(No Model.)

P. STAUFFER.

SNOW PLOW.

No. 350,327. Patented Oct. 5, 1886.

Fig. 1.

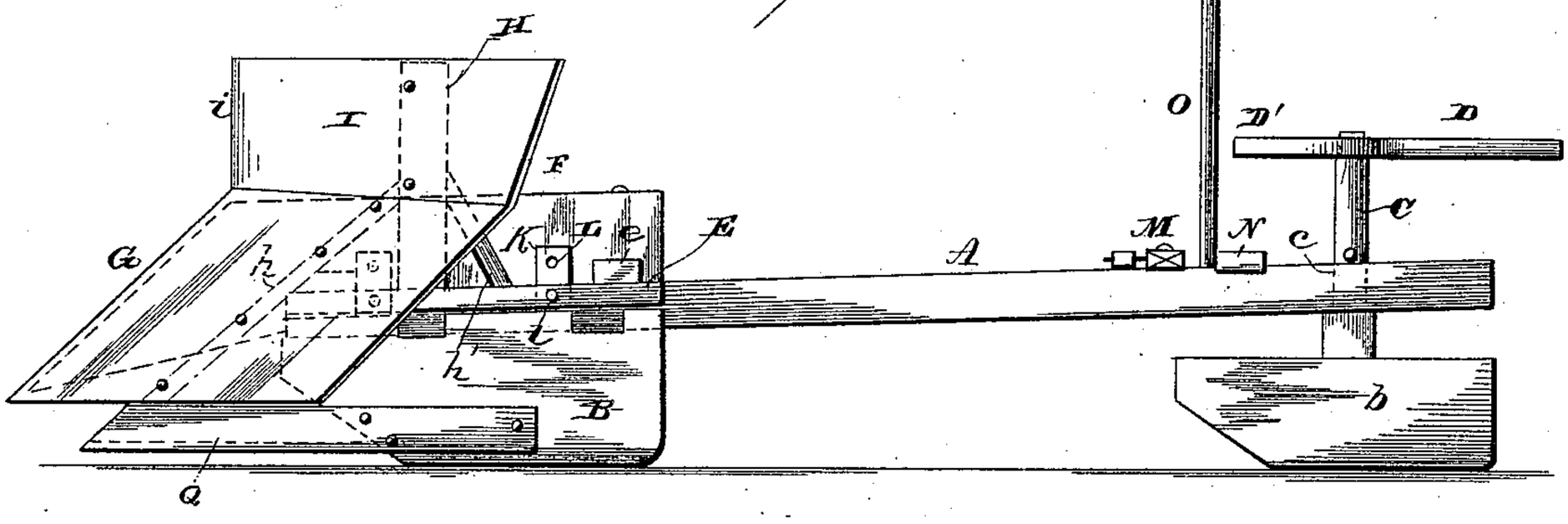


Fig. 2.

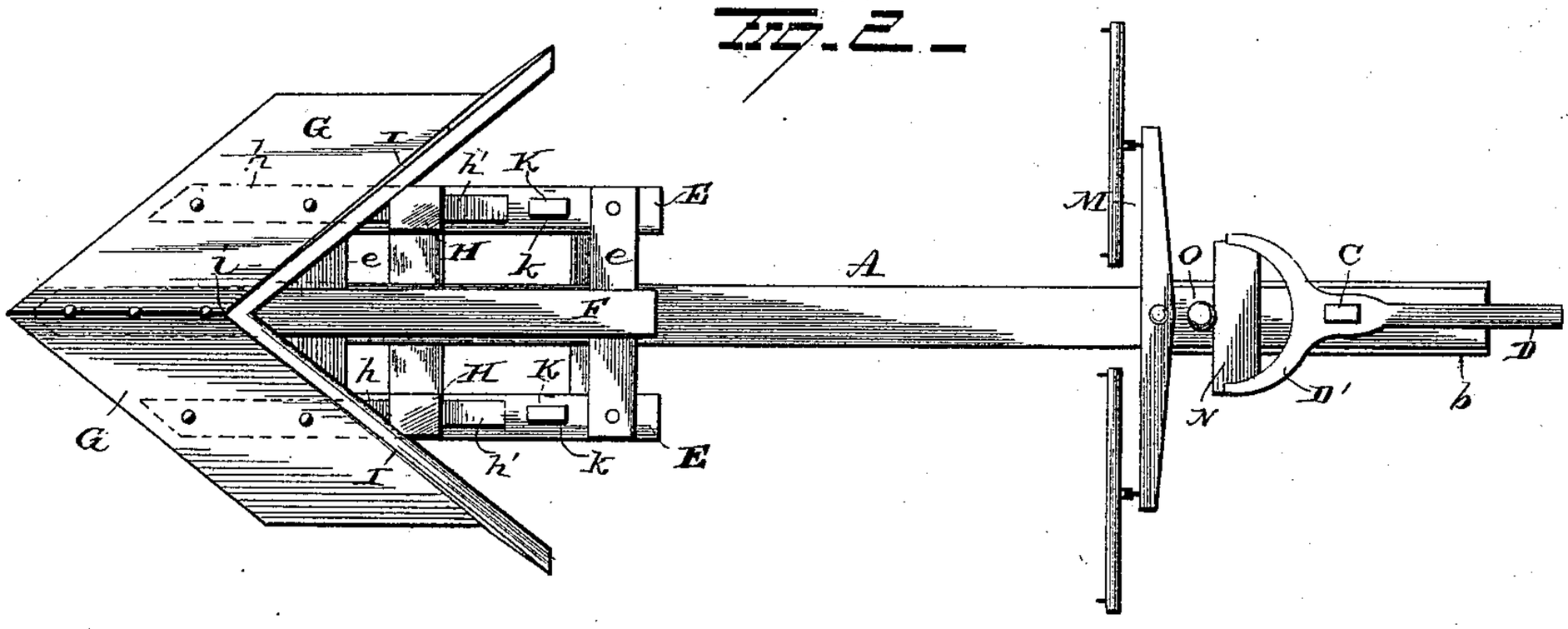
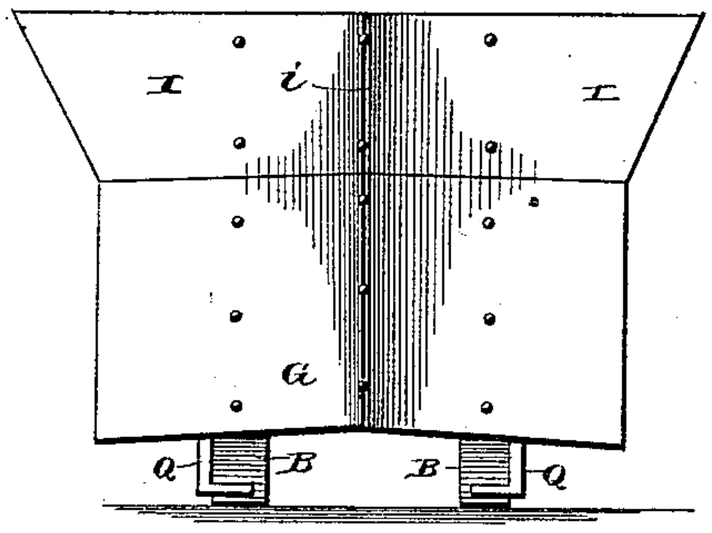


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

PETER STAUFFER, OF LIMA, INDIANA.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 350,327, dated October 5, 1886.

Application filed October 24, 1885. Serial No. 180,812. (No model.)

To all whom it may concern:

Be it known that I, PETER STAUFFER, of Lima, in the county of La Grange and State of Indiana, 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.

My invention relates to an improvement in snow-plows.

Hitherto it has been customary to construct snow-plows for use on sidewalks or wagon-roads with the draft bar or chain attached to or near the nose of the plow, thereby requiring the horse or horses to travel through the deep snow and drag the plow after them. This arrangement is very tedious for the horse or horses, often causing them to sprain their legs or become completely bound in a drift until shoveled out by hand.

The object of my present invention is to provide a snow-plow of such construction that the horses may be attached in the rear of the plow, and thereby be relieved from floundering through the deep snow.

A further object is to provide a vertically-adjustable plow of such construction that it will spread the snow away from the upper edges of the path, thereby preventing the tendency to roll back and partially obstruct the path.

A further object is to provide a vertically-adjustable snow-plow adapted to be actuated by a team attached thereto in the rear of the plow, and provided with runner or wheel supports for the plow and means for directing the motion of the plow irrespective of the direction of the draft.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the plow in side elevation. Fig. 2 is a plan view, and Fig. 3 is a front view.

A represents the plow-beam. It consists of a strong piece of timber or metal, and is supported at its front end upon a pair of runners or wheels, B. Its rear end is supported upon a single runner or wheel, *b*, the latter being pivotally secured to the beam by means of a vertical standard, C, which loosely fits within and extends upwardly through a perforation, *c*, in the beam.

To the upper end of the standard C a rearwardly-extending lever, D, is secured and adapted to turn the standard in its bearing, and thereby direct the course of the runner or wheel *b*.

To the front end of the beam A a framework is secured, consisting of the two side rails, E, and cross-girders *e*, the side rods being located at such a distance apart as to rest directly over the runners B. The frame E *e* is provided with a central beam, F, running parallel with the rails E and firmly bolted to the cross-girders *e*. The front end of the beam F extends forwardly beyond the runners, and is slanted and beveled to fit the nose of the plow-shovel G. The side rails, E, are provided near their central portions with upright posts H, firmly set therein and braced in front and rear by the diagonal braces *h* and *h'*, respectively. The wings I of the plow-shovel rest in contact with the braces *h*, and are bolted thereto. The lower section of the plow-shovel has a rearward slant, and its tendency in engagement with the snow is to work downwardly beneath the snow. This tendency is opposed by the runners B, the resultant being the lifting of the snow and its gradual movement to the right and left.

In order to prevent the snow from working over the top of the shovel, and to effectually throw the upper portion of the loosened snow back from the edges of the path, I provide the upper section of the plow-shovel, consisting of the two wings I, set perpendicularly and meeting in a line, *i*, which forms a perpendicular continuation of the rearwardly-slanting nose of the lower section. The rear ends of the wings I are also cut slanting, as shown, the upper edges projecting outwardly beyond the lower edges, the latter of which terminate flush with the edges of the lower section. The effect of these slanting ends of the upper section is to leave the snow along the upper edges of the path slanting away from the path, and therefore not liable to cave in and obstruct the

path. The posts H form the rear supports for the wings I, the latter being bolted thereto.

The rails E, and hence the plow-shovel-supporting frame and plow-shovel, are secured to the runners B in vertical adjustment by means of two sets of upright studs K, firmly set in the top edges of the runners and adapted to fit loosely in corresponding slots or mortises, *k*, in the rails. The studs K are each provided with a series of perforations, L, which register with corresponding perforations in the side rails, and the plow-shovel is locked in the desired elevated adjustment by means of bolts or pins *l*, which extend through the side rails and perforations L in the studs.

The vertical adjustment of the plow is a feature of considerable importance where it becomes necessary to make a path through a drift or unusually deep snow, as it admits of setting the plow-shovel at such a height as to clear a path from the top of the snow to the bottom of the plow-shovel the first time through, and by then lowering the plow-shovel the path may be completed by running the plow a second time over the path. The double-tree M is attached to the beam A near its rear end at a sufficient distance back of the runners B to afford enough room for the horse to travel. A platform, N, for the driver to stand on, is located just in front of the steering device, and a standard, O, is set in the beam A in front of the platform N, to serve as a means of support for the driver. From the above description it will be noticed that the horses are allowed to travel in the path cleared by the plow, and are therefore capable of exerting a much greater draft than when floundering through deep snow, and at the same time are much less liable to injury. The person who guides the plow walks in the rear of the runner *b*, holding the lever D, by means of which he is enabled to control the direction of the plow with the greatest precision; or the lever D may extend forwardly and be provided with a forked end, D′, between the branches of which the driver may stand, and thus guide the plow by the pressure of his legs.

To prevent the plow from lifting in deep snow, and cause it to run evenly where the snow is heavier on one side than on the other, the runners are provided with corner wings, Q, which extend forwardly therefrom, and are either permanently or removably secured thereto.

The form of plow herein shown is particularly adapted to be drawn by a pair of horses. To adapt it to use as a one-horse plow the tongue A might be formed in two sections separated sufficiently to allow a horse to travel between them. Wheels or disks might also be substituted for the three runners shown in the drawings, and by constructing the plow and its supports of light material, and making some slight modifications in some of its parts, it might be driven by one or more persons without the use of horses.

It is evident that other slight changes in the form and arrangement of the several parts might be resorted to without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the plow-beam and plow-shovel secured to the front end of the beam, of a guide attached to the rear of the beam and means for attaching the draft horse or horses to the plow-beam, whereby they are allowed to travel in the rear of the plow-shovel, substantially as set forth.

2. The combination, with the plow-beam extending rearwardly from the plow, the plow-shovel-supporting frame secured to the front end, and the draft attachments secured near the rear end, of the runners for supporting the front end and the pivoted guide-runner for supporting the rear end, substantially as set forth.

3. In a snow-plow, the combination, with the front supports or runners, of a beam secured to said supports or runners in vertical adjustment, a single ground support or runner supporting the rear end of said beam, a lever for turning said single ground-support, and a plow-shovel secured to the front end of the beam, substantially as set forth.

4. In a snow-plow, the combination, with the front runners or supports, a beam, and a plow-shovel consisting, essentially, of the lower rearwardly-slanting flaring section and the upper vertical-faced wedge-shaped section, of means for attaching the draft horse or horses to the beam behind the plow-shovel, substantially as set forth.

5. The combination, with the plow-beam having a plow-shovel-supporting frame secured to its front end, and a driver's platform and supporting-standard secured near its rear end, of a pair of runners for supporting the front end of the beam, a guide-runner for supporting the rear end of the beam, and means for attaching the draft horse or horses in the rear of the plow-shovel, substantially as set forth.

6. The combination, with a beam, a snow-plow attached to the front end thereof, and a single ground-support pivoted to the rear end of said beam, of devices located between the single ground-support and the plow for the attachment of the team or other power, substantially as set forth.

7. The combination, with a snow-plow supported on runners or wheels, of forwardly-extending wings attached to the runners for steadying the plow, substantially as set forth.

8. In a snow-plow, the combination, with the front runners or supporters, a beam secured thereto, and a guide attached to the rear end of the beam, of the snow-shovel secured to the front end of the beam, and consisting, essentially, of a lower rearwardly-slanting flaring section and an upper vertical-faced wedge-

shaped section, the ends of the latter projecting beyond the ends of the lower section, substantially as set forth.

9. A snow-plow adapted to be steered by a single ground-support pivotally secured at the rear end of the beam and operated by a lever, the latter being forked or bifurcated at its front end, substantially as set forth.

10. In a snow-plow, the combination, with supports, a plow-beam mounted thereon, and a plow secured to said beam, of a platform secured to the beam and the standard O, located in front of the platform, substantially as set forth.

11. The combination, with a beam and a snow-plow secured thereto, of a single ground-support pivotally secured to the rear end of the plow-beam, a lever for operating said support, and the standard O, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PETER STAUFFER.

Witnesses:
CLARK F. STAUFFER,
HENRY H. BASSLER.