

I. R. STORIE.
SUBSOILER.

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1,120,859.

Patented Dec. 15, 1914.

Fig. 1.

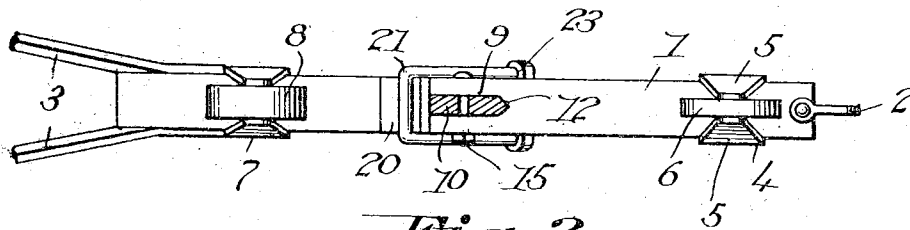
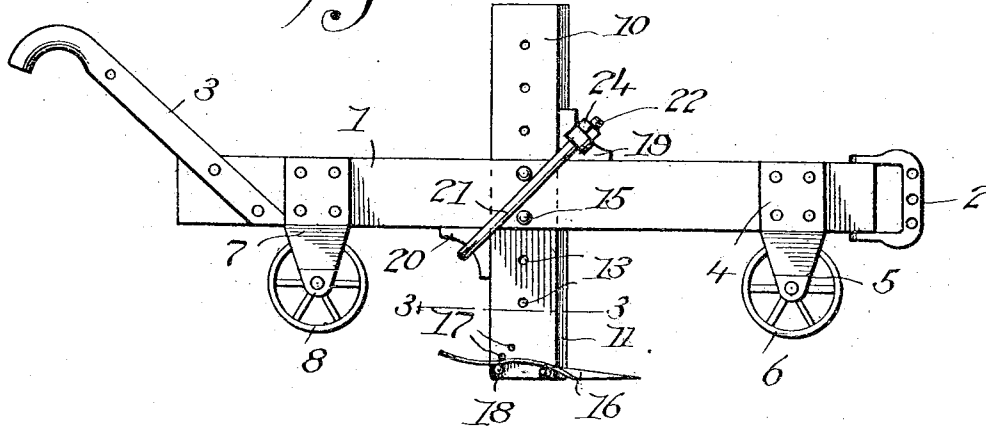


Fig. 2.

Fig. 3.

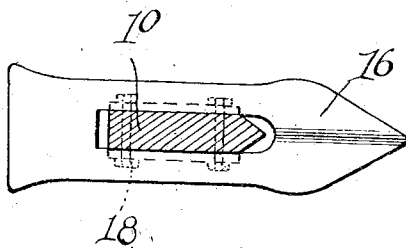
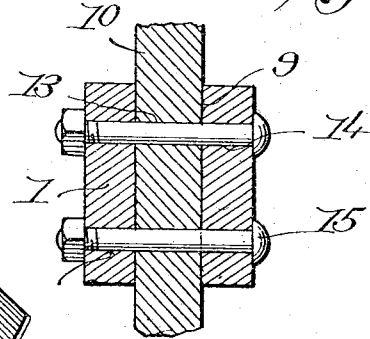


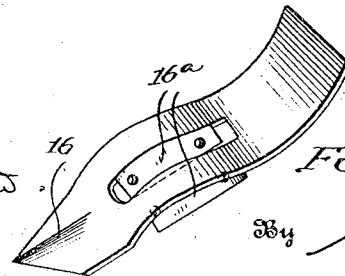
Fig. 4.



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Fig. 5.



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SUBSOILER.

1,120,859.

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To all whom it may concern:

Be it known that I, ISAAC R. STORIE, a citizen of the United States, residing at Rugby, in the county of Morgan and State of Tennessee, have invented certain new and useful Improvements in Subsoilers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in plows, and more particularly to that class of plows which are generally designated as sub-soiling plows.

An object of this invention is the provision of a sub-soiling plow, by means of which the earth beneath the surface soil may be thoroughly broken up, the plow foot being vertically adjustable so that the earth may be broken up at any desired depth from the surface thereof.

A further object of this invention is the provision of a sub-soiler which comprises a horizontally disposed beam which is supported upon ground wheels, the beam carrying a vertically adjustable standard to the bottom of which a foot is connected for breaking up the earth beneath the surface soil, improved means being provided to brace the standard to prevent the same from splitting the beam when the foot is forced through hard-pan or stony soil.

With these and other objects in view, my invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawing, in which.

Figure 1 is a side elevational view of my improved device; Fig. 2 is a bottom plan view thereof; Fig. 3 is a rear elevational view of the lower end of the standard showing the foot connected thereto; Fig. 4 is a fragmentary vertical sectional view showing the manner of connecting the standard to the beam.

Referring more particularly to the drawing, the numeral 1 designates the horizontal beam of my improved sub-soiler, to the forward end of which a clevis 2 is connected, and to the rear end of which are connected the handles 3. Connected to the opposite side faces of the beam 1, adjacent its forward end, are supporting plates 4, the lower ends of which project below the under face of the beam and are converged as at 5, and journaled in the ends of the converged portions of the plates below the beam, is a sup-

porting wheel 6. Secured to the opposite side faces of the beam, adjacent its rear end, are similar supporting plates 7 in which is journaled the rear supporting wheel 8. The wheel 8 is of relatively greater width than the wheel 6, for a purpose to be hereinafter more fully described. Formed in the beam 1, intermediate of its ends, is a vertical opening 9 in which is slidably mounted a metallic standard 10, the standard having its forward edge beveled as at 11, to provide a cutting edge and the front wall of the opening 9 being formed with a recess 12 to receive the forward beveled edge of the standard.

The standard 10 is provided with a vertical series of transverse openings 13 and the beam is provided with a pair of openings 14, the openings 14 being adapted to register with any two of the adjacent openings 13 in the standard, so that bolts 15 may be passed through the registering openings to hold the standard in any desired vertically adjusted position. A tapered foot, 16 is adapted for connection to the lower extremity of the standard, the foot having a central longitudinal slot therein which is of slightly greater length than the width of the standard to receive the same, and the side walls defining the slot having depending parallel flanges 16^a which are adapted to engage against the side faces of the standard. To pivotally connect the foot to the standard, a bolt 16^b is passed through the flanges at their forward end and through the standard, and formed in the standard rearwardly of the pivotal point of the foot, is an arcuate series of openings 17, the lowermost opening of the series being disposed in the same horizontal plane as the pivotal point of the foot, whereby when the bolt 18 is disposed through the lowermost opening 17 and the registering openings which are formed in the flanges, the foot is maintained in a horizontal position. To dispose the foot at an angle of inclination, the bolt 18 may be removed from the lowermost opening 17 and the openings in the flanges which register therewith, so that the rear end of the foot may be raised to register the openings in the flanges with one of the upper openings of the series of openings 17, to hold the foot at an angle with relation to the horizontal.

Mounted on the upper face of the beam 1 and arranged to bear against the forward

face of the standard, is an angular brace member 19, a similar brace member 20 being arranged in the corner formed by the lower face of the beam and the rear face of the standard, and disposed around the brace member 20 is the intermediate portion of a U-shaped clip 21, the opposite ends of which are threaded as at 22 and passed through openings 23 in the brace member 19, the threaded ends 22 being adapted to receive the nuts 24 which are tightened against the outer face of the brace member 19 to securely hold the brace members in position and prevent the standard from splitting the beam when the standard is under great strain owing to the foot being drawn through stony sub-soil.

In the practical use of my improved sub-soiler, the standard 10 is adjustably secured to the beam so that the foot 16 is disposed the desired distance below the beam 1 to cause the same to engage in the sub-soil to the desired depth, the beam being held in adjusted position by the bolts 15 which pass through the openings 14 in the beam and the openings 13 in the standard which register with the openings in the beam. The brace members 19 and 20 are then secured in position by the clip 21, and the device is drawn over the surface of the ground with the wheels 6 and 8 engaged therewith. It will be seen, from the drawing, that the wheel 8 is of greater width than the wheel 6 and the thickness of the standard 10, so that the wheel 8 will not move downwardly within the channel formed in the ground by the standard 10 passing therethrough. By reason of the tapering construction of the foot, the same will be caused to pass easily through the sub-soil to lift and break the same, the foot being also adjustable to any desired angle with relation to the beam, dependent upon the character of the soil to be broken. It will be seen that when it is desired to move the sub-soiler from place to place, the standard 10 may be elevated to

dispose the shoe above the surface of the ground, the standard being held in its vertical position by engaging the bolts 15 through an adjacent pair of openings at the lower end of the standard.

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

1. A sub-soiler comprising a beam, a standard connected to the beam, a foot having a central longitudinal slot formed therein to receive the lower end of the standard, the side walls defining the slot having downwardly extending parallel flanges thereon for engagement against the side faces of the standard, means disposed through the flanges at one end thereof and through the standard to pivotally connect the foot to the standard, and means for holding the foot at any desired angle of inclination with relation to the standard.

2. A sub-soiler comprising a beam, a standard carried by said beam, a foot having a central longitudinal slot formed therein to receive the lower end of the standard, the side walls defining the slot having downwardly extending parallel flanges thereon for engagement against the side faces of the standard, a bolt disposed through said flanges at their forward end and through the standard to pivotally connect the foot to the standard, said standard having an arcuate series of openings formed therein rearwardly of the pivotal point of the foot, and means adapted for engagement through said flanges and through any one of the openings of said arcuate series to hold the foot at any desired angle of inclination with relation to the standard.

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

ISAAC R. STORIE.

Witnesses:

W. T. WALTON,

JOHNIE FLETCHER.