

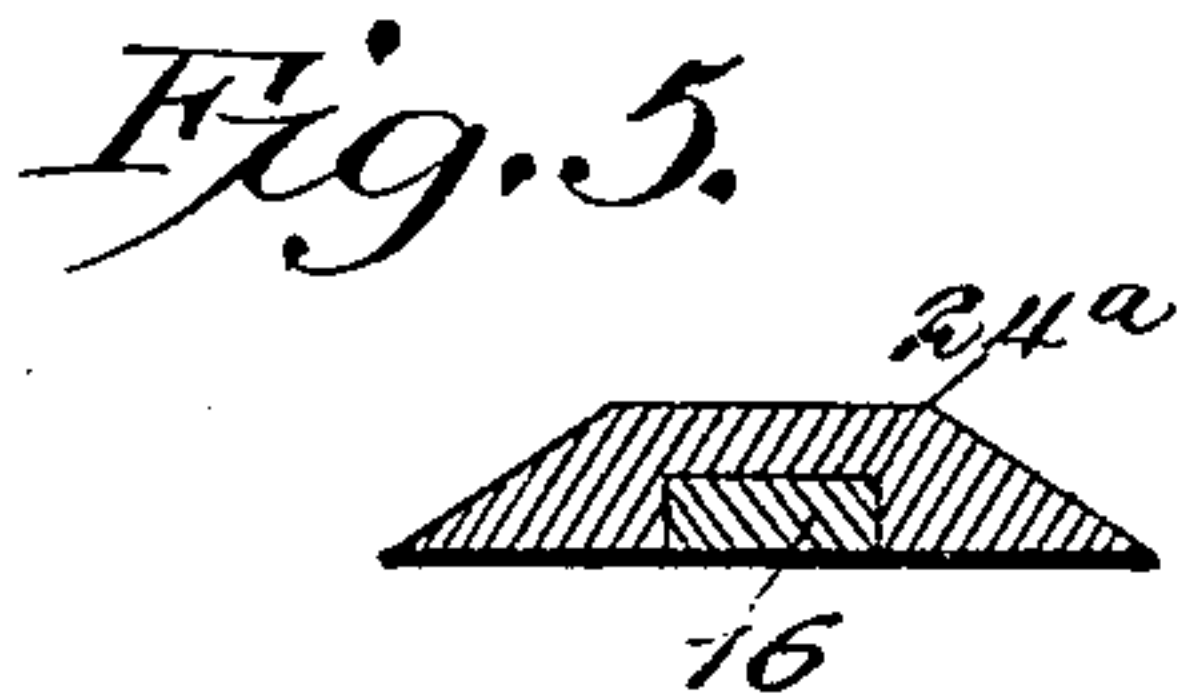
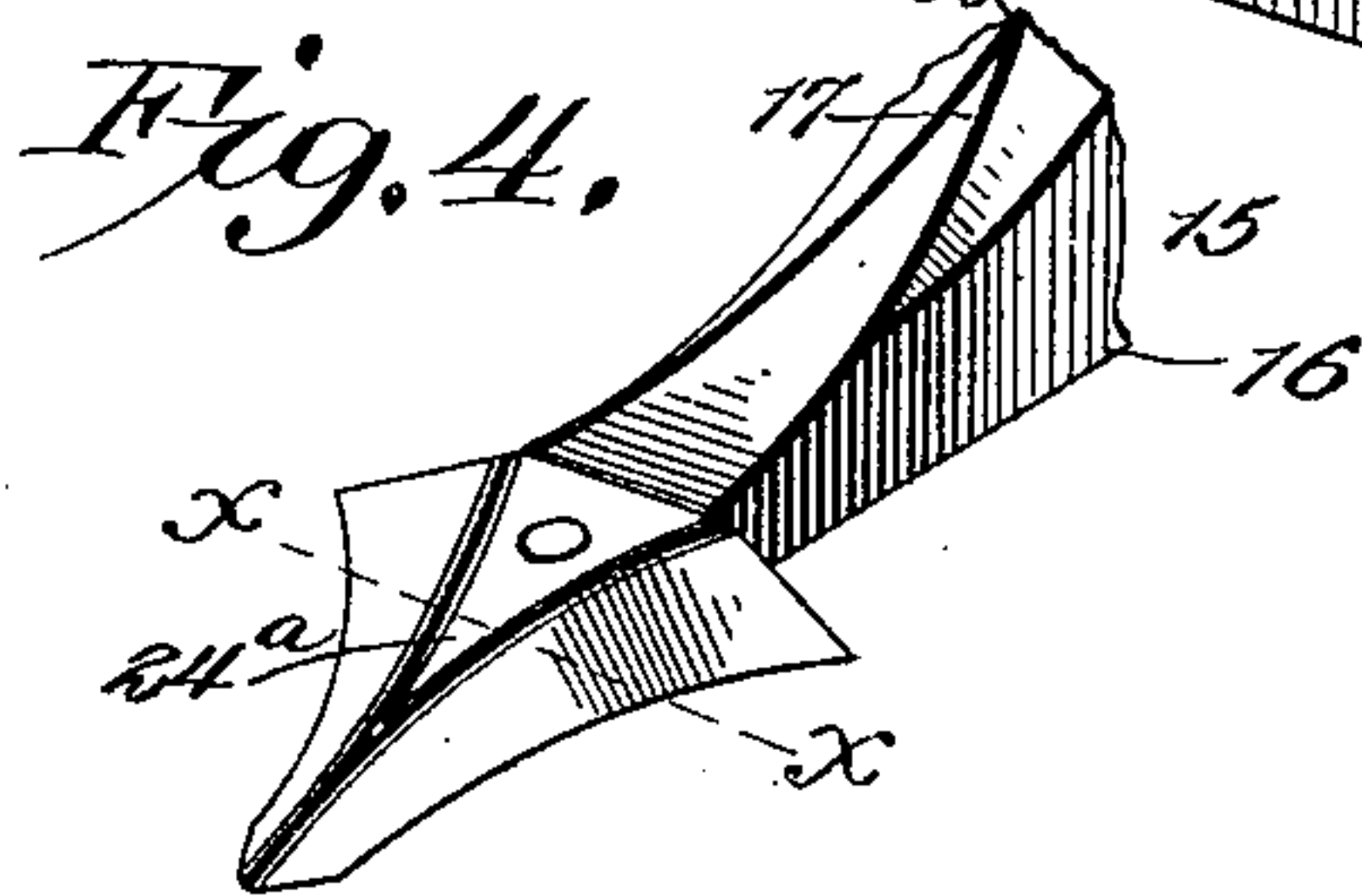
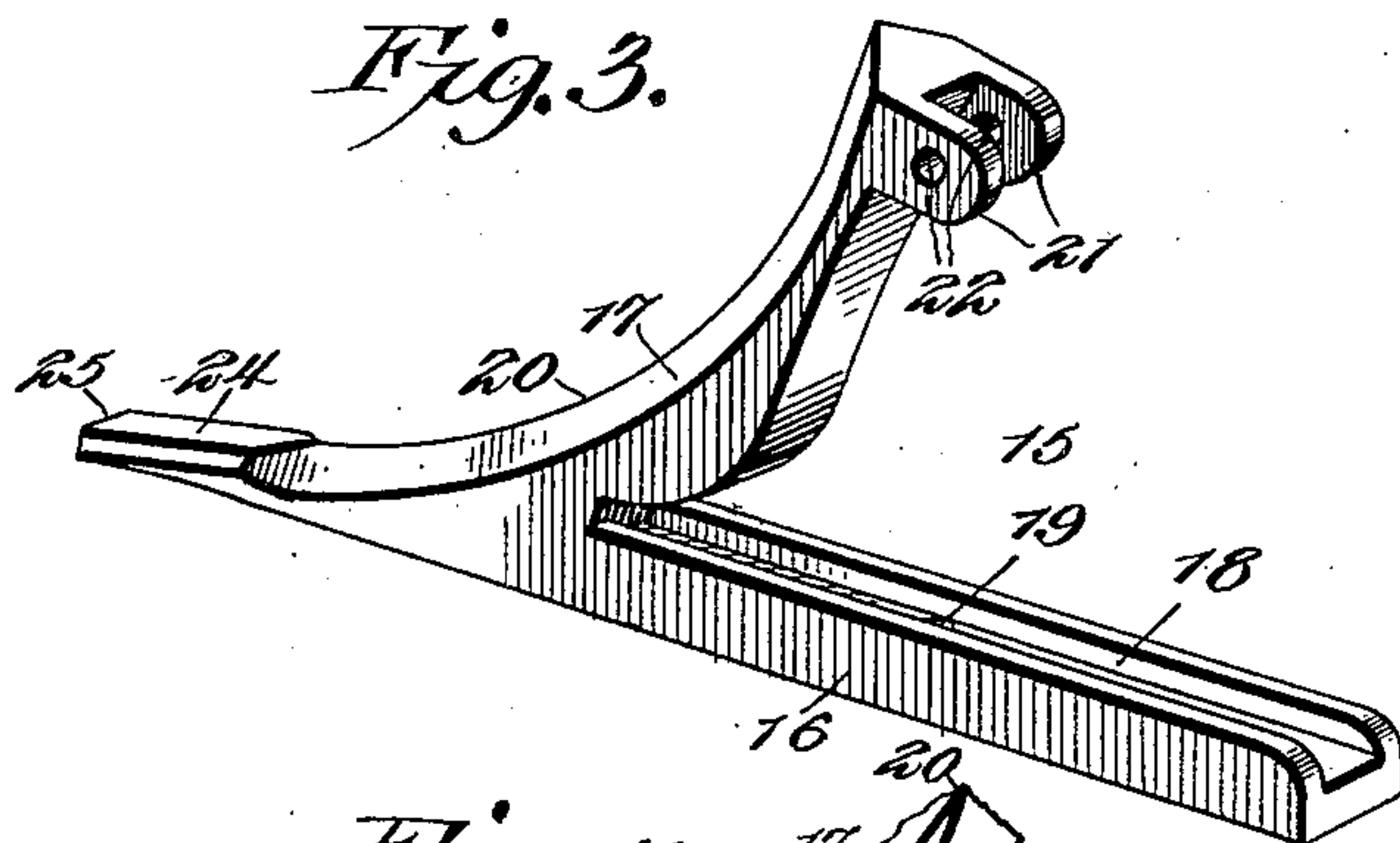
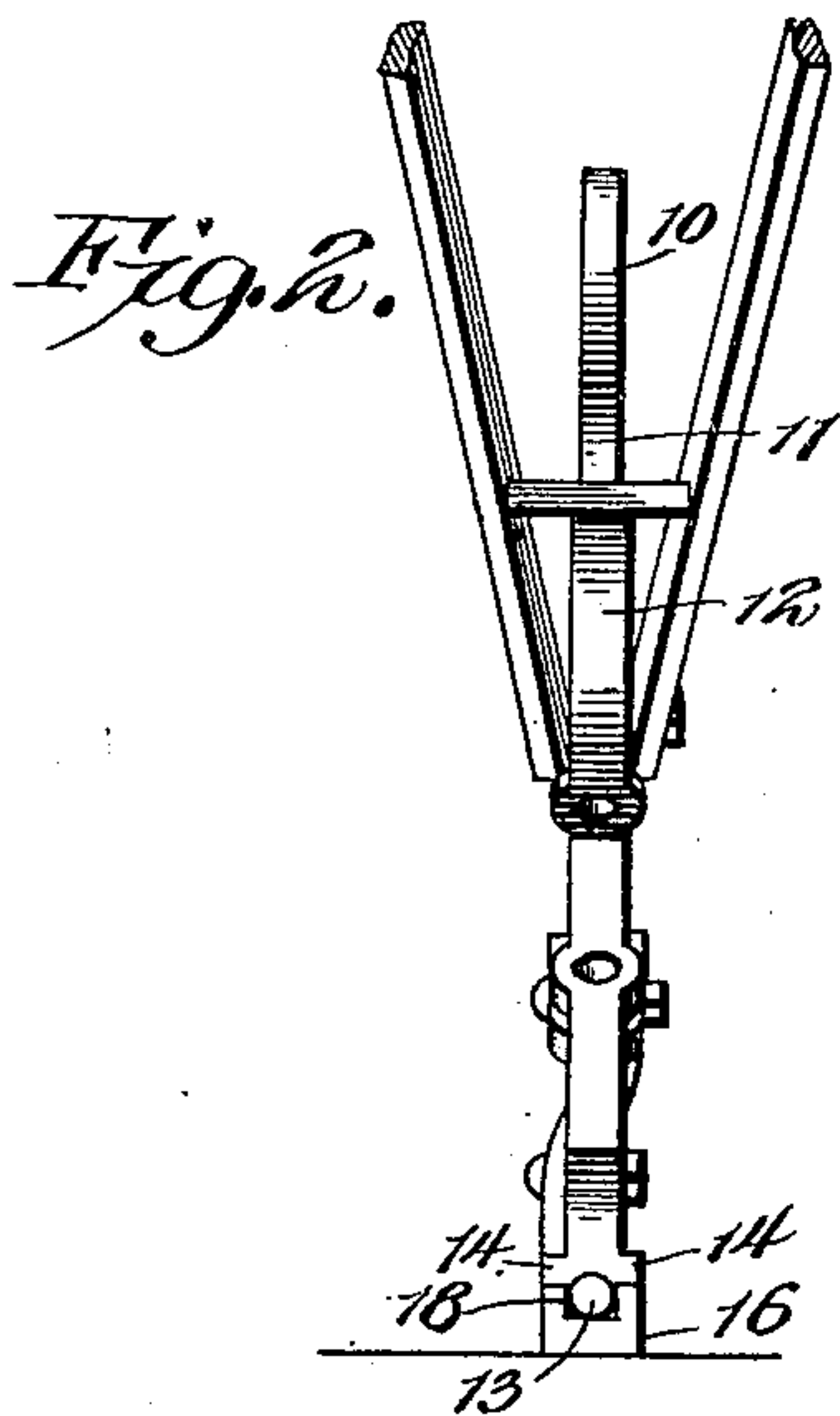
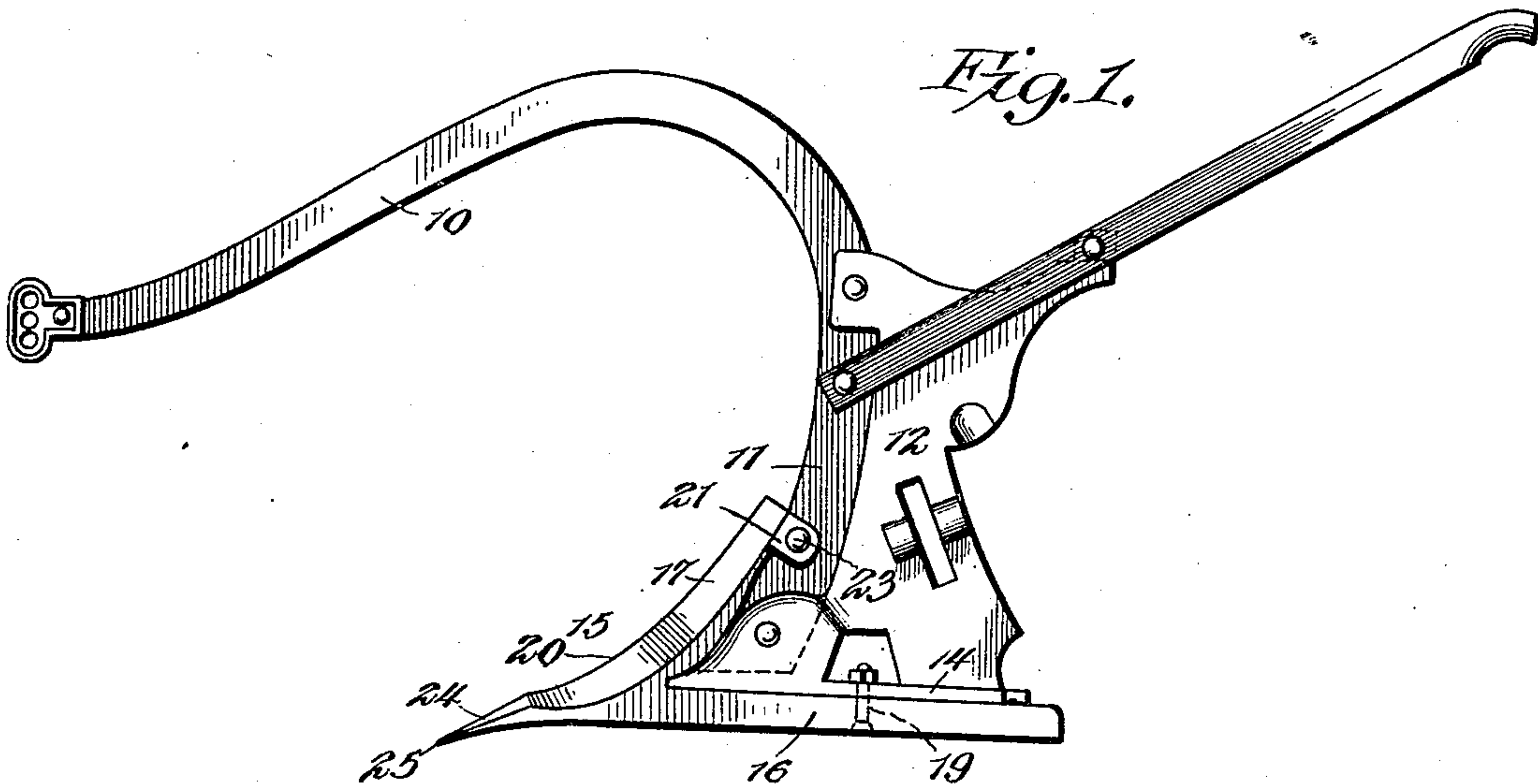
No. 680,400.

Patented Aug. 13, 1901.

J. A. & C. L. SHUPING.
SUBSOIL ATTACHMENT FOR PLOWS.

(Application filed June 11, 1901.)

(No Model.)



J. A. Shuping and
C. L. Shuping, Inventors

By

E. J. Siggers

Attorney

Witnesses
Howard D. Orr
Bl. Foster

UNITED STATES PATENT OFFICE.

JACOB ALEX. SHUPING AND CHARLES LUTHER SHUPING, OF MORGANTON,
NORTH CAROLINA.

SUBSOIL ATTACHMENT FOR PLOWS.

SPECIFICATION forming part of Letters Patent No. 680,400, dated August 13, 1901.

Application filed June 11, 1901. Serial No. 64,166. (No model.)

To all whom it may concern:

Be it known that we, JACOB ALEX. SHUPING and CHARLES LUTHER SHUPING, citizens of the United States, residing at Morganton, in the county of Burke and State of North Carolina, have invented a new and useful Subsoil Attachment for Plows, of which the following is a specification.

The present invention relates to subsoil-plows. The prime object is to provide a simple and efficient attachment that can be readily and rigidly applied to an ordinary plow, the only necessary change being the removal of the moldboard and landside. The necessity of an entirely separate subsoil-plow, with its consequent expensiveness, is thus obviated.

In the embodiment shown in the accompanying drawings, the invention is illustrated in connection with a sidehill-plow as now manufactured by the Lynchburg Plow Company, of Lynchburg, Virginia, under the patent granted to James R. McWane on February 5, 1901, and numbered 667,558. It will of course be understood that it may be employed upon other plows and that such changes may be made from the construction shown and described as are within the scope of the appended claims.

In the drawings, Figure 1 is a side elevation showing the improvement applied to the plow. Fig. 2 is a rear elevation of the same. Fig. 3 is a perspective view of the subsoil attachment detached. Fig. 4 is a detail perspective view of a modified form, illustrating a removable point. Fig. 5 is a cross-sectional view on the line X X of Fig. 4.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The plow illustrated consists of a steel or metallic gooseneck beam 10, having a downwardly-curved end 11, to the rear edge of which is secured a standard 12. The lower edge of this standard has a downwardly-projecting longitudinally-disposed flange 13 and side ribs 14. The construction so far described forms no part of the present invention, but is illustrated to more clearly show the application of the improvement, which consists of the subsoil attachment, (desig-

nated as a whole by the reference-numeral 15.) This attachment consists of a shoe 16, at the front portion of which is located the shin 17, disposed at an angle to the shoe and preferably made integral therewith.

The shoe 16 consists of a rectangular bar of metal, provided in its upper face with a longitudinally-disposed groove 18, that extends from the point of connection of the shin to the rear end. A vertical bolt-hole 19 is arranged in the shoe intermediate the ends thereof and opens into the groove. The shin 17 preferably has its rear face curved to conform to the shape of the portion of the standard against which it abuts, and its front edge is curved and sharpened, as at 20, to constitute a cutting edge. It is furthermore provided, preferably at its upper end, with a pair of spaced rearwardly-extending lugs 21, arranged to embrace the beam, said lugs being provided with alined openings 22, through which a bolt 23 is passed, as is hereinafter more fully explained. In the first three figures of the drawings the nose or point 24 of the shoe is made integral with the attachment and has its upper face flattened and inclined toward the lower edge to provide a broad cutting edge 25. In Figs. 4 and 5, however, there is illustrated a slight modification that may be employed, if desired. In the form shown the nose of the attachment is cut away and a separate point 24^a is provided in its under face with a socket adapted to receive the nose of the attachment.

In applying the attachment to the form of plow shown it is only necessary to remove the moldboard and landside, whereupon the standard is inserted in the angle formed by the shoe and shin. The bolt 23 is then passed through the alined openings of the fastening-lugs and through a suitable opening made in the downwardly-extending portion of the beam. In this manner the shin is rigidly attached to the plow. In like manner a bolt is passed through the vertical opening 19, made for that purpose, and also through the usual opening in the lower portion of the standard. By this means it will be seen that the attachment can be readily applied to an ordinary plow, so that it can be employed either for turning or as a subsoiler.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, and means for fastening the shin to the standard of a plow located in the angle formed by the shoe and shin.
2. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, a rearwardly-extending lug located upon the shin, and means for securing the lug to the standard of a plow located in the angle formed by the shoe and shin.
3. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, spaced rearwardly-extending lugs located upon the shin and arranged to embrace the standard of a plow located in the angle formed by the shoe and shin, and means for securing the lugs to said standard.
4. A subsoil attachment for plows comprising a shoe, and a shin located at the front portion of the shoe and disposed at an angle thereto, said shoe having a groove in its upper face that is arranged to receive the lower end of a standard located in the angle formed by the shoe and shin.

5. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, said shoe having a groove in its upper face that is arranged to receive the lower end of a standard located in the angle formed by the shoe and shin, and means for fastening said standard in the groove.

6. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, said shoe having a groove in its upper face that is arranged to receive the lower end of a standard located in the angle formed by the shoe and shin, and a bolt passing vertically through the shoe and arranged to engage the standard to hold it in the groove.

7. A subsoil attachment for plows comprising a shoe, a shin located at the front portion of the shoe and disposed at an angle thereto, means for fastening the shin to the beam of a plow, and means for fastening the shoe to the standard of the same.

8. A subsoil attachment for plows comprising a shoe having a longitudinally-disposed groove in its upper face arranged to receive the lower end of a plow-standard, a shin located at the front portion of the shoe and disposed at an angle thereto, said shin having its front end sharpened to constitute a cutting edge, and means for securing the attachment to a plow.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JACOB ALEX. SHUPING.
CHARLES LUTHER SHUPING.

Witnesses:

A. M. INGOLD,
G. M. COLLETT.