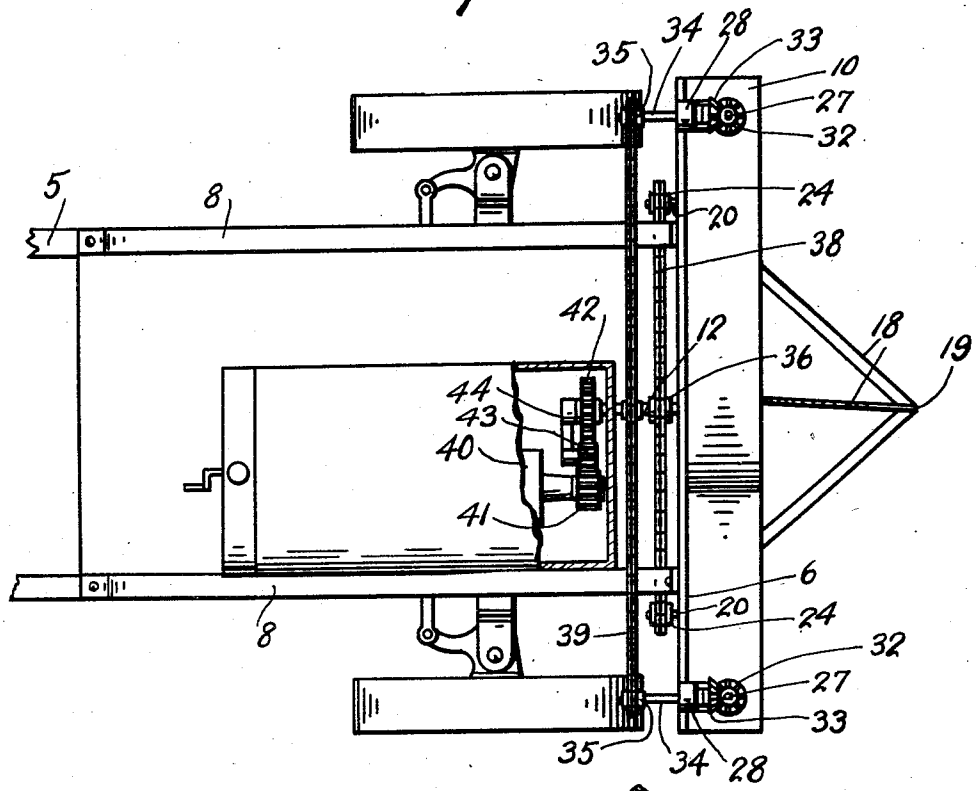
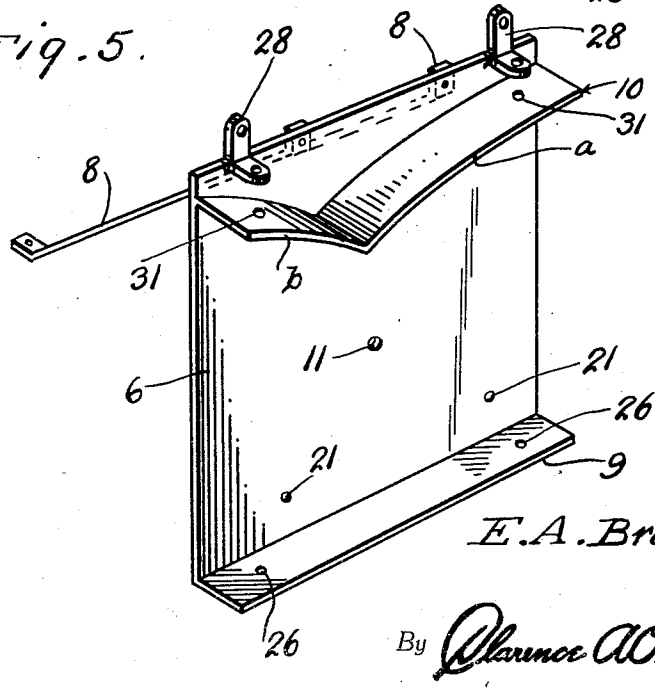


Fig. 5.



Inventor

E. A. Brattlien

By Clarence A. O'Brien

Attorney

Patented Dec. 9, 1930 1,784,331

UNITED STATES PATENT OFFICE

ERICK A. BRATTLIEN, OF KENSINGTON, MINNESOTA

SNOWPLOW

Application filed April 23, 1929. Serial No. 357,582.

The present invention relates to a snow plow for clearing roadways and other similar purposes and the prime object of the invention resides in the provision of a structure mounted on the front of a wheeled frame and operated by motive power on the wheel frame so as to cause the rotation of a relatively large fan like member on a horizontal axis in front of a large vertical plate transversely of the front end of the frame in cooperation with side beaters with vertical axes and lower corner augers on horizontal axes.

Another very important object of the invention resides in the provision of an auger like structure extending forwardly from and rotating with the fan like member.

A still further very important object of the invention resides in the provision of an apparatus of this nature which is simple in its construction, inexpensive to manufacture, strong and durable, thoroughly efficient and reliable in use and operation, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is a side elevation of the apparatus embodying the features of my invention,

Figure 2 is a rear elevation thereof,

Figure 3 is a front elevation thereof,

Figure 4 is a top plan view thereof,

Figure 5 is a perspective view of the plate with its bottom share and top baffle,

Figure 6 is a perspective view of one of the corner augers,

Figure 7 is a perspective view of the upper end of one of the beaters,

Figure 8 is a perspective view of the fan like member, and

Figure 9 is a side elevation thereof.

Referring to the drawing in detail it will be seen that the numeral 5 denotes a wheeled vehicle or frame such as a truck or the like. A rectangular plate 6 is mounted on the front end of the frame 5 by means of brackets 7 and braces 8 or in any other suitable or preferred manner and this plate is provided at its bottom edge with a forwardly directed share 9 and across the upper end thereof with a baffle 10 comprising a relatively long curved portion *a* and a relatively short curved portion *b*, the juncture of these two portions *a* and *b* being the lowest point of the baffle.

An opening 11 is provided along the vertical median dimension below the center thereof and a shaft 12 is journaled therein having on the front end in front of the plate 6 a fan like member denoted generally by the letter F and comprising a hub 14 with blades 15, preferably four in number, extending tangentially therewith and having on their front edges full length obliquely extending flanges 16 and partial length right angularly extending flanges 17 disposed oppositely to the flanges 16.

A plurality of blades 18 are fixed to intermediate portions of the blades 15 and converge inwardly to meet at a point 19 coaxially disposed with the hub 14 and the shaft 12 forwardly of the fan like member F to provide an auger for boring into the snow.

A pair of shafts 20 are journaled through openings 21 in the lower corners of the plate 6 and on their forward ends have augers comprising hubs 22 with curved blades 23 extending in opposite direction therefrom. On the rear ends of the shaft 20 there are fixed sockets 24.

In openings 26 in the end portions of the share 9 there are journaled the lower ends of shafts 27, the upper ends of which are journaled in brackets 28 at the upper edge of the plate 6. Beaters are mounted on these shafts 27 and each beater comprises a hub 29 fixed to the shaft 27 and having curved oppositely disposed blades 30.

These shafts 27 are extended through openings 31 in the baffle 10. On the upper ends of the shaft 27 there are beveled gears 32 meshing with bevel gears 33 on horizontal shafts 34 journaled in the bracket 28. Sprockets 35 are mounted on the rear end of the shafts 34.

A sprocket 36 is mounted on the shaft 12

and another sprocket 37 is mounted thereon. A chain 38 is trained over the sprocket 36 and the sprockets 24. A chain 39 is trained over the sprocket 37 and over the sprockets 35. The shaft 12 may be operated in any suitable manner such as by an engine 40 having a gear 41 on the driven shaft thereof while the shaft 12 has a gear 42 spaced from the gear 41.

A pinion 43 is mounted on an arm 44 swingably mounted so as to be brought into mesh with the gears 41 and 42 when desired.

One of the main features of the efficient operation of this plow resides in the side beaters as they take care of cutting the edges of the snow banks and assist in feeding the side snow to the main fan like member which throws it out to the side.

This fan like member preferably revolves at a speed of about 450 to 500 revolutions per minute and the beaters revolve at about the same speed. These beaters revolve very rapidly and cut the edges and throw the snow into the main fan like member which centrifugally throws the snow in all directions so that it moves to the sides with the assistance of the baffle structure 10.

It is thought that the construction, operation, utility and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof. The present embodiment of the invention has been disclosed in considerable detail merely for the purposes of exemplification since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. An apparatus of the class described comprising a vertical plate, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a pair of augers mounted forwardly of the lower corners of the plate on horizontal axes.

2. An apparatus of the class described comprising a vertical plate, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a pair of augers mounted forwardly of the lower corners of the plate on horizontal axes, an auger like structure mounted on the fan like member concentrically therewith and projecting forwardly.

3. An apparatus of the class described comprising a vertical plate, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a plurality of blades fixed to intermediate portions of the blades of the fan like member and converging toward each other into a point co-axially disposed with the hub of the fan like member.

4. An apparatus of the class described comprising a vertical plate, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a plurality of blades fixed to intermediate portions of the blades of the fan like member and converging toward each other into a point co-axially disposed with the hub of the fan like member, each beater comprising a shaft with a hub thereon and a pair of curved blades projecting in opposite directions therefrom.

5. An apparatus of the class described comprising a vertical plate, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a pair of augers mounted forwardly on the lower corners of the plate on horizontal axes, a plurality of blades fixed to intermediate portions of the blades of the said fan like members and converging inwardly toward each other into a point co-axially disposed with the hub of the fan like member.

6. An apparatus of the class described comprising a vertical plane, a flange projecting forwardly from the bottom edge of the plate to form a share, a baffle extending across the upper portion of the plate forwardly thereof, a fan like member rotatably mounted forwardly of the plate, a pair of side beaters rotatably mounted on vertical axes one to each side of the fan like member, a pair of augers mounted forwardly of the lower corners of the plate on horizontal axes, a plurality of blades fixed to intermediate portions

of the blades of the said fan like member and converging inwardly toward each other into a point co-axially disposed with the hub of the fan like member, each beater comprising a shaft from the hub thereon and a pair of curved blades projecting in opposite directions therefrom, and each of said augers comprising a hub on a shaft and curved blades projecting in opposite directions from said hub.

In testimony whereof I affix my signature.

ERICK A. BRATTLIEN.