

# Elisha Robbin, Snow-Plow.

Nº 75.979.

Patented Mar 24. 1868.

Fig. 1.

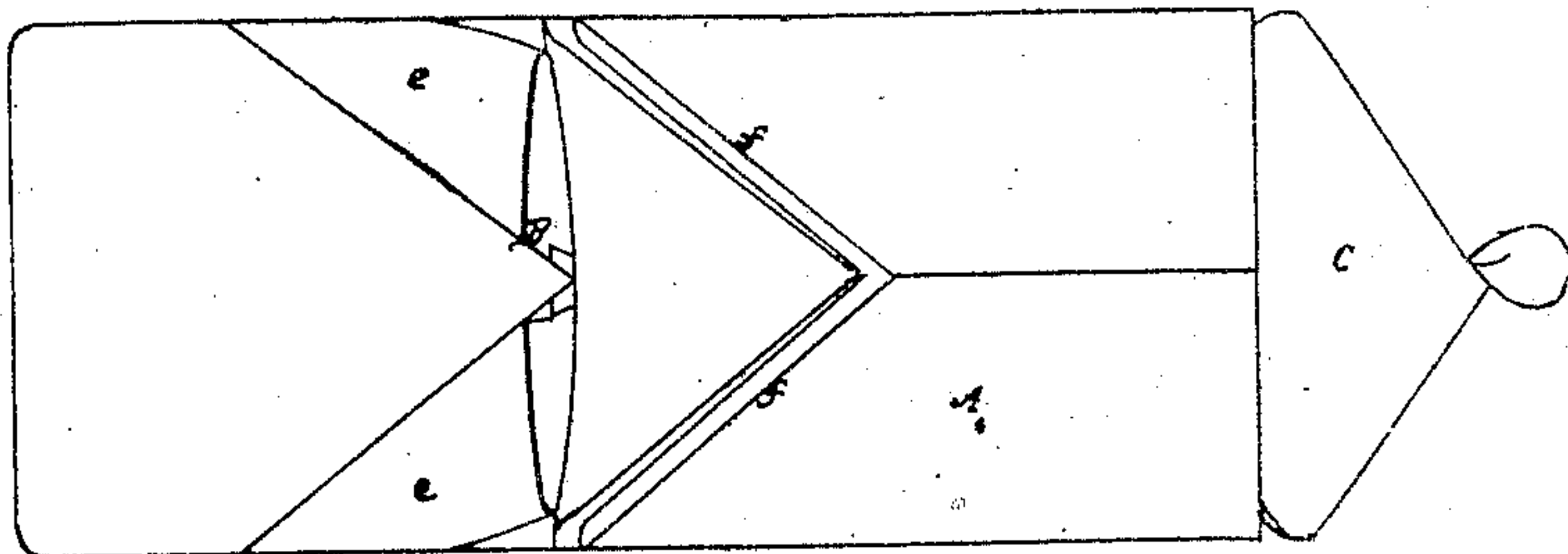


Fig. 2.

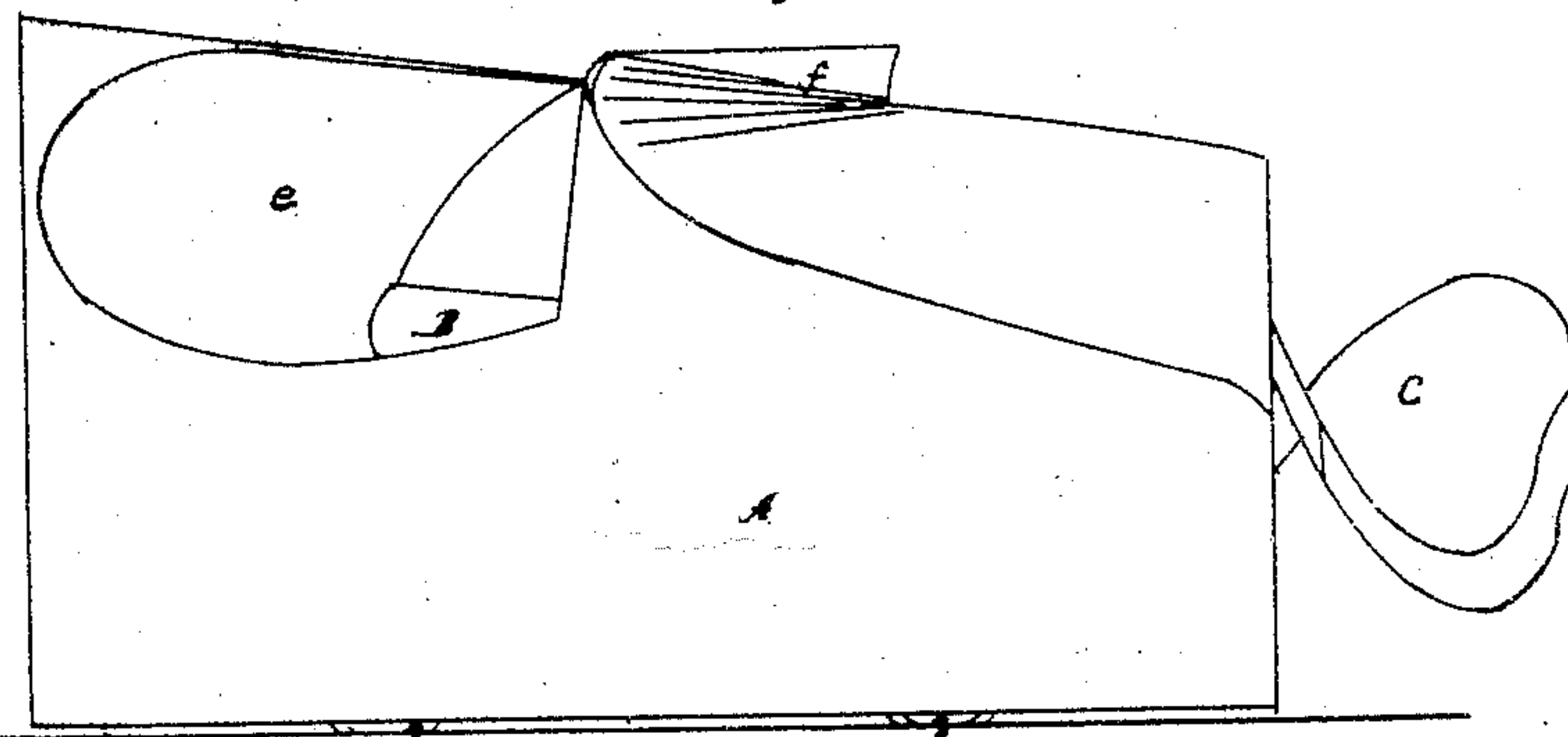


Fig. 3.

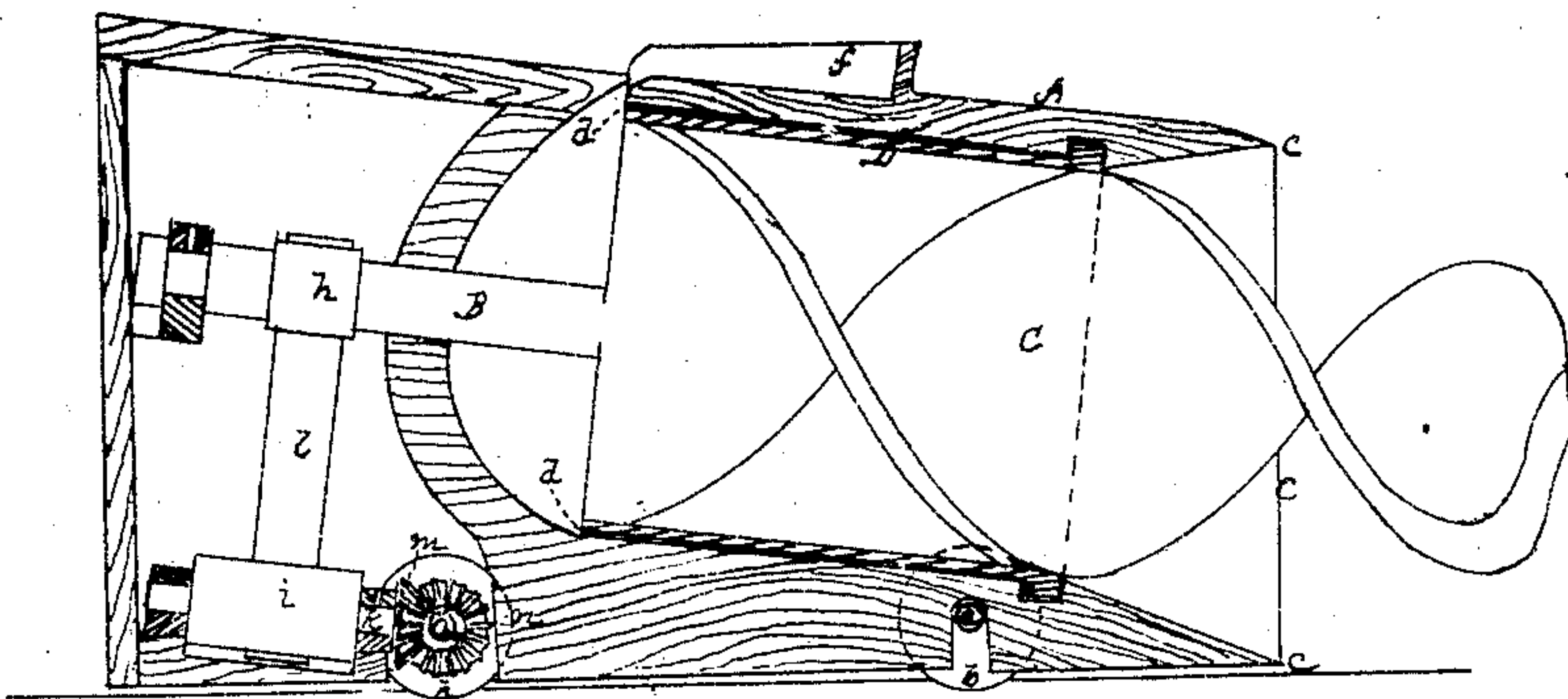


Fig. 4.

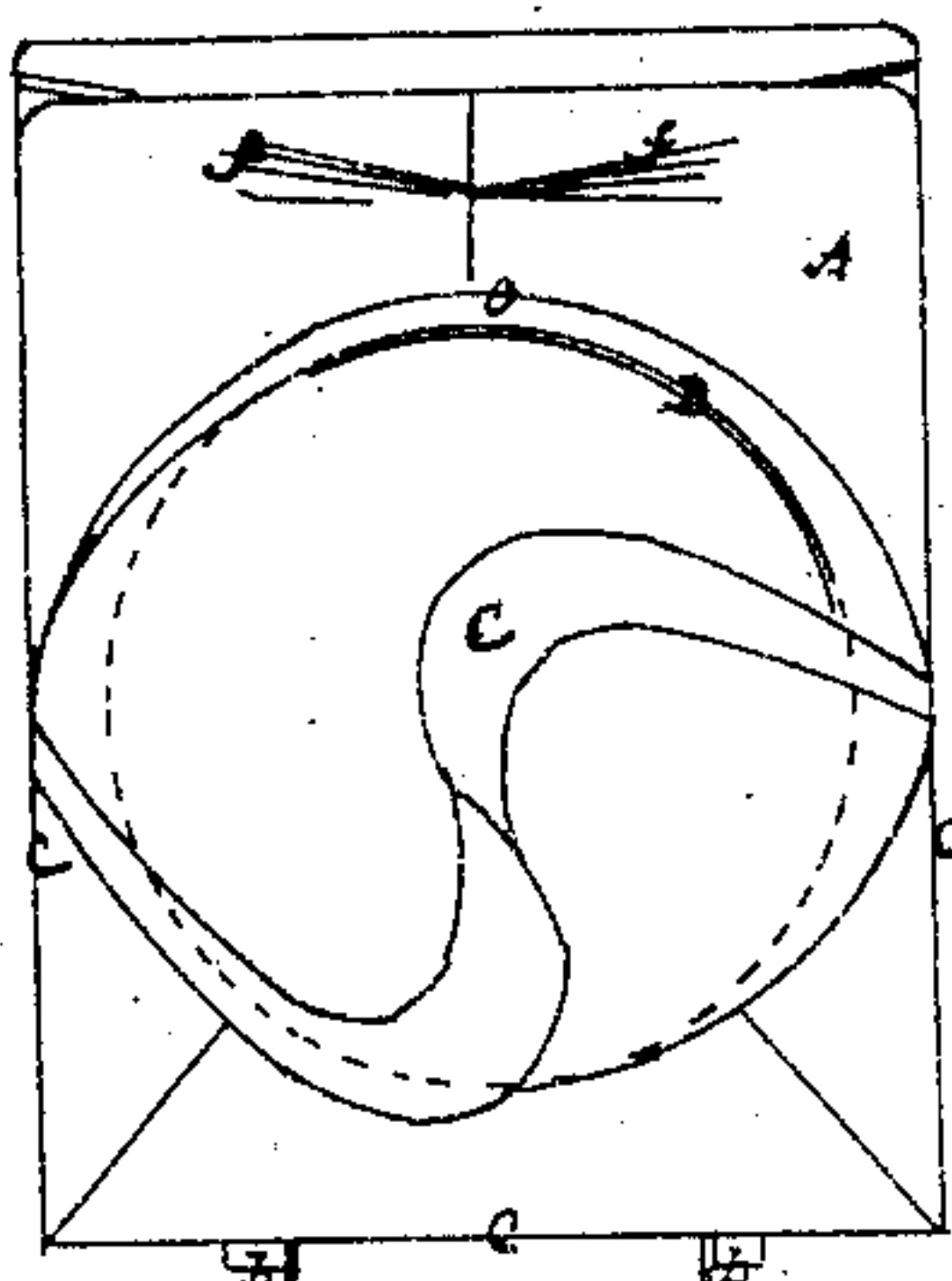
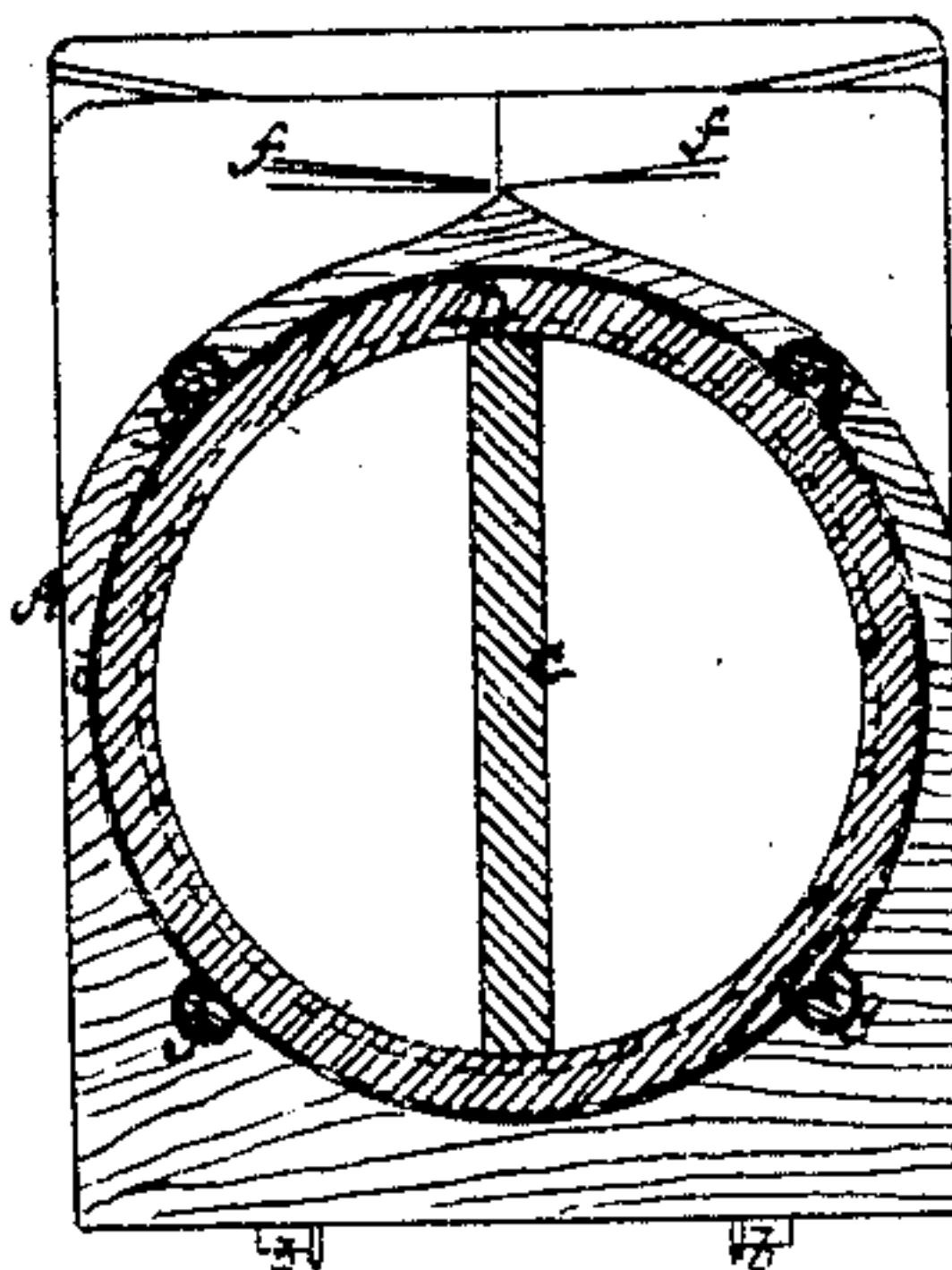


Fig. 5.



Witnesses.

*Wm. H. Hall &  
R. M. Snow.*

Elisha Robbins.

by his attorney.

*R. M. Ledy*

# United States Patent Office.

ELISHA ROBBINS, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 75,979, dated March 24, 1868.

## IMPROVED RAILWAY SNOW-PLOUGH.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, ELISHA ROBBINS, of the city and county of Worcester, and State of Massachusetts, have invented a new and useful or improved Snow-Plough or Excavator, to be used on a railway for the purpose of cleaning it of snow; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view,

Figure 2 a side elevation,

Figure 3 a longitudinal section,

Figure 4 a front end elevation, and

Figure 5 a transverse section of it.

In such drawings, A denotes a plough or "tunneller," supported by means of two or more axles *a a*, having two wheels, *b b*, to each, the same being to enable the "tunneller" to run upon the track-rails of a railway. The front end of the said tunneller A is to be formed in manner as represented in figs. 3 and 4, that is, with cutters *c c c c*, so as to cut the snow from the rails, or cut a trench through it, which shall be horizontal at bottom, and have either vertical or flaring sides. The mouth of the tunneller opens from a cylindrical throat, *d*, in rear of which is one or more lateral deflectors or ploughshares *e e*, arranged so as to discharge laterally any snow which may be driven back against them, or against which such deflector or deflectors may be forced. Auxiliary deflectors or ploughshares *f f*, arranged on the upper surface of the tunneller, in manner as exhibited in the drawings, serve to deflect laterally any snow which may pass over the top of the tunneller, and be liable to fall therefrom in front of the main deflector or deflectors. A shaft, B, arranged concentrically and in other respects with the cylindrical part or bore of the tunneller, in manner as represented, has a twisted blade or auger, C, extended from it through and beyond the tunneller, in manner as shown in the drawings. This auger extends through and is fixed to a tube or hollow cylinder, D, which on its external surface is supported against one or more friction-wheels, *g*, arranged in the tunneller. The tube serves to direct the snow to the deflectors, and prevent it from being thrown against the bore of the tunneller while the auger is in revolution. The object of the director or tube is to prevent the friction of the snow against the bore, which would otherwise take place and operate to retard the rotary motions of the auger. For putting the auger in revolution, it has a pulley, *h*, on its shaft, around which, and another pulley, *i*, on another shaft, *k*, an endless chain or band, *l*, travels. A bevelled gear, *m*, fixed on the shaft *k*, engages with another such gear, *n*, fixed on the rear axle of the tunneller. Thus, when the said axle is in revolution, the auger will be revolved. The said auger, however, may be revolved by other means, that is, it may be operated by a steam-engine, or other proper motor applied to the tunneller, or by the power of the locomotive-engine used in driving the tunneller ahead on a railway.

When the plough or excavator is to be used, it may be driven forward by and in front of a locomotive-engine, or it may have a steam or other mover fixed directly on it, and applied to its outer shaft and axle so as to effect the rotary movements of both or each, as circumstances may require.

The excavator, when driven forward into a mass of snow on a railway, will bore into and channel through it and raise it, and deflect it laterally off the track.

I prefer to have the deflectors arranged so as to discharge the snow in opposite directions from the track, instead of from only one side thereof, for when they cast it laterally in opposite directions the tendency to throw the excavator off the track in one direction will be counterbalanced by that operating in the other. This excavator, while advancing, will not only bore into but cut its way through the snow.

I am aware of the excavator described in the United States Patent, No. 44,360, and therefore make no claim thereto, such being a snow-plough, with certain rotary clearers arranged to operate against it so as to deflect the snow in lateral directions. In my excavator, the auger or borer performs the function of boring only.

I claim the combination of the tunneller A, and the auger or borer C, arranged as set forth.

I claim the combination of the tunneller A, the auger or borer C, and one or more deflectors, *e e*, arranged so as to discharge the snow laterally from the auger, as specified.



I also claim the combination and arrangement of the auxiliary deflector or deflectors *ff* of the top of the tunneller with the said tunneller, the rotary auger, and the other deflector or deflectors *ee*, arranged as specified.

I also claim the combination and arrangement of the anti-friction-tube *D* with the auger *C*, the tunneller, and one or more deflectors, arranged in rear of the said tube.

I also claim the combination of one or more supporting-wheels *g* with the auger-tube *D*, the tunneller, and one or more deflectors *e*, as specified, such rollers being for supporting the tube while in revolution.

ELISHA ROBBINS.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.