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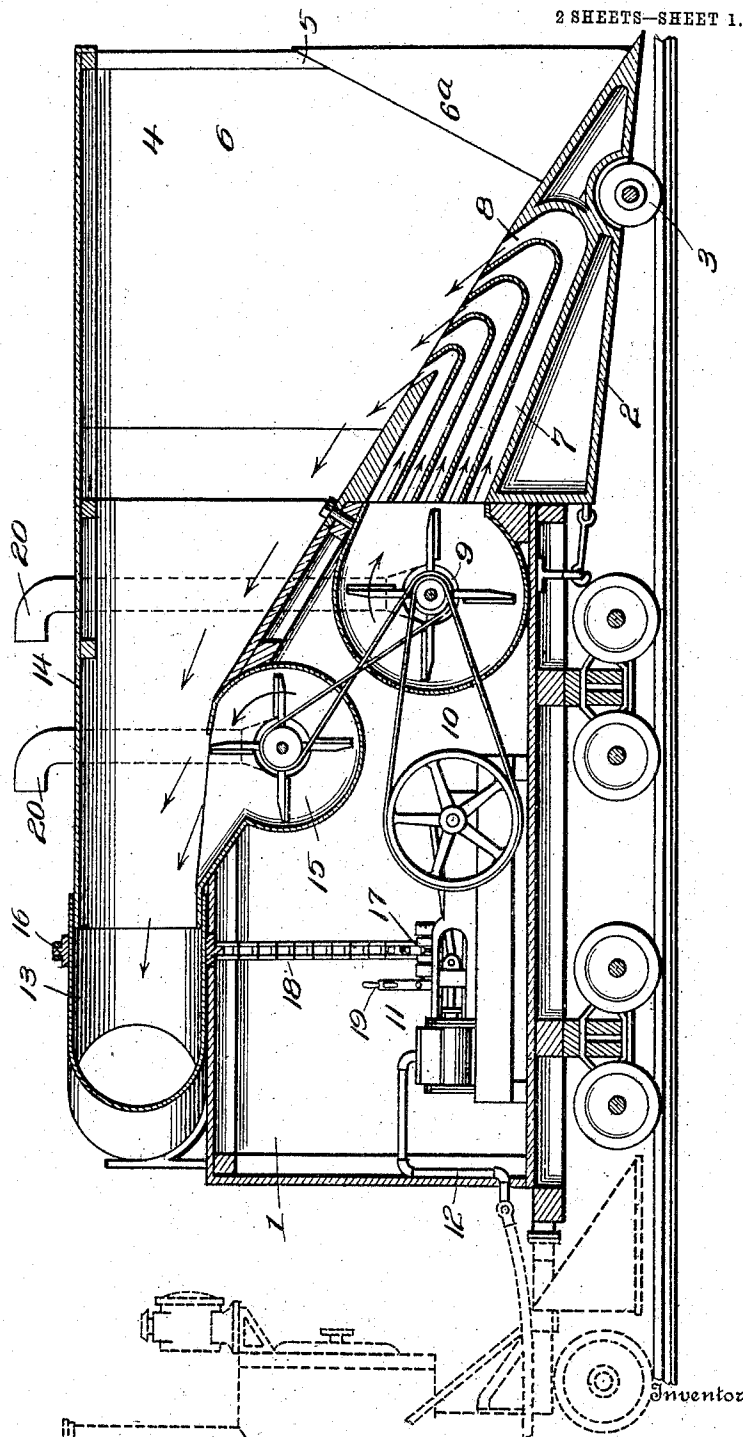
E. K. McLAIN.
SNOW PLOW.

APPLICATION FILED AUG. 11, 1909.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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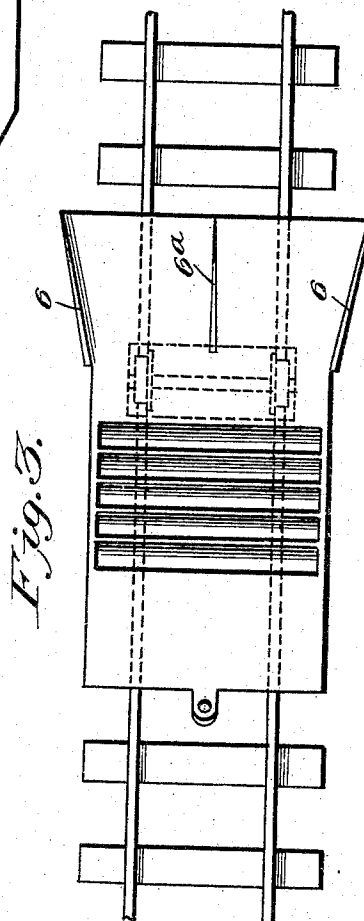
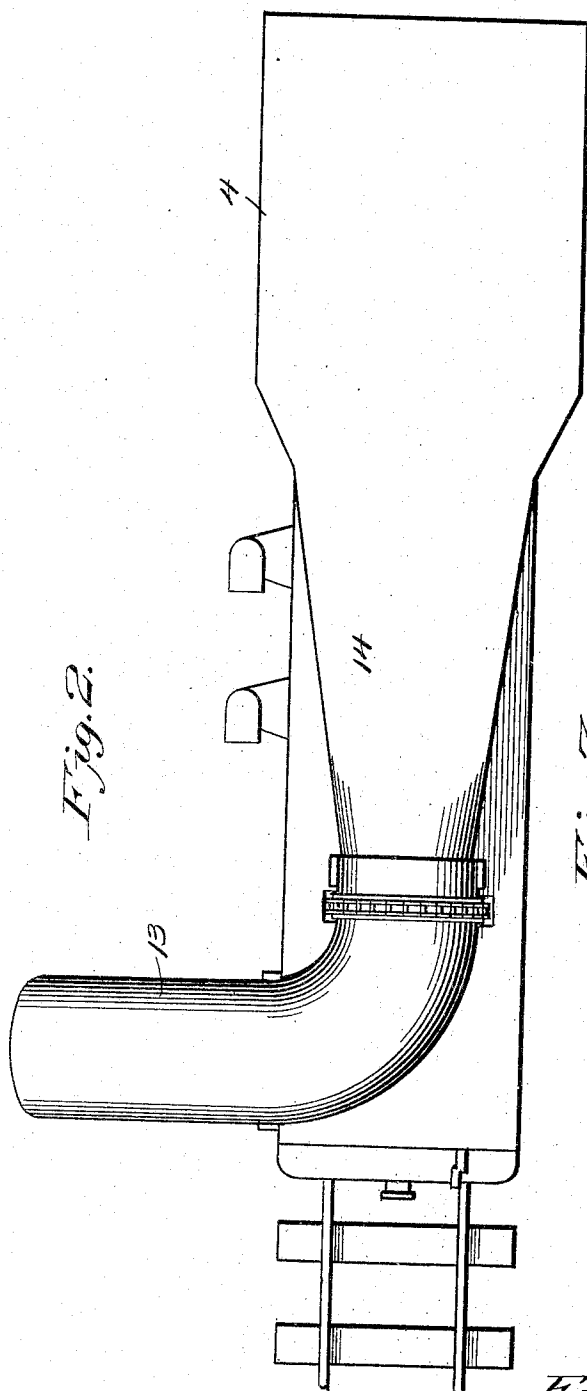
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UNITED STATES PATENT OFFICE.

EUGENE K. McLAIN, OF CLARE, IOWA.

SNOW-PLOW.

947,121.

Specification of Letters Patent. Patented Jan. 18, 1910.

Application filed August 11, 1909. Serial No. 512,446.

To all whom it may concern:

Be it known that I, EUGENE K. McLAIN, a citizen of the United States, residing at Clare, in the county of Webster and State of Iowa, have invented new and useful Improvements in Snow-Plows, of which the following is a specification.

The present invention has for its object to equip railway trains with a machine for removing snow from the tracks in drifts and other places where snow accumulates to such depth as usually to require the cutting there-through in order to provide a passage for trains.

The present invention provides a machine which may be forced through a drift of snow without causing the same to pack, since the snow is removed and discharged to one side of the track, thereby enabling rapid progress when it is necessary to provide a passage through a snow drift or other large quantity of snow obstructing traffic upon railways.

The invention consists of the novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, and which are illustrated in the accompanying drawings and pointed out in the appended claims.

Referring to the drawings: Figure 1 is a vertical central longitudinal section of a snow plow embodying the invention, the dotted lines showing the front portion of a locomotive engine. Fig. 2 is a top plan view of the machine. Fig. 3 is a top plan view of the shovel.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The machine is constructed with a view to be advanced through a snow drift, or bank, by means of a locomotive engine or train, and is mounted upon trucks in a similar manner to any car of the train. The machine comprises a body 1 which is closed upon all sides and mounted upon trucks of a gage to fit the track upon which the machine is to operate. A shovel 2 is located in front of the body and is mounted upon wheels 3 which are designed to run upon the track. The shovel flares at its front and inclines upwardly and rearwardly and is of such formation as to be coupled to the body 1. A hood or casing 4 incloses the

shovel and may be attached to the body 1 or form a part thereof. The whole front portion of the hood or casing 4 is open, as indicated at 5, to admit of the snow entering said hood or casing in the operation of the machine. The lower front portion of the shovel flares as indicated most clearly in Fig. 3 and is provided at opposite sides with guards 6 which gather in the snow upon opposite sides of the track, said guards, or walls of the hood being perpendicular and extending from the outside point of the shovel to the roof of the hood. In the center of the shovel 2 is a cutter or knife 6^a to pierce the snow in the middle of the drift. A series of passages 7 are formed in the body of the shovel and incline forwardly and downwardly from the rear of the shovel and the front portions of said passages are recurved and incline upwardly and rearwardly as indicated at 8. The rear ends of the passages 7 open through the rear of the shovel whereas the front ends of the upwardly and rearwardly inclined portions 8 of said passages extend through the upper side of said shovel. A fan blower 9 is located in the rear of the shovel and forwardly of the body 1 and its casing 10 connects with the rear ends of the series of passages 7 so as to deliver a blast of air thereto, said air passing from said passages thence upwardly and rearwardly through the inclined portions 8 thereby directing the snow upwardly and rearwardly. The fan 9 may be driven in any convenient way; as shown an engine 11 is located within the body 1 and receives steam by means of a pipe 12 from the locomotive engine. It is to be understood that the fan 9 may be driven by an engine of any type or in any way so long as it serves to force a blast of air through the several passages 7.

A pipe 13 is arranged above the body 1 so as to deliver the snow to one side of the track. The pipe 13 connects with an extension 14 of the hood or casing 4 and which extension may be separate from or form a part of the hood or casing 4. To supplement the action of the fan 9 a second fan blower 15 is provided and located above and in the rear of the fan 9 and its casing connects with the extension 14 in such a manner as to deliver a blast of air upwardly and rearwardly therethrough as indicated by the arrows in Fig. 1.

In the operation of the machine, it is advanced through the drift or bank of snow by means of a locomotive engine or other means, the shovel catching up the snow which passes upwardly and rearwardly thereover. As the snow reaches the delivery ends 8 of the air passages 7, it is carried upwardly and rearwardly through the hood 4, extension 14 and pipe 13 and delivered at one side of the track, thereby enabling the train to advance without packing the snow in front thereof, which is the source generally of delay and trouble in forcing a way through a drift or bank of snow.

It is proposed to mount pipe 13 so that it may deliver the snow at either side of the track as may be most convenient and advantageous. Any means may be employed for obtaining these results but, as indicated in the drawings, the pipe has its longitudinal member provided with a sprocket rim 16. Within the body 1 is located a drum 17 having sprocket teeth around which a sprocket chain 18 passes, said sprocket chain also passing over the sprocket rim 16. A hand wheel 19 coöperates with the drum 17 to admit of the latter being conveniently operated to turn the pipe 13 so that its delivery end may turn from one side to the other of the machine as may be desired.

The casings 10 and 15 of the fan blowers are provided with induction pipes 20 which extend upwardly above the hood or part 14 of the casing or body and terminate in rearwardly extending nozzles through which the air is drawn by the fans, thereby preventing snow entering the fans and impairing the operation of the machine. The induction pipes 20 may be located upon one or both sides of the machine, as found most advantageous.

From the foregoing description, taken in connection with the accompanying drawing, the advantage of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made, when desired, as are within the scope of the claims appended hereto.

Having thus described the invention, what is claimed is—

1. In a snow plow, a shovel having an air passage formed therein and said passage being provided near its delivery end with a return portion, and means for forcing a blast through said air passage to carry the

snow upwardly and rearwardly over the shovel.

2. In a snow plow, a shovel provided with a plurality of superposed air passages which have their delivery ends recurved and inclined upwardly and rearwardly, and means for forcing a blast through each of said air passages to carry the snow upwardly and rearwardly over the shovel.

3. In a snow plow, the combination of a shovel having an air passage formed therein with its delivery portion recurved and inclined upwardly and rearwardly, a hood inclosing the shovel and provided at its lower front end with an opening, and means for forcing a blast of air through the passage of the shovel.

4. In a snow plow, the combination of a shovel having an air passage formed therein having its delivery portion recurved and inclined upwardly and rearwardly, a hood inclosing the shovel and having an opening at its lower forward end for the entrance of the snow, means for forcing a blast of air through the passage of the shovel, and a pipe connected with said hood and arranged to discharge the snow to one side of the track.

5. In a snow plow, the combination of a shovel having an air passage with its delivery portion upwardly and rearwardly inclined, a hood inclosing the shovel and having its lower front portion open for the entrance of snow, means for delivering a blast of air through the passage of the shovel, a pipe having connection with said hood and adapted to discharge the snow to one side of the track, and other means for supplementing the air blast through the discharge pipe.

6. A snow plow comprising a body mounted upon trucks, a shovel fitted to the front portion of said body and having a plurality of air passages formed therein with their delivery ends upwardly and rearwardly inclined, a hood inclosing the shovel and having an opening at its lower front portion, a fan blower arranged within said body and adapted to deliver a blast of air through each of the passages of the shovel, an extension in communication with said hood, a pipe connected with said extension and having a lateral discharge, a second fan blower connected with said extension for supplementing the action of the first-mentioned fan blower, and means for positively driving the fan blower.

In testimony whereof I affix my signature in presence of two witnesses.

EUGENE K. McLAIN.

Witnesses:

GEORGE W. GILLMAN,
M. J. FITZPATRICK.