J. D. BEAVER.

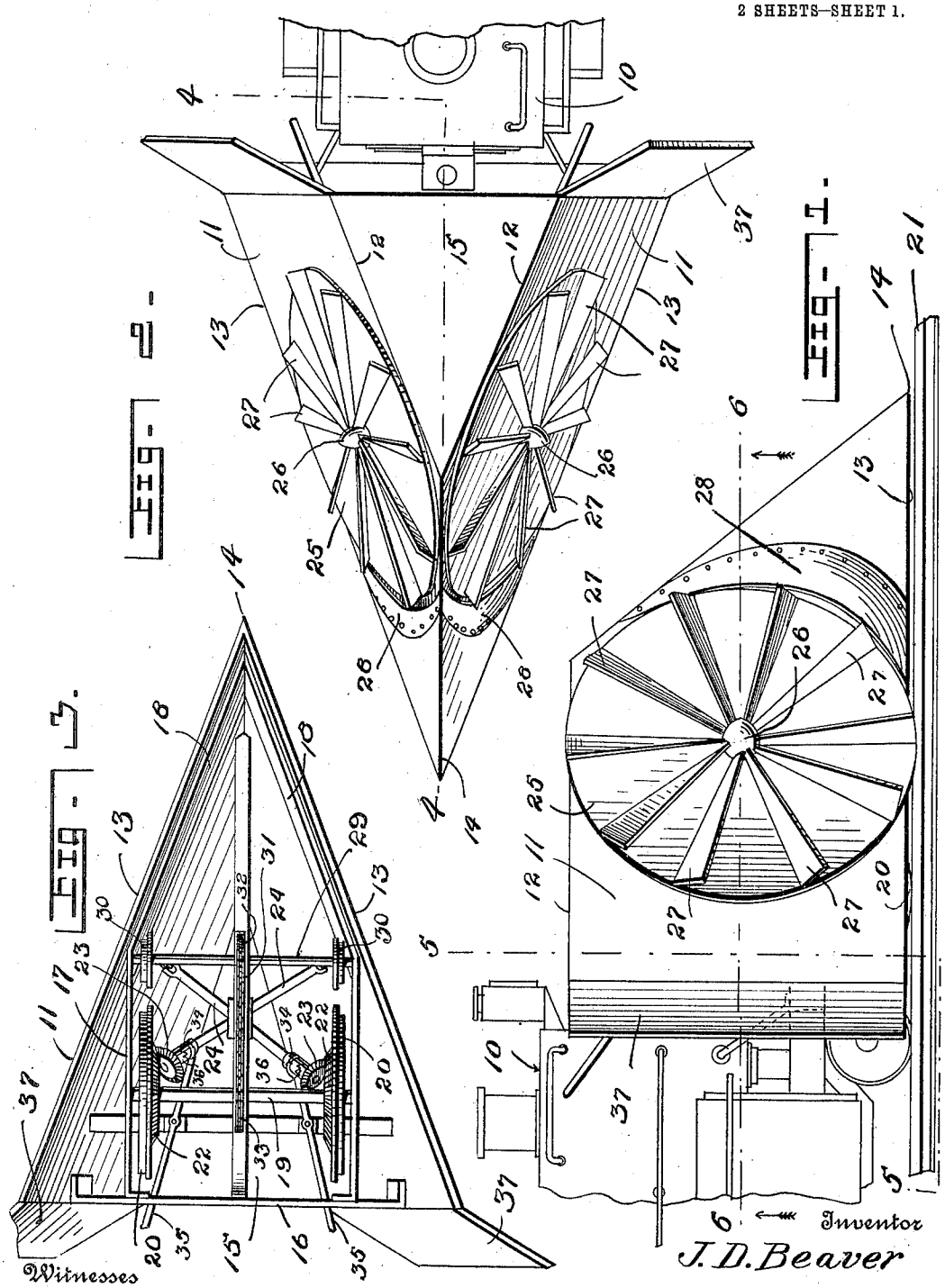
SNOW PLOW.

APPLICATION FILED MAY 17, 1912.

1,067,778.

Patented July 15, 1913.

2 SHEETS—SHEET 1.



Witnesses

C. J. MacCarter

H. E. Busch.

Inventor

J. D. Beaver

By Munn & Co

Attorneys

J. D. BEAVER.

SNOW PLOW.

APPLICATION FILED MAY 17, 1912.

1,067,778.

Patented July 15, 1913.

2 SHEETS—SHEET 2.

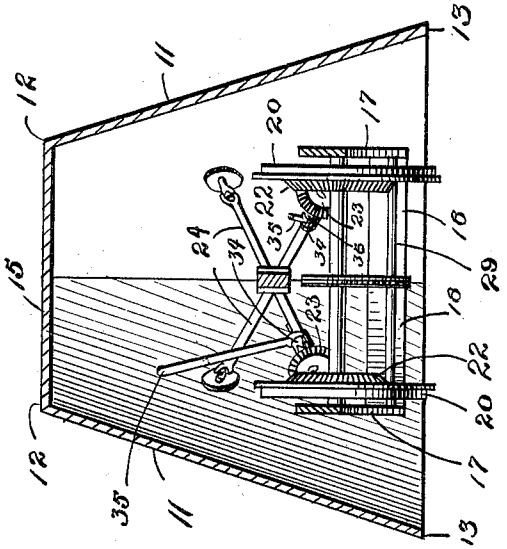


Fig. 5.

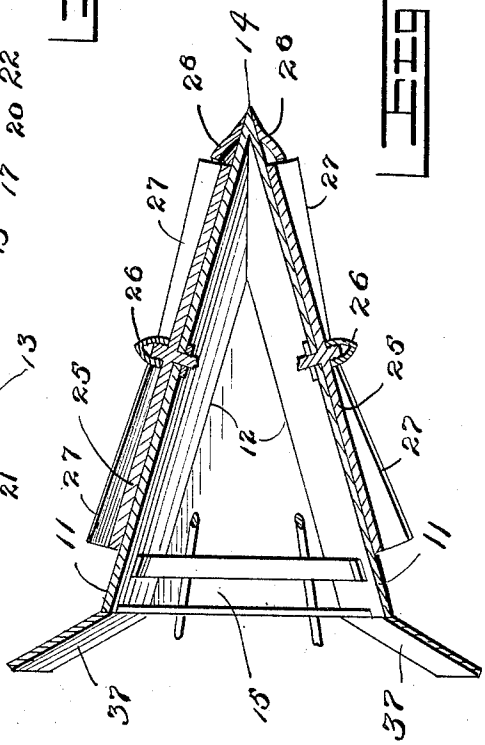


Fig. 6.

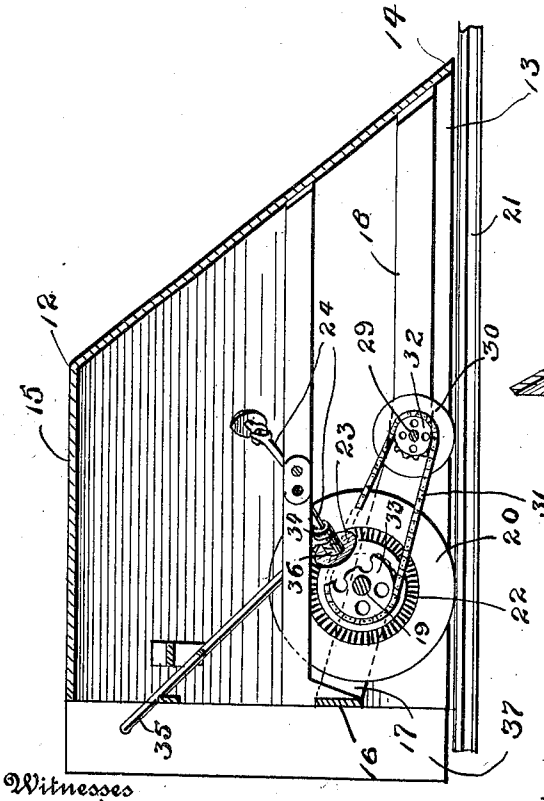


Fig. 4.

Witnesses

E. J. MacCarthy

J. E. Burch.

Inventor

J. D. Beaver.

By Brandon & Brandon.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN D. BEAVER, OF ST. JOHN, KANSAS.

SNOW-PLOW.

1,067,778. Specification of Letters Patent. Patented July 15, 1913.

Application filed May 17, 1912. Serial No. 697,972.

To all whom it may concern:

Be it known that I, JOHN D. BEAVER, a citizen of the United States, residing at St. John, in the county of Stafford, State of Kansas, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has special reference to new and useful improvements in snow plows and more particularly to a device of improved construction attached to the front of locomotives and street cars for cutting into snow and throwing the same to opposite sides of a trackway.

The invention consists in providing a snow plow embodying opposite mold-boards or wings secured together to form a sharp penetrating point and rotatably supporting deflector wheels for discharging the snow at the opposite sides of the track, while means are also provided to prevent the entrance of snow between the wheels and mold-board as well as to control the operation of said wheels.

With the above and other objects in view, the invention consists of certain combinations and arrangements of parts as will be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of my improved snow plow attached to a locomotive, the front part of which is shown in general outline. Fig. 2 is a top plan view thereof. Fig. 3 is a bottom plan view of the device detached. Fig. 4 is a central longitudinal sectional view thereof taken on the line 4—4 of Fig. 2. Fig. 5 is a cross sectional view taken on the line 5—5 of Fig. 1. Fig. 6 is a horizontal sectional view taken on the line 6—6 of Fig. 1.

As illustrated, my improved snow plow is shown as attached and forming the plow of a locomotive 10, the front part of which is shown in general outline and said plow comprises opposite mold-boards or wings 11 disposed in convergent relation from their front to their rear ends and having their top and bottom edges 12 and 13 respectively disposed in parallel relation while the forward edges of said mold-boards are inclined downwardly and are secured together to form a sharp penetrating point 14 to readily cut into the snow and to discharge the same at opposite sides of the plow against the mold boards while the top edges 12 are formed with or connected by a top portion or shield plate 15 serving to rigidify the structure and prevent the entrance of snow from the top. The opposite mold-boards 11 are connected at their rear ends and above their lower edges by a cross brace 16 which serves for the attachment of the plow to the locomotive and also serves to hold the said mold-boards in spaced relation while spaced parallel and forwardly inclined bearing members 17 are connected to the cross brace 16 at their rear ends and are secured at their forward portions to the inner faces of the mold-boards adjacent the lower edges of the latter to form brace portions 18 to reinforce the plow point.

Rotatably journaled in the bearing members 17 are the ends of a drive shaft 19 upon which are rigidly mounted traction wheels 20 to travel on the track rails 21 and impart rotation to the shaft while the beveled gears 22 are carried by the inner faces of said traction wheels and normally engaged by smaller beveled gears 23 rotatably mounted on the inner ends of a pair of inclined driven shafts 24 rotatably supported in crossed relation and operating through the opposite mold-boards at their outer ends. Mounted on said outer ends are deflector wheels or disks 25 having tapered hub caps 26 preventing the collection of snow thereon and also provided with radial deflector plates 27 on their outer faces, such blades tapering toward their inner ends and extending rearwardly so as to deflect or discharge the snow cut by the plow at opposite sides of the track during the rotation of such disks or wheels.

Arcuate or crescent-shaped guard plates 28 are secured at their forward edges to the opposite mold-boards in front of the wheels or disks and have their rear portions offset from the mold-board and encircling the disks or wheels beyond the outer faces of the latter so as to prevent the entrance of the snow between the disks or wheels and the mold-board. Thus, rotation imparted to the shaft 19 through the traction wheels 20 will cause rotation of the shafts 24 to revolve the snow wheels or disks rearwardly or in an opposite direction relative to the direction of rotation of said track wheels.

In order to assist the rotation of the snow wheels or disks and secure the benefit of the full weight of the plow for this purpose, a drive shaft 29 is rotatably mounted in the bearings 17 forwardly of and beneath the shaft 19 and has traction wheels 30 on its ends, while the drive chain 31 is engaged around a sprocket wheel 32 rigidly mounted centrally of the shaft 29 and a sprocket wheel 33 centrally mounted on the shaft 19 and as these sprockets wheels are of the same relative proportions or diameters as the traction wheels to which they are respectively connected, a uniform speed of rotation will be imparted to the shaft 19, driving the plow wheels. The shafts 24 are provided with clutch members 34 splined thereon and controllable by throw levers 35 for moving the same into and out of engagement with clutch members 36 carried by the gears 23 so as to control the operation of the snow or plow wheels and throw the same into or out of operation as desired. An outwardly and rearwardly directed shield 37 is carried by the rear end of each mold-board for further deflecting the snow beyond the tracks, especially in windy weather.

It will thus be evident that I have provided a very efficient snow plow which embodies a very durable construction and which is also capable of convenient operation and control while the driving means provided insures of positive operation of the snow wheels.

I claim:

1. A snow plow embodying opposite mold-boards united at their inclined forward edges, a top guard plate for said moldboards, plow wheels rotatably mounted outwardly of the mold-boards, means for rotating said wheels and arcuate guard plates secured to the mold-boards and having offset rear portions encircling and overlying the front portions of the wheels to prevent the entrance of snow between the latter and said mold-boards.

2. A snow plow comprising a pointed casing having side portions, a brace connecting the rear ends of said side portions and adapted for attachment to a locomotive, bearing members connected to the brace at their rear ends and secured to the inner face of said side portions at their forward ends, shafts rotatably mounted in the bearing members, traction wheels carried by the shafts for rotating the same, driver gears carried by one of the shafts, transmission gearing connecting the shafts, deflector disks disposed adjacent to the opposite outer faces of the casing and having deflector plates, inclined shafts rotatably supporting said deflector disks, transmission gears carried by the respective inclined shafts and meshing with said driver gears, and means for throwing said inclined shafts into and out of operative relation with the first said shafts.

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

JOHN D. BEAVER.

Witnesses:

W. B. SEEVERS,

P. O. SEEVERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."