(No Model.)

B. BUTLER.

PLOW.

No. 350,864. Patented Oct. 12, 1886.

Fig. 1

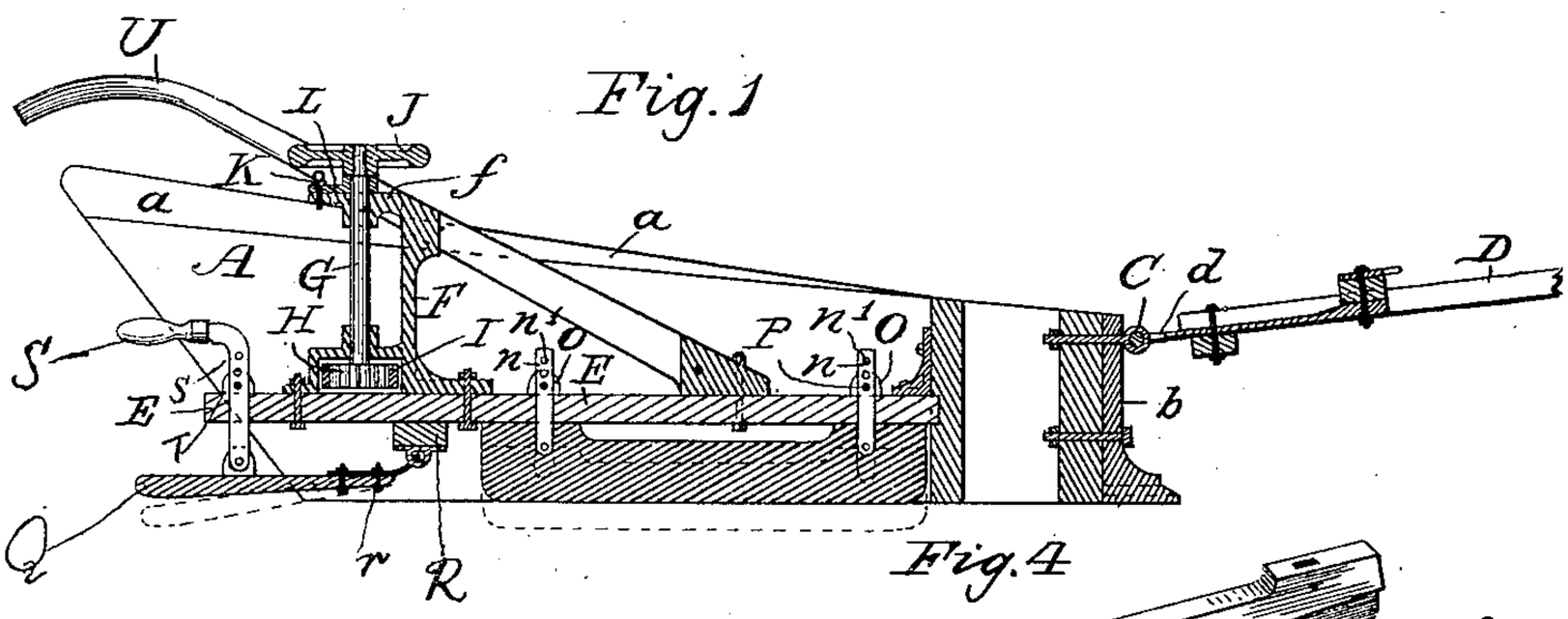


Fig. 4

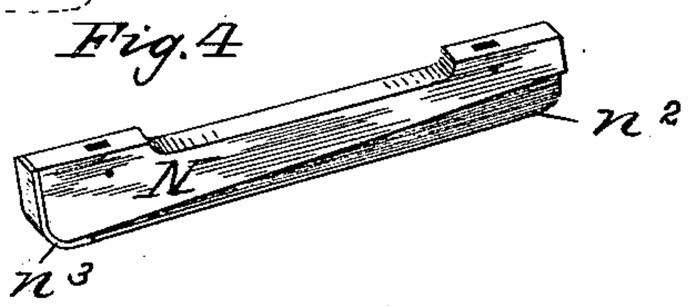


Fig. 2

Fig. 5

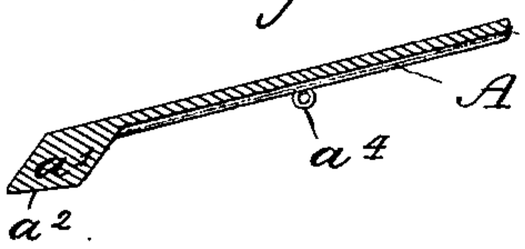


Fig. 6

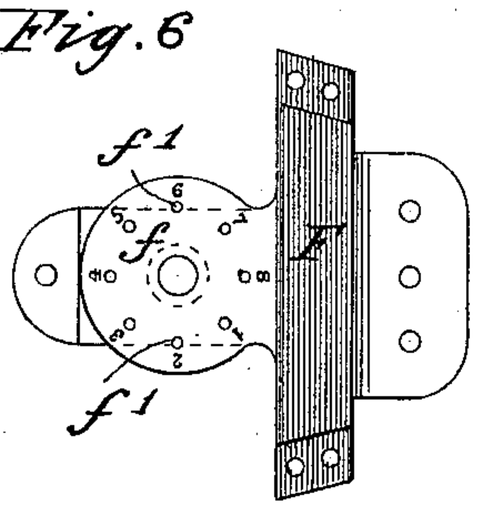
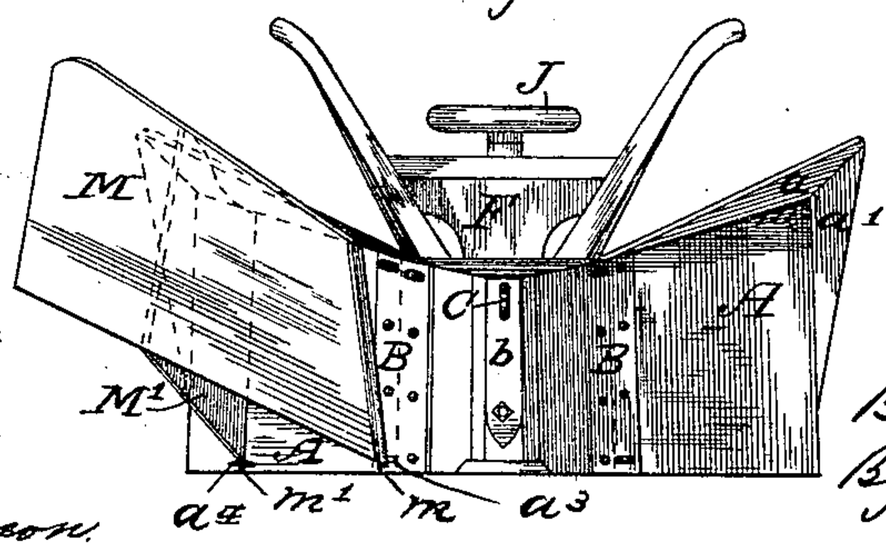


Fig. 3



Witnesses.

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UNITED STATES PATENT OFFICE.

BEAUMAN BUTLER, OF ST. JOHNSBURY CENTRE, ASSIGNOR OF ONE-HALF TO C. T. BRIGHAM, OF ST. JOHNSBURY, VERMONT.

PLOW.

SPECIFICATION forming part of Letters Patent No. 350,864, dated October 12, 1886.

Application filed April 30, 1886. Serial No. 200,636. (No model.)

To all whom it may concern:

Be it known that I, BEAUMAN BUTLER, a citizen of the United States, residing at St. Johnsbury Centre, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Plows, of which the following is a specification.

The object of this invention is to provide a plow for removing snow from sidewalks with various mechanism for clearing a path of a given width, for preventing a plow from slewing out of a given path, for smoothing a path, and removing the tracks of a horse's hoofs, and for packing the snow obliquely at either side of a walk, and preventing its falling back in the path when plowing through deep snow. These results are obtained by the various devices illustrated in the accompanying drawings, forming part of this specification.

Figure 1 is a longitudinal sectional elevation of a snow-plow of my improved construction, Fig. 2 being a general plan view of the same. Fig. 3 is a front view having one of the attachable wings removed. Fig. 4 is a detached perspective view of the center-board.

Fig. 5 is a sectional plan view of the rear part of one of the adjustable wings. Fig. 6 is an enlarged detached plan view of the post which supports a portion of the adjusting mechanism and the guiding-handles.

Similar letters indicate corresponding parts throughout the various views.

The adjustable wings A are attached to the prow by means of an iron plate, B, one edge of which is bolted to the wing and the other to the prow, as in Figs. 2 and 3. The acute angle of said prow is protected by the vertical iron casting *b*, in which is placed an eyebolt, C, to which the thills D are attached by a suitable hook, *d*, leading back from the whiffletree. Stay-chains D′ are also provided for connecting said prow with one of the cross-bars of the thills near either end thereof. A central longitudinal beam, E, having its forward end rigidly fastened to the prow, extends horizontally nearly to the rear end of the wings A, and at an elevation of six inches (more or less) from the ground. Near the rear end of said beam is mounted a suitable frame, F, adapted to carry an upright shaft, G, and a spur-pinion, H, secured to its lower end, which meshes with teeth formed in the racks I, one of which is pivoted to each of the adjustable wings A, and by rotating said shaft G by means of the hand-wheel J, mounted on the top thereof, to the left or to the right the said wings may be respectively expanded or contracted as may be required to plow a path of a given width. A disk, *f*, is provided at the top of the frame F, and this may be perforated, as at *f′*, for the reception of a retaining-pin, K, which may be slipped through a hole formed for this purpose in the arm L, mounted rigidly upon the shaft G between the hand-wheel J and the disk *f*. By this construction when it is desired to change the width of the track to be cleared, the pin K is removed and the hand-wheel rotated or turned until the wings A reach the desired position, when the said pin may be inserted in the hole in the arm L and the nearest hole in the disk *f*. For the convenience of the operator, these holes or perforations in the said disk *f* may be numbered, as shown in Fig. 6.

The wings A are not placed exactly vertical, but their sides incline slightly inward from bottom to top, in order to enable the plow to travel as near the walk as possible. They are also a little higher at their rear end than at their forward end, and their upper edge is provided with an overhanging rail or projection, *a*, placed on an angle of about forty-five degrees, for preventing the top of the snow from falling down. The rear ends of the said wings are formed on an angle, as shown in Fig. 1, and these are also provided with an extension or projection, *a′*, formed on an angle inclined toward the rear and tapering inward toward the bottom of said wings, as seen best in Fig. 3, for the purpose of packing the snow obliquely at either side of the walk. These will serve a better purpose if formed as in Fig. 5, having a three or four inch surface, a^2, for packing the snow.

In plowing through unusually deep snow or drifts it will be found desirable to provide wings M, which are conveniently connected to the wings A by the hook *m*, located at the forward lower corner, and adapted to enter the eye a^3, and the hook *m′*, attached to a transverse extension-board, M′, and adapted to enter the eye a^4. One of these outer wings,

M, may be seen in position in Fig. 3, the other being removed for the better illustration of the wing A. A center-board, N, is adjustably secured to the beam E by the iron bars *n*, which pass upward through the same and between the ear-plates O, mounted on the top of said beam E, a suitable retaining-pin, P, passing through said ears and the said bars *n*, various holes *n'* being provided in the said bars, so as to properly adjust the center-board N. This may be either formed wholly of wood, or as shown in the drawings, Fig. 4, in which view an iron tongue or runner, n^2, is inserted in the bottom, and the forward end covered and protected by the iron band n^3. A smoothing-board, Q, has its forward end secured to eye-plates *r*, attached to the lower side of the transverse piece R, carried on the beam E, and its rear end may be raised or lowered by the bar S passing upward through the beam E, and fastened thereto by a pin passing through either of the holes S and the ear-plates T on top of beam E. In Fig. 1 of the drawings this smoothing-board and the center-board are shown in full lines at about their highest point of elevation, and in dotted lines, as when lowered to their ordinary working position. Suitable guide-handles, U, are attached, as shown in Figs. 1 and 2, to the beam E and the frame F.

The outer wings, M, are secured additionally by chains m^2, which pass from the top of the parts M' to the inner side of the wings A.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a snow-plow, the combination, with adjustable wings converging toward and connected to the prow, of tapering overhanging projections on the top and extending partly down the rear end thereof, and suitable adjusting mechanism, substantially as described, for expanding or contracting the rear end of said wings, as and for the purpose set forth.

2. The combination, with adjustable wings and the prow, of a central longitudinal beam, suitable wing-adjusting mechanism mounted thereon, and an adjustable center-board connected thereto, all constructed and operating substantially in the manner and for the purpose described.

3. The combination, with adjustable wings and the prow, of a central longitudinal beam, suitable adjusting mechanism mounted thereon, and an adjustable center-board, and adjustable smoothing-board connected thereto, all constructed and operating substantially in the manner and for purpose described.

4. In a snow-plow, the combination, with the prow, of adjustable wings having tapering overhanging projections on the top and extending partly down their rear ends, suitable adjusting mechanism, and means, substantially as described, for evening off and packing the snow embankments obliquely on either side, as set forth.

5. The combination, with the adjustable wings, of the attachable wings adapted to prevent the higher snow from falling back in the tracks of the plow, as set forth.

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

BEAUMAN BUTLER.

Witnesses:
J. B. THURSTON,
NATHANIEL E. MARTIN.