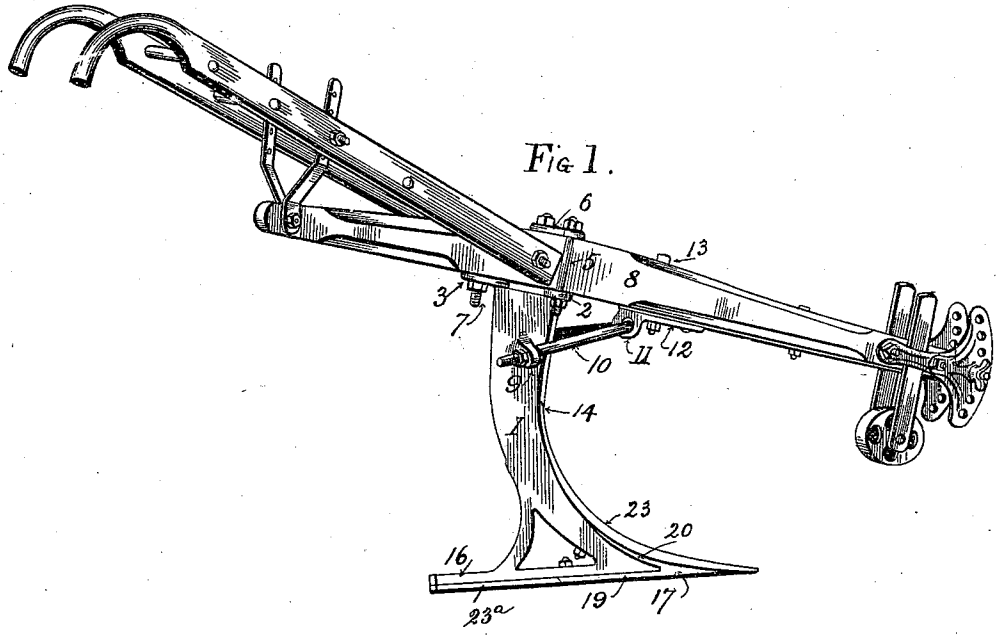
(No Model.) 2 Sheets—Sheet 1

A. B. PERINE.

SUBSOIL PLOW.

No. 549,742. Patented Nov. 12, 1895.

Fig 1.



WITNESSES.

H. N. Phillips

Lola G. Brown

INVENTOR.

AARON B. PERINE.

per Knight Bros.

Attorney's.

ANDREW B. GRAHAM, PHOTO-LITHO, WASHINGTON, D.C.

(No Model.) 2 Sheets—Sheet 2.

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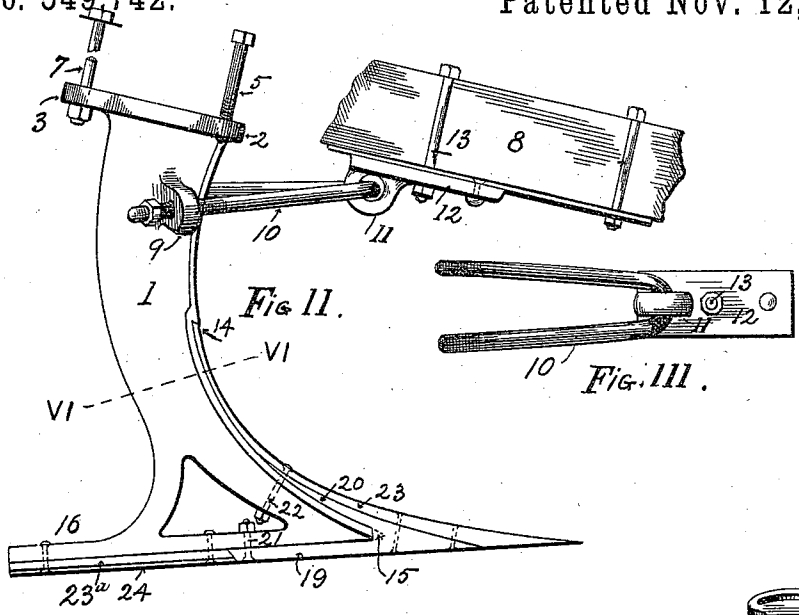


Fig. II.

Fig. III.

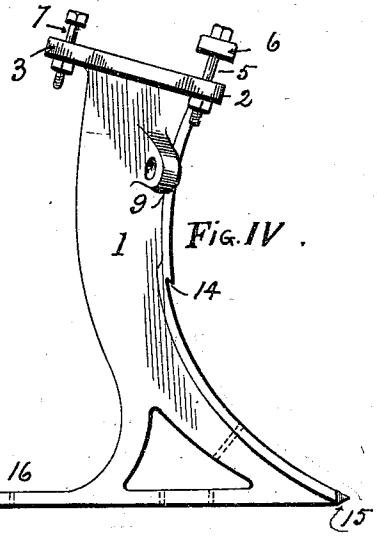


Fig. IV.



Fig. VI.

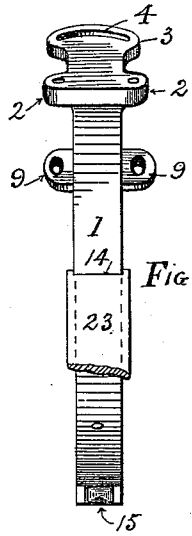


Fig. V.

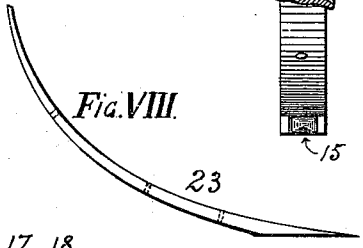


Fig. VIII.

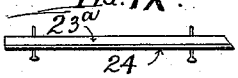


Fig. IX.

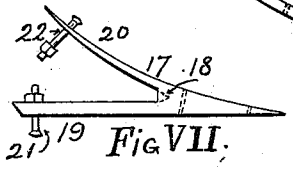


Fig. VII.

WITNESSES.

H. N. Phillips

Lola F. Brown

INVENTOR.

AARON B. PERINE.

per Knight Bros.

Attorney's.

ANDREW B. GRAHAM PHOTO-LITHO WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

AARON B. PERINE, OF TOPEKA, KANSAS.

SUBSOIL-PLOW.

SPECIFICATION forming part of Letters Patent No. 549,742, dated November 12, 1895.

Application filed March 7, 1895. Serial No. 540,902. (No model.)

To all whom it may concern:

Be it known that I, AARON B. PERINE, a citizen of the United States, residing at Topeka, in the county of Shawnee, in the State of Kansas, have invented certain new and useful Improvements in Subsoil-Plows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to new and useful improvements in subsoil-plows; and my invention consists in certain features of novelty hereinafter described, and pointed out in the claims.

Figure I represents a perspective view of my improved subsoil-plow complete. Fig. II represents a detail view of the plow and stirrup by which it is connected with the beam. Fig. III represents a bottom plan view of the stirrup and its beam-plate. Fig. IV represents a detail view of the standard. Fig. V represents a front view of the standard, showing a section of the share thereon. Fig. VI represents a cross-section on the line VI VI of Fig. II. Fig. VII represents a detail view of the shoe. Fig. VIII represents a detail view of the share. Fig. IX represents a detail view of the heel-plate of the standard.

Similar numerals refer to similar parts throughout the several views.

1 represents the standard formed at the top with the flattened surface inclined forward at an angle to the perpendicular line of the standard and provided with the laterally-extending perforated lugs 2 and the rearwardly-extending lug 3, having therein the slot 4. Through the perforations in the lugs 2 pass the bolts 5, which engage the bar 6 across the top of the beam 8. Through the slot 4 passes the bolt 7, which passes also through the beam.

9 represents perforated lugs upon the sides of the standard, through which pass the threaded ends of the stirrup 10, having nuts thereon in the rear of the lugs. Said stirrup at its front part or loop engages the perforated lug 11 on the plate 12, which is secured to the beam by the bolt 13. The beam is thus capable of two adjustments with relation to the standard—laterally by means of the bolt 7 in the slot 4 to regulate the lateral cut of the plow and vertically by means of the bolts 5 and the stirrup 10 to regulate the depth of the plow. To accomplish said vertical adjustment, if it is desired to make the plow run deeper, loosening the nuts on said bolts and stirrup permits the front end of the beam to be raised in relation to the standard, and, if desired, a wedge-shaped piece (not shown) may be inserted upon the top of the standard between the standard and the beam, or, again, if it is desired to cause the plow to run shallower, withdrawing the wedge and tightening said nuts, causing a downward inclination of the beam in relation to the standard, the forward inclination of the top of the standard, where it engages the beam, giving the beam at its forward end considerable pitch downward when in its lowest position, and the threaded ends of said bolts 5 and stirrup 10, extending some distance beyond the lugs, permit considerable adjustment in this direction. The standard is narrow laterally and thickened at its forward face, as shown in Fig. VI. Its front face is formed with a curved surface, the upper portion being wider than the lower portion and forming therewith the projection 14. The bottom of the standard is extended forward and terminates in the toe 15 and is provided with the rearward extension or heel 16. Upon the forward extension of the standard is carried the shoe 17, the toe 15 of the standard entering and engaging the recess 18 in the shoe. Said shoe is formed with the longitudinal member 19 and the upwardly-curved member 20, whereby it is secured to the standard.

23 represents the share, the same being a narrow curved blade, the upper end of which engages the projection 14 of the standard, being slightly wider than the thickness of the standard and beveled rearwardly, thus presenting its widest portion upon its front face. Said share extends a distance forward of the shoe and terminates in an elongated point, the bottom surface of the elongation forward of the shoe forming with the line of the bottom of the shoe a continuous longitudinal surface, and the forward face of the share being formed on a gradual curve from the extreme point to its point of junction with the standard at 14. It is secured to the standard and shoe by bolts and rivets, as shown. Back of the longitudinal member of the shoe and se-

cured to the heel of the standard is the heel-plate formed of the inner plate 23ª of cast-iron, and the outer plate 24 of hardened steel, and forming a continuation of the longitudinal member. The plow is provided with the usual handles and draw-clevis in ordinary use, and upon which I make no claim.

The principal advantages I claim for my improved subsoil-plow are that the thin narrow elongated point forward of the shoe enables it to penetrate the hardest subsoil, while by the long gradual curve from the point upward the soil is raised gradually and broken up and pulverized effectually and with ease; that the standard and share being narrow laterally, the standard having its thickest portion along its forward face, the share being slightly wider than the thickness of the standard and beveled rearwardly, thus presenting its widest face directly to the soil, the plow will pass through the soil with the least possible friction.

A further advantage is found in the provision for regulating the depth of the plow, the top of the standard where it is connected with the beam being inclined forward at an angle to the perpendicular line of the standard gives the beam a considerable pitch downward at its forward end, and allows a large latitude for vertical adjustment. Upon the first plowing with this plow it may be run to a depth of from six to eighteen inches, and at a subsequent plowing to a depth of twenty-four (24) inches, the change being made by simply loosening the nuts upon the bolts 5 and the ends of the stirrup 10.

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

1. A subsoil plow comprising a beam, a standard having a forwardly and downwardly inclined top surface, lateral perforated lugs and a rearwardly extending lug formed with a slot, a cross-piece across the top of the beam, bolts passing through said cross-piece and through and beyond said lateral perforated lugs, nuts on said bolts, and a bolt passing through the beam and through the slot in said rearwardly extending lug and having a nut thereon, substantially as set forth.

2. A subsoil plow, comprising a beam, a standard having a forwardly and downwardly inclined top surface, and perforated lugs on the sides of the standard, means for securing the beam adjustably to the standard, a perforated lug connected with the beam forward of the standard, and a stirrup engaging said lug, the ends of the stirrup passing through and beyond the lugs on the sides of the standard and provided with nuts on the rear of said lugs, substantially as set forth.

3. In a sub-soil plow, the combination with a suitable beam of a standard having a forwardly inclined top surface, lateral perforated lugs on the standard, a rearwardly extending lug, a slot in said rearwardly extending lug, a cross piece across the top of the beam, bolts passing through said cross piece and through and beyond said lateral perforated lugs, nuts on said bolts, a bolt passing through the beam and through the slot in said rearwardly extending lug and having a nut thereon, perforated lugs on the sides of the standard, a perforated lug connected with the beam forward of the standard, a stirrup engaging said lug, the ends thereof passing through and beyond the lugs on the sides of the standard and provided with nuts in the rear of said lugs, substantially as set forth.

4. In a subsoil plow, the combination with a suitable beam, a standard having a forwardly and downwardly inclined top surface, lateral perforated lugs on the standard, and a rearwardly extending lug formed with a slot, a cross-piece across the top of the beam, bolts passing through said cross-piece and through and beyond said lateral perforated lugs and having nuts thereon, a bolt passing through the beam and through the slot in said rearwardly extending lug and having a nut thereon, perforated lugs on the sides of the standard, a perforated lug connected with the beam forward of the standard, a stirrup engaging said lug on the beam and passing through and beyond said lugs on the sides of the standard and provided with nuts on the rear of said lugs, a thickened front edge portion on the standard forming a front face thereon wider than the thickness of the body of the standard and a shoulder on said front face; of a shoe adapted to be secured to the foot of the standard, a share adapted to be secured to said shoe and standard engaging at its upper end with said shoulder on the standard and having a flat front face and its edges rearwardly beveled, and an elongated flat point on the share extending forward of the shoe and forming with the share and standard a gradual uninterrupted curve from the end of the point to the top of the standard, substantially as set forth.

5. A subsoil plow comprising a standard 1, formed with a projection 14, with a toe 15 and with a heel 16, the shoe 17 formed with a recess 18 receiving the toe, with a longitudinal member 19 and with an upwardly curved member 20, the share 23, formed with an elongated point and having its upper end engaging the projection on the standard, the heel plate 23ª and the outer plate 24; substantially as set forth.

AARON B. PERINE.

Witnesses:
A. A. MAJORS,
FRANK W. MILLS.