

(No Model.)

W. A. GREENLEES.

SNOW CLEARER.

No. 333,006.

Patented Dec. 22, 1885.

Fig. 1.

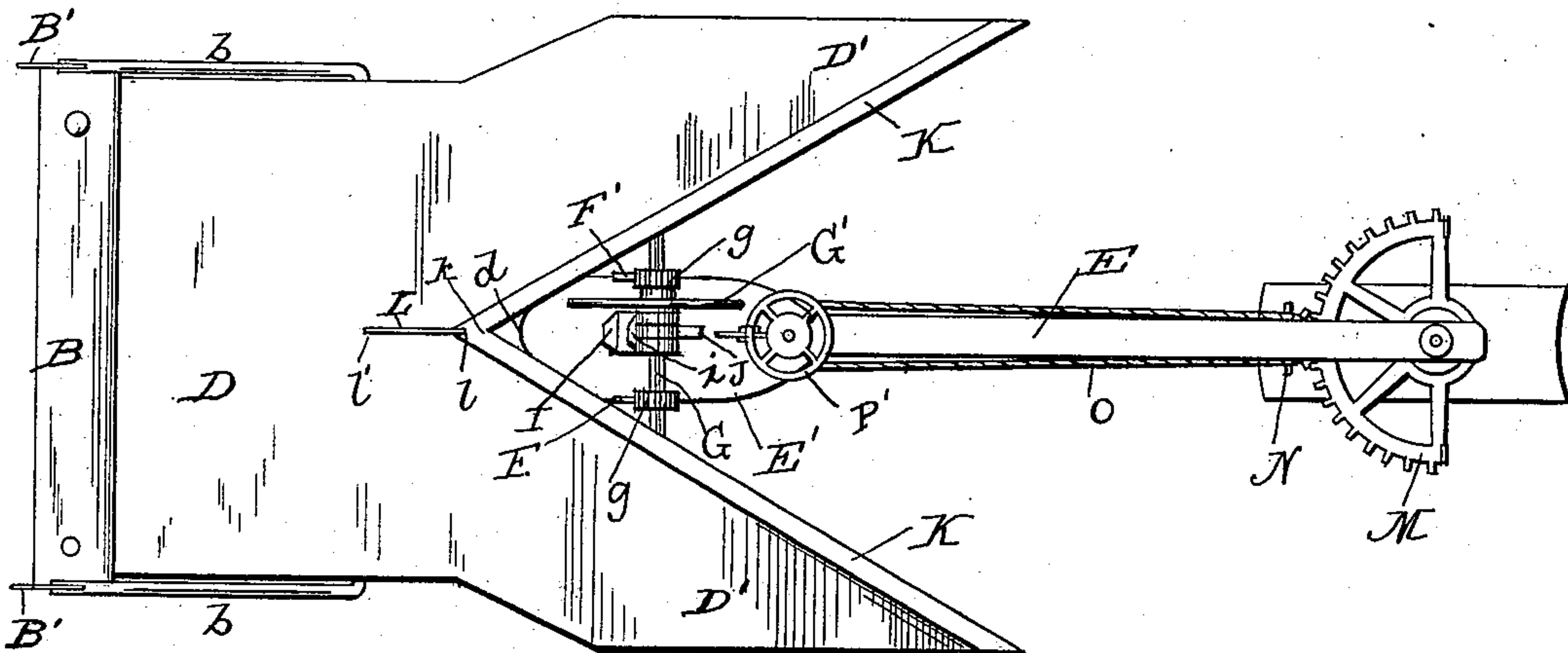


Fig. 2.

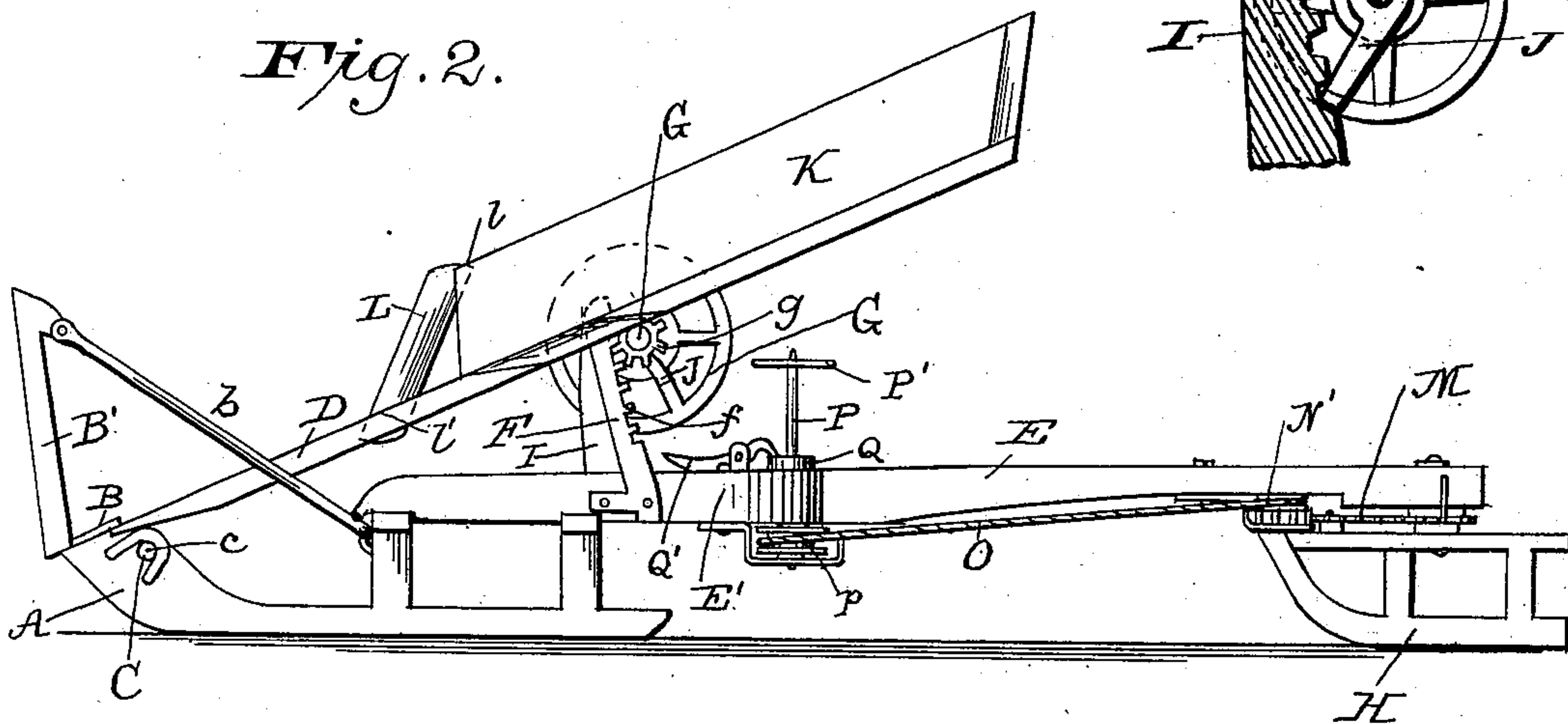
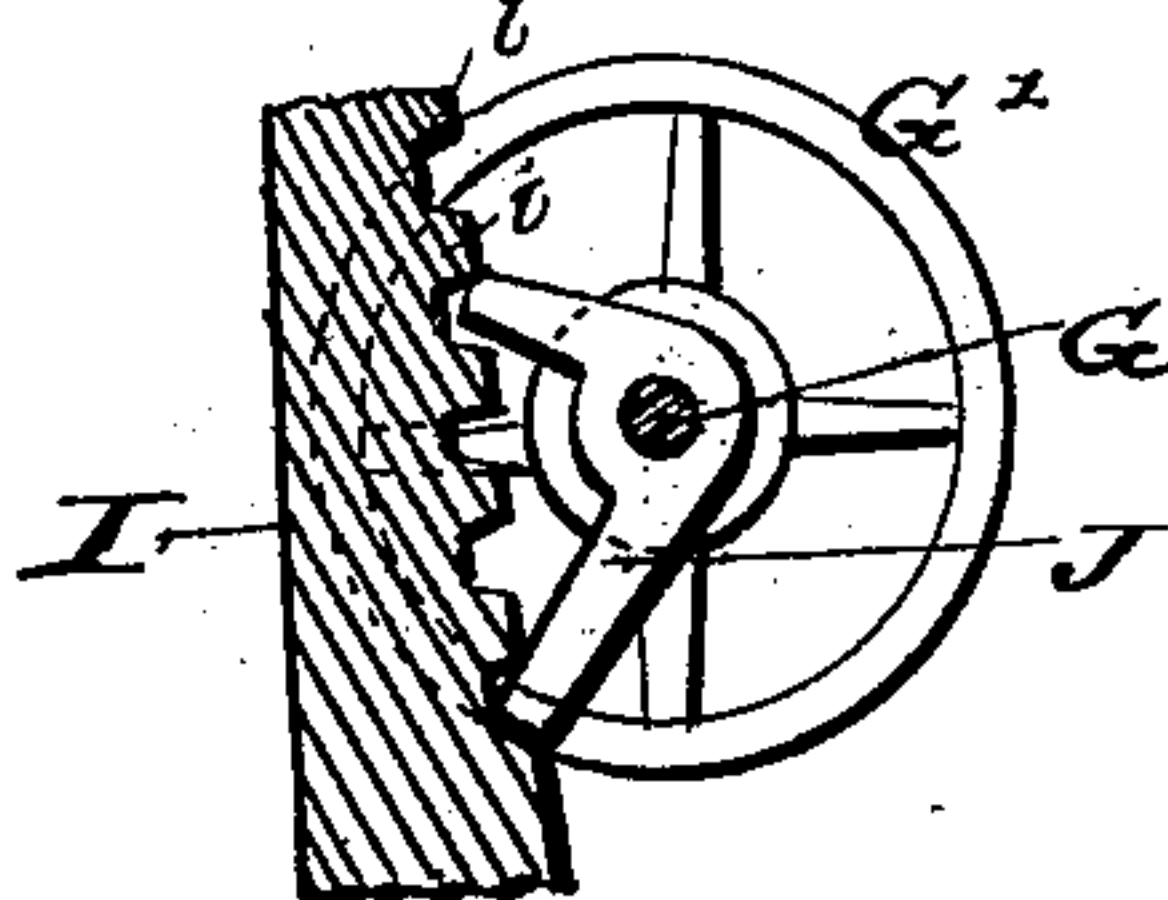


Fig. 3.



WITNESSES

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SNOW-CLEARER.

SPECIFICATION forming part of Letters Patent No. 333,006, dated December 22, 1885.

Application filed June 1, 1885. Serial No. 167,246. (No model.)

To all whom it may concern:

Be it known that I, WM. A. GREENLEES, a citizen of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Snow-Clearers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to snow-plows adapted for service on highways, streets, or railways; and the novelty consists in the construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims. I provide an adjustable incline having side boards deflecting and diverging from center to rear. These diverging deflectors are considerably farther apart at their rear ends than the width of the forward cutter, and they serve to pack the snow upon either side of the swath. The forward horizontal cutter is provided at each end with vertical side cutters formed, preferably, of the same piece of metal. These knives serve efficiently to cut the proper width of swath and to sever crust which may form upon the surface of the snow. I provide a removable cutter at the junction of the deflector-boards to cut the crust and protect the wood at that point. The device is mounted on bobs or runners, or, if used for railroad use, upon suitable wheels or trucks, and I provide for guiding the same by oscillating the rear bob upon a central pivot. The means for effecting this oscillation of the rear bob or runners and that for adjusting the incline of the snow-receiving table are arranged contiguous to each other, so as to be conveniently operated at will by a single attendant.

The invention is illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a top plan view, and Fig. 2 a side elevation. Fig. 3 is a detail view showing the

gravital dog J on the shaft G.

Referring to the drawings, in which similar letters of reference indicate corresponding

parts in both the figures, A designates a forward bob or sled-frame having across its front end a horizontal cutter, B, bent and upturned to form vertical cutters B' B', braced, as shown, by arms or braces b.

C designates a rock-shaft journaled in the runners at c, and to it is secured the front edge of a snow-receiving table, D, its said front edge resting fairly under the cutter B.

E designates a reach-frame, which, being rigidly connected with the front bob, A, is pivotally connected to the rear bob, H, which latter bob is smaller and serves to guide the entire machine, as will be presently set forth. A platform, E', is formed on the frame E, and in front of said platform are arranged three rack-standards. The outer standards, F and F', have cogs f, which are engaged by pinions g rigid with a shaft, G, journaled on the under surface of the table D and carrying an operating hand-wheel, G'. The cogs i of the middle standard, I, are engaged by a gravital dog, J, carried loosely on the shaft G. The table D has side extensions, D', and is bifurcated or recessed at d to allow room for an attendant to stand erect upon the platform E'.

K K designate the deflector-boards, which form a junction at the longitudinal center of the table D and diverge rearward to the outer rear portions of the table-extensions D'. At this central junction, k, I locate removably a cutter-knife, L, in bearings l and l', as shown. Rigid with the rear bob, H, is a toothed segment, M, which is engaged by a pinion, N, having a collar-band, N', and journaled in a bracket secured to the underside of the reach-frame E. A rope or chain, O, passes around this collar-band N', and, being carried forward, is passed around a collar-band, p, rigid upon a vertical standard, P, journaled in the reach-frame directly in the rear of the platform E' and carrying a hand-wheel, P', arranged within easy reach of the operator. A rack-wheel, Q, rigid upon the standard P, is engaged at will by a foot-pawl, Q', pivoted in bearings q on the platform E'. It will be noticed that while the cutter B regulates the depth of cut and the vertical cutters B' determines the width of cut, the deflectors not only carry the snow outward beyond the limits of the swath thus cut, but they serve against the bank to press back the snow to prevent it from falling back in the

swath. The snow is received on the table D, and is elevated and carried backward to a height above the banks on either side, as it has been adjusted by the means described.

5 The operation of the other parts of the device will be readily understood.

Modification in details of construction may be made within wide limits without departing from the principle or sacrificing the advantages of the invention, the essential features of which have been described and shown.

Having thus fully described the invention, what I claim as new is—

15 1. The combination, with the table D, having recess *l*, and the deflectors K K, arranged as shown and having recess *l'*, of the remov-

able inclined cutter L, all arranged and serving as and for the purposes set forth.

2. In a snow-clearer substantially as described, the combination, with the table D and means F F' G J, &c., for adjusting it at will, of the reach-frame E, having platform E', the bob H, segment M, pinion, rope, or chain O, standard P, and dog Q', all arranged and operating as and for the purposes set forth.

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

WM. A. GREENLEES.

Witnesses:

JESSE B. RUGER,
J. W. EBERSOL.