O. STURDEVANT.

Mole Plow.

No. 30,659. Patented Nov. 13, 1860.

Fig. 1

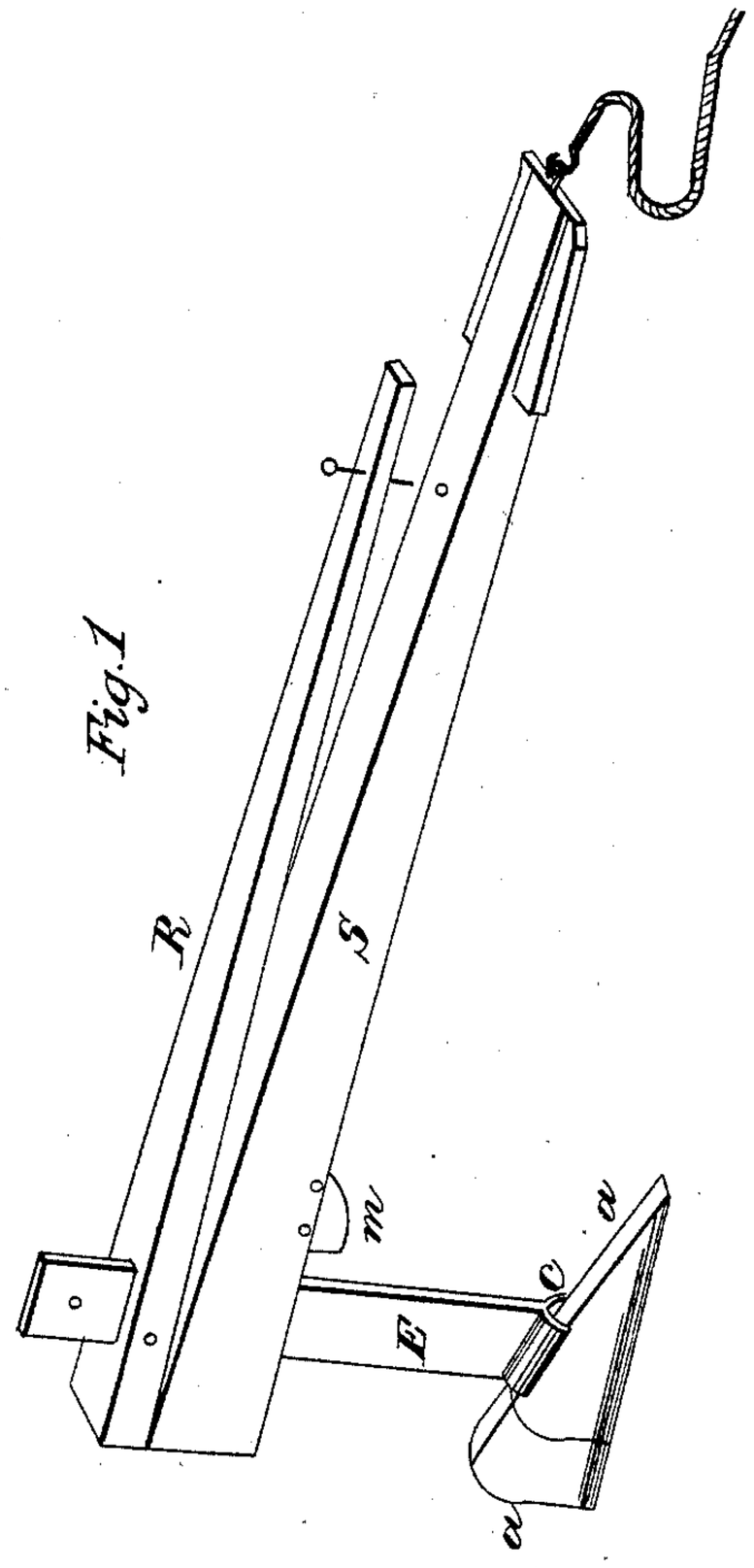
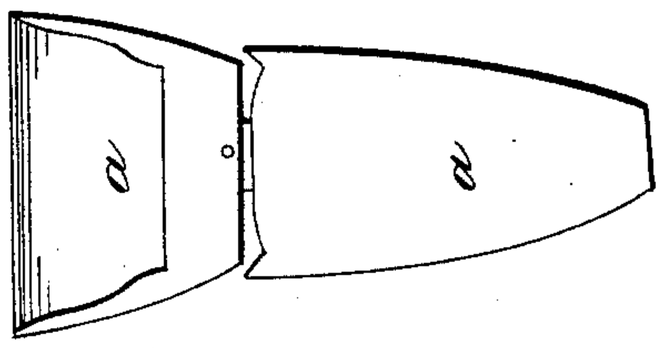


Fig. 2.



Witnesses.

A. H. Potter.

H. C. Woods.

Inventor.

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UNITED STATES PATENT OFFICE.

OWEN STURDEVANT, OF MAQUON, ILLINOIS, ASSIGNOR TO HIMSELF AND I. S. GREGORY.

IMPROVEMENT IN MOLE-PLOWS.

Specification forming part of Letters Patent No. **30,659**, dated November 13, 1860.

To all whom it may concern:

Be it known that I, OWEN STURDEVANT, of Maquon, in the county of Knox and State of Illinois, have invented a new and Improved Underdraining-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the improved plow. Fig. 2 is a bottom view of the tooth.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is for draining wet clay soils, by which they may be rendered profitable as arable land.

The invention is an improvement in that class of plows which make a small hollow drain from one foot to eighteen inches below the surface by forcing a peculiarly-pointed tooth horizontally through the ground.

It consists in a novel method of closing up the opening in the crown of the channel, which is made by the colter, as will be hereinafter described, thereby preventing too much surface-water from being drained off by the channels, and also preventing the channel from clogging up.

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

Fig. 1 represents the entire machine, in which S is the main beam, and R is a long lever, which is placed on top of S, and used for changing the direction of the mole-tooth, for which purpose the colter E is attached to this lever S by a bolt, or by any suitable means whereby a rigid attachment may be made, which will admit of adjusting the colter to run as deep in the ground as the nature of the work demands. The colter E passes down through a triangular-shaped hole which is made through the beam, so that by moving the front end of the lever R to the right or to the left of the beam the direction of the colter and the mole-tooth which is secured to its lower end will be changed while the machine is in operation and the mole-tooth is below the surface. The fin or colter *m* is a blade having a sharp cutting-edge, which edge is curved or inclined upward. This fin is placed before and in the same vertical plane with the colter E for the purpose of cutting an opening through the sod and tough roots and clearing a passage for the colter. The lower end of colter E has a semicircular portion, *c*, formed on it, and the mole-tooth *a* has a semicircular channel or groove formed in its upper surface, which groove extends from the point of the tooth back to the rear end of the tooth. The portion *c* on the end of the colter E is secured to the tooth, over the groove in the tooth, so as to form a circular hole between the end of the colter E and the surface of tooth *a*, which hole is inclined forward in a plane with the groove of the tooth *a*. The front edge of the colter is brought to a sharp edge in the usual manner, so that it will cut its way through the ground.

Behind the tooth is pivoted a portion, *a'*, which is made tapering like the tooth, but which is larger transversely at its back end than the back end of the tooth *a*. This piece *a'* has a short groove in its surface, which groove is as large at the forward end as the termination of the groove in the rear end of the tooth, but which tapers back to nothing, leaving a smooth round surface at the rear end of the portion *a'*, equal in cross-section to the size of the drain or channel when formed. The portion *a'* is attached to the back end of tooth *a* by a suitable joint which will allow this piece *a'* to follow the course of the tooth *a* through the ground.

The operation of the invention is as follows: The tooth *a* being secured to the bottom of colter E, the colter will leave behind it, in its passage through the ground, a deep slit or opening, which will carry the surface-water down into the channel formed by the tooth, and if this vertical colter-opening be left open the underground channel will soon be filled and choked up with particles of earth carried down from the surface; but to prevent the channels from this injury the groove on the tooth *a*, in conjunction with the portion *c* on the end of the colter E, will form a plug of clay, which is larger in diameter than the width of the opening formed by this colter, which plug will be forced up and packed tightly against the crown of the channel as it is formed by the tooth, by the closing portion *a'*, so that this

plug will stop up the opening and preserve the channel from the objections above mentioned.

The beam S has a shoe with a broad surface on its front end. The front end of this shoe is slightly turned up to prevent the beam from running into the ground as the shoe is dragged over the surface. The pin *g*, which passes down through the forward end of the lever R, attaches this end of the lever to the beam after the mole-tooth has been set to run in a proper direction.

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

Forming a circular hole or suitable space under the end of colter E, in combination with a groove in the top surface of the mole-tooth *a*, and the closing portion *a'*, placed behind the mole-tooth, substantially as described, and for the purposes herein set forth.

OWEN STURDEVANT.

Witnesses:

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A. DONASON.