June 15, 1926.

1,588,745

A. T. KEAR ET AL

SNOWPLOW

Filed Oct. 2, 1925

2 Sheets-Sheet 1

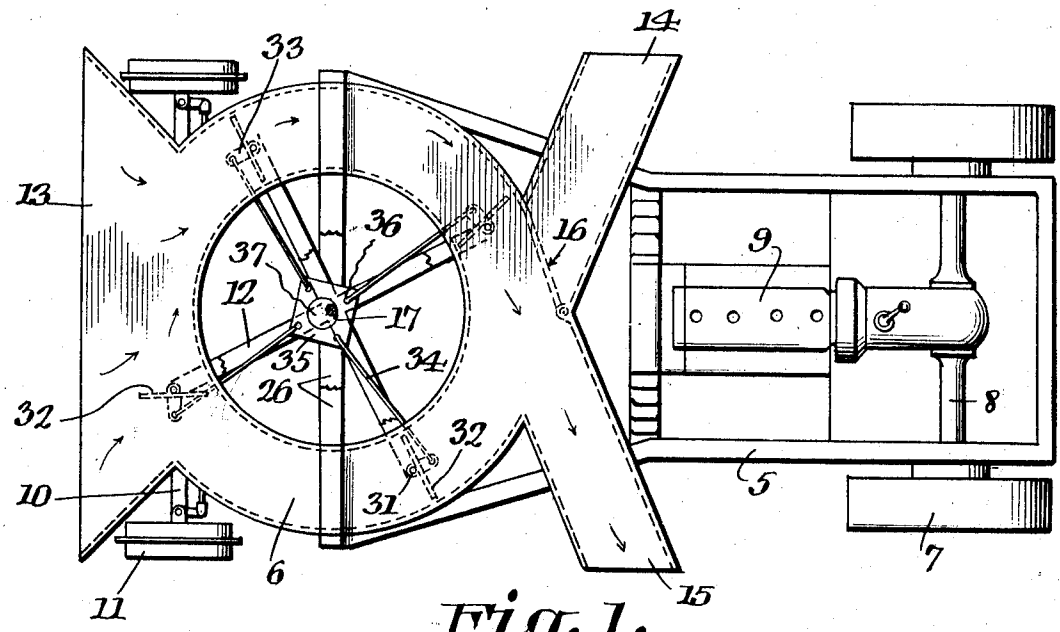



Fig. 1.

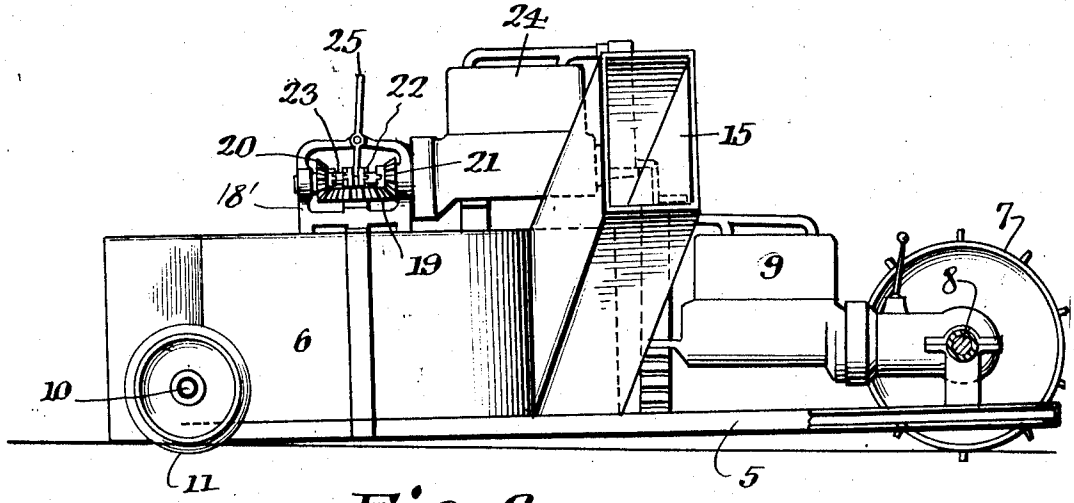



Fig. 2.

Inventors

A. T. Kear

A. A. Fulwider

By C. A. Snow & Co

Attorney.

June 15, 1926. 1,588,745

A. T. KEAR ET AL

SNOWPLOW

Filed Oct. 2, 1925 2 Sheets-Sheet 2

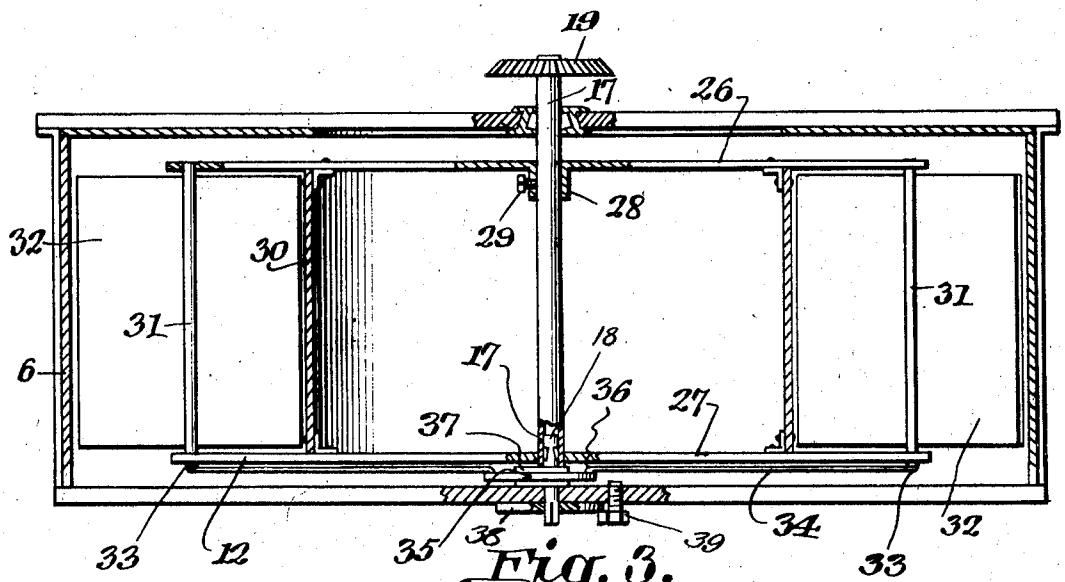



Fig. 3.

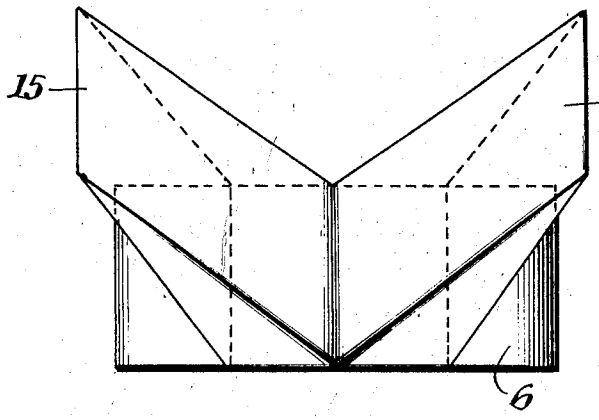



Fig. 4.

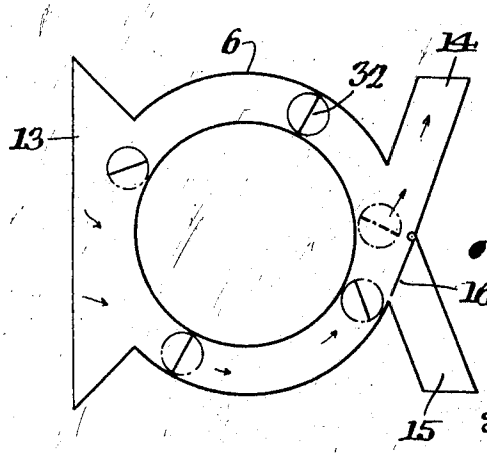



Fig. 5.

Inventors
A. T. Kear
A. A. Fulwider
By C. A. Snow & Co.
Attorney

Patented June 15, 1926. 1,588,745

# UNITED STATES PATENT OFFICE.

ALLEN T. KEAR AND ALVIN A. FULWIDER, OF GOODLAND, KANSAS.

## SNOW PLOW.

Application filed October 2, 1925. Serial No. 60,109.

This invention relates to a snow plow and aims to provide a snow plow working on the suction principle, novel means being provided for automatically moving the blades of the fan so that the blades will accomplish the combined suction and ejecting results.

Another important object of the invention is to provide means to permit the blower to operate in a clock-wise or anti-clock-wise direction, so that the snow may be thrown either to one side of the road or the other at the will of the operator.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a plan view of a snow machine constructed in accordance with the invention.

Figure 2 is a side elevational view thereof.

Figure 3 is a longitudinal sectional view through the fan and fan housing.

Figure 4 is a rear elevational view of the fan housing.

Figure 5 is a diagrammatic view illustrating the movement of the blades when the fan is operating in an anti-clock-wise direction.

Referring to the drawing in detail, the reference character 5 indicates the frame of the machine that includes side rails on which the blower housing indicated at 6, is mounted.

The bull wheels are indicated at 7 and are mounted on the ends of the axle 8, which is driven by the motor 9. Disposed at the opposite end of the frame is an axle 10 on which the steering wheels 11 are mounted, which wheels are controlled by the operator of the machine in the usual and well known manner.

Mounted at the forward end of the frame is the blower which is indicated at 12, the same operating within the housing 6, the forward portion of the housing being flared as at 13 to permit the device to be forced into a snow bank. Forming a part of the housing are the spouts 14 and 15 respectively, which spouts extend in opposite directions and are slightly inclined so that the discharge ends of the spouts are disposed above the upper portion of the machine, so that snow drawn into the blower housing may be deposited at a point adjacent to the upper portion of the machine permitting the snow to pile up under the spouts.

Mounted within the housing and disposed at a point adjacent to the spouts 14 and 15 is a pivoted partitioning member 16 which is adapted to be swung on its support to close either of the spouts 14 or 15, according to the direction of rotation of the blower.

The blower is secured to the vertical hollow shaft 17 that has its lower end positioned over the bearing 18 extending upwardly through the lower wall of the blower housing. At the upper end of the shaft 17 is a gear wheel 19 that meshes with the pinions 20 and 21 respectively, mounted in the gear frame 18′, the pinions 20 and 21 having clutch faces to be engaged by the clutch member 22 that is splined on the power shaft 23 forming a part of the power plant 24 employed for operating the blower proper. Thus it will be seen that by moving the lever 25 to the right or left, the clutch member 22 may be moved to bring either the pinion 20 or 21 into operation for rotating the shaft in the desired direction.

Spaced arms 26 and 27 are secured to the shaft 17 and radiate from the hub 28, set screw 29 being provided and extends through the hub for securing the hub to the shaft 17. Secured between the arms is a circular spacing member 30 that also acts to hold the arms in proper spaced relation with each other. As shown by Figure 3 of the drawings, the free ends of the arms terminate at points beyond the circular spacing member 30 where they are provided with openings to receive the shafts 31 of the movable blades 32 that are of widths to move between the wall of the blower housing and circular spacing member 30.

At the lower end of each shaft 31 is an arm 33, which arms are provided with openings to receive the outer right angled ends of the connecting rods 34 that have their inner ends extended through openings in the plate 35 at 36, the plate 35 being provided with an opening arranged centrally thereof for the reception of the eccentric 37 that is secured to the bearing 18, to the end that when the fan is rotated, the plate 35 moves around the eccentric 37 causing a recipro-

cating motion being imparted to the rods 34 with the result that the blades 32 mounted at the outer ends thereof, are moved, bringing them to positions wherein they will function properly with both a pulling and pushing action.

The eccentric 37 is adjusted to vary the operation of the blades of the blower by means of the arm 38 which is held in its position of adjustment by means of the securing screw 39.

In the use of the device, the flared portion of the blower housing is forced into a snow bank and the power plate 23 set in motion to cause the rotation of the blower within the blower housing. It will be seen that as the blower is rotated within its housing, the snow will be drawn into the blower housing and carried through one of the spouts formed at the rear of the blower housing, where the snow or material will be deposited adjacent to the gear of the machine.

We claim:—

1. In a device of the character described, a housing having a forward flared portion and having laterally extended delivery spouts formed at the rear end thereof, a blower mounted within the housing, blades pivotally mounted on the blower, means for adjusting the blades with respect to the axis of rotation of the blower, and means for rotating the blower.

2. In a device of the character described, a wheel supported frame, a housing mounted on the frame, a blower including a vertical shaft, pivoted blades forming a part of the blower, a shaft on which the blower is mounted, an eccentric mounted at the lower end of the shaft, a plate having an opening to receive the eccentric, said plate adapted to move around the eccentric, connecting rods for connecting the blades and plate, and said eccentric adapted to be moved to adjust the angle of operation of the blades.

3. In a device of the character described, a wheel supported frame, a housing on the frame, said housing having a forward flared end portion and having laterally extended discharge spouts forming a part thereof, a blower operating within the housing, said blower including a central circular member, arms extending above and below the central circular member, the outer ends of the arms being disposed in spaced relation with the central circular member, pivoted blades mounted on the arms, and means for adjusting the blades with respect to the axis of rotation of the blower.

4. In a device of the character described, a frame, a housing mounted on the frame, a shaft extending through the housing, a central circular member secured to the shaft, arms for connecting the central circular member to the shaft, pivoted blades mounted at the outer ends of the arms, and means for adjusting the pivoted blades to cause them to operate at various angles.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

ALLEN T. KEAR.
ALVIN A. FULWIDER.