A. MILLER.

Mole-Plow.

No. 25,027. Patented Aug 9. 1859.

Fig. 1.

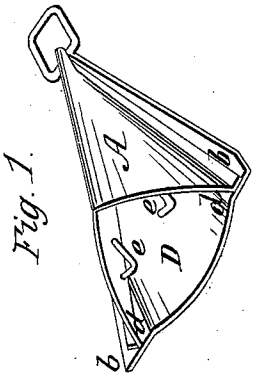


Fig. 2

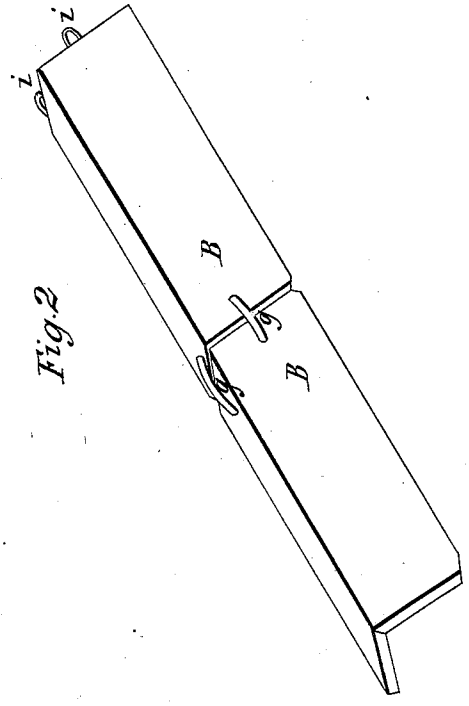
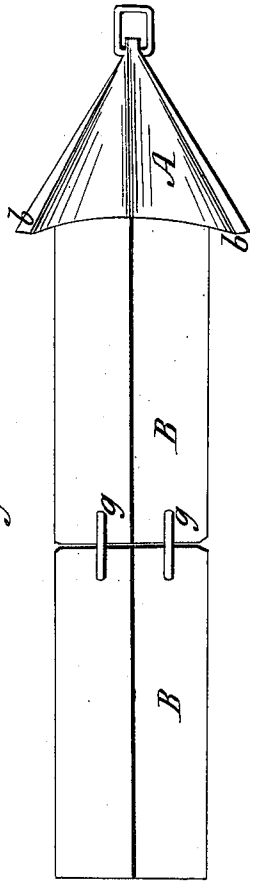


Fig. 3.



Witnesses:
C. W. Franzoni.
J. H. Alexander.

Inventor:
Adam Miller.

N. PETERS. PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ADAM MILLER, OF MOUNT PLEASANT, IOWA.

IMPROVEMENT IN UNDERGROUND DRAINING-MACHINES.

Specification forming part of Letters Patent No. **25,027**, dated August 9, 1859.

To all whom it may concern:

Be it known that I, ADAM MILLER, of Mount Pleasant, in the county of Henry and State of Iowa, have invented certain new and useful Improvements in Machines for Draining Land; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon.

The nature of my invention consists in an improved mode of protecting the upper part of the ditch made by a mole-plow.

To enable others skilled in the art to make and use my invention, I will now describe its construction and operation.

Figure 1 is a perspective of the mole. Fig. 2 is a perspective of the gutters. Fig. 3 shows the mole and gutters attached.

In Fig. 1, A represents the top of the mole, and D the bottom. I construct the said mole in a triangular form, varying from six to eight inches in width at the rear, and from eight to twelve inches in length, and tapering from the top and on both sides to a point at an angle of about forty-five degrees, as fully represented in Fig. 1. I construct the upper part or top of my mole from one to two inches shorter at its mouth than the bottom, the advantage of which will be more fully seen hereinafter. The bottom D is made slightly convex at the mouth of the mole, but its convexity decreases as it approaches the front end.

d d are two shoulders on the upper side of bottom D, as represented in Fig. 1. Said shoulders are for the purpose of affording firm bearings to each side of the gutter B.

e e are two iron hooks securely fastened in each side of the mouth, the ends of each hook being turned up at right angles, as shown in Fig. 1, in order that the gutter may be more easily disengaged.

b b represent two sharp projections extending from the mouth to the front of the mole. Said projections extend along the sides of the mole, where top and bottom unite.

B B are two gutters, which are constructed by nailing two boards together at right angles, as shown in Fig. 2, and of the width corresponding to the size of the mole, always allowing one inch, or more, for the easy admission and play of the gutters. These boards thus nailed together form a kind of arch for the top and side, leaving the bottom of the ditch open. The lower ends of each gutter are rounded off, as shown in Fig. 2. This is done to prevent the ends of the gutters from accumulating dirt as they are drawn after the mole, and also to enable them to be more easily drawn.

g g represent two large pieces of wire, or any other suitable material, which connect gutters B B.

i i are two staples driven in the end of gutter B. Said staples are for the purpose of attaching gutter B to the mole by means of hooks *e e*.

The operation of my machine is as follows: The mole is attached to a colter, and the gutters B B are hooked to *e e*. As the mole passes into the ground the gutters follow in the rear and occupy the ridge thus made by the mole. As the gutters are thus drawn after the mole successive sections are attached until the weight becomes too great to be drawn. The front part of the mole may then be elevated and detached from the staples. Should the connections break between the gutters before I reach the desired length of the ditch, I dig down behind the mole the length of the gutters and make another connection. After the ditch is completed I draw the mole out and leave the gutters in their places, thus accomplishing what has long been sought for—an effective and economical drainage.

Having thus fully described my invention, I claim—

The combination and arrangement of the mole with the drain-protectors, as described, for the purpose of expeditiously and economically giving protection to the upper part of the ditch, and of disengaging the protectors from the mole-plow with facility after they are laid.

ADAM MILLER.

Witnesses:

T. H. ALEXANDER,

C. W. FRANZONI.