

T. K. Grube,

Drain.

No. 106,690.

Patented Aug. 23. 1870.

Fig. 1.

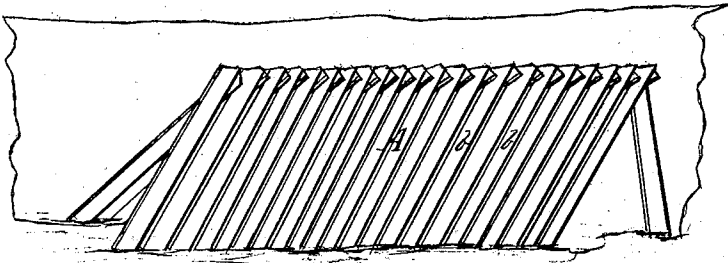


Fig. 2.

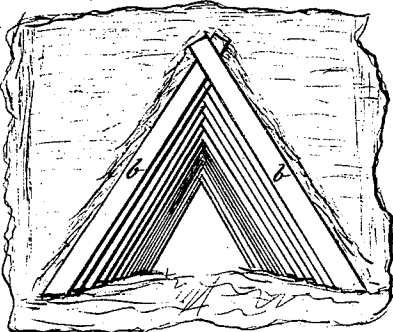


Fig. 3.

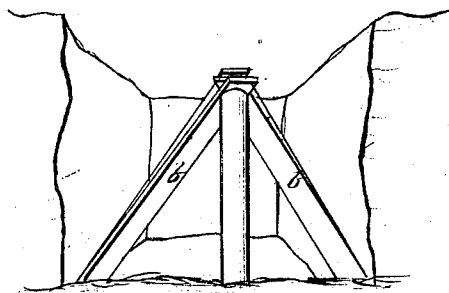
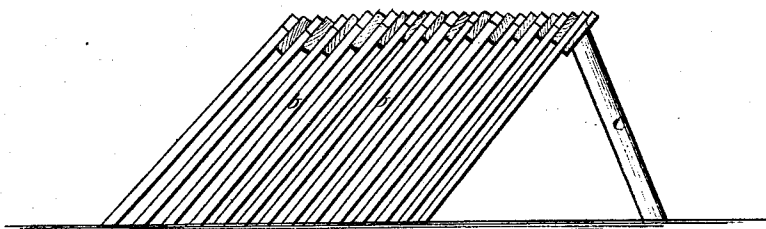


Fig. 4.



Witnesses.

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TOBIAS K. GRUBE, OF NAPOLEON, OHIO.

Letters Patent No. 106,690, dated August 23, 1870.

IMPROVEMENT IN THE CONSTRUCTION OF DITCHES.

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

To all whom it may concern:

Be it known that I, TOBIAS K. GRUBE, of Napoleon, in the county of Henry and State of Ohio, have invented a new and valuable Improvement in the Construction of Ditches; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a longitudinal side view of my invention in perspective.

Figure 2 is a sectional end view, showing the layer of leaves and earth above the frame.

Figures 3 and 4 are details.

My invention relates to means for preventing ditches dug in loose or sandy soil from filling up, and consists in the novel arrangement of a series of sticks therein, inclining upward, inward, and forward from the base of the ditch, and secured together at the top, forming an angular frame-work, sloping like the eaves of a house.

The letter A of the drawing designates the series of sticks *b*, which forms the frame-work of my ditch.

When first laid, they are covered with a layer of leaves, moss, &c., in order to prevent the finer particles of earth from sifting through until the filling above the frame-work has become well settled.

My invention possesses the advantage of economy. It may be constructed from refuse material, or sticks may be finished for the purpose. Such a ditch will not fill up, although existing in sandy soil.

A further very important advantage consists in the facility with which it may be adapted to any curve or bend, as in passing around a stump, &c.

In commencing the ditch, I usually employ a prop or block, *c*, to support the first sticks.

What I claim as my invention, and desire to secure by Letters Patent, is—

The angular supporting frame-work A composed of the sticks *b*, substantially as specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

TOBIAS K. GRUBE.

Witnesses:

S. H. STEEDMAN,
OLIVER HIGGINS.