

(No Model.)

J. S. STEPHEN.

EARTH AUGER.

No. 354,265.

Patented Dec. 14, 1886.

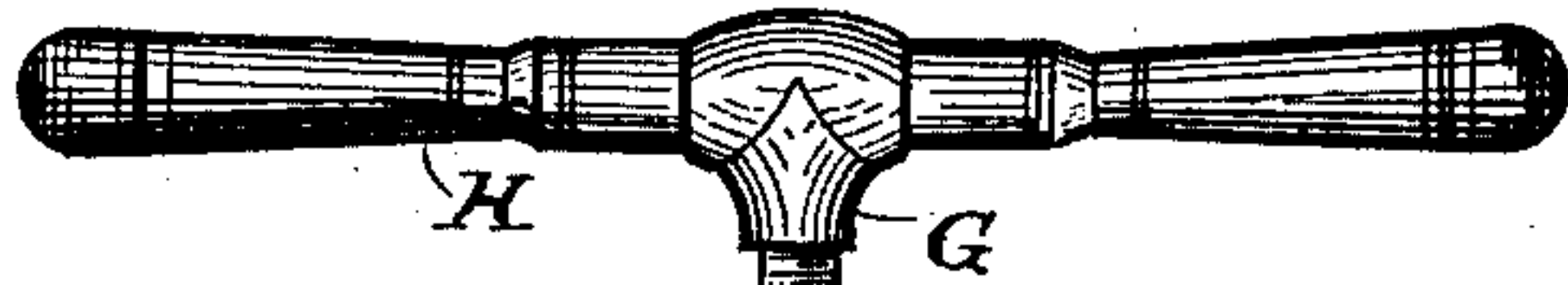


Fig. 1.

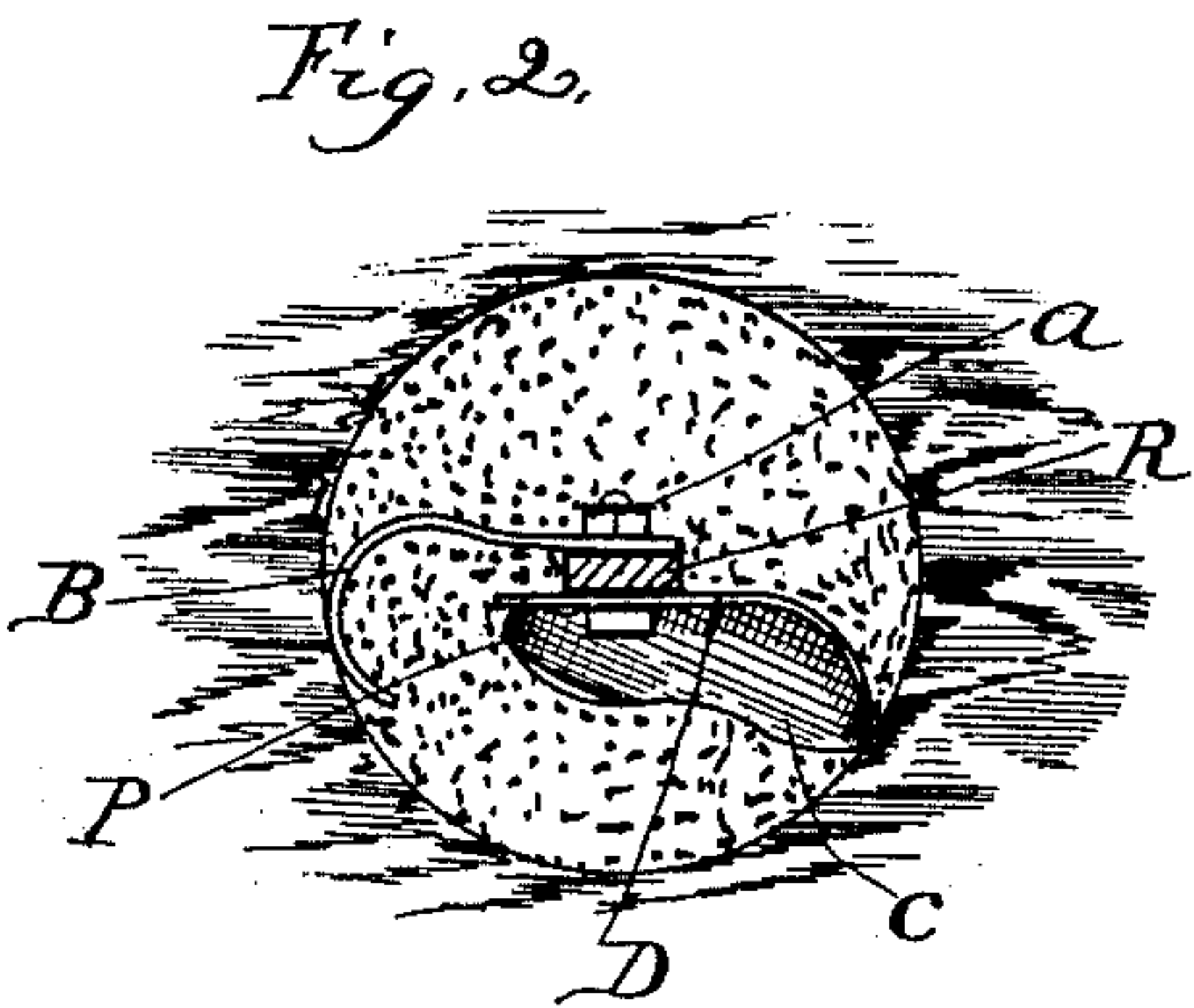


Fig. 2.

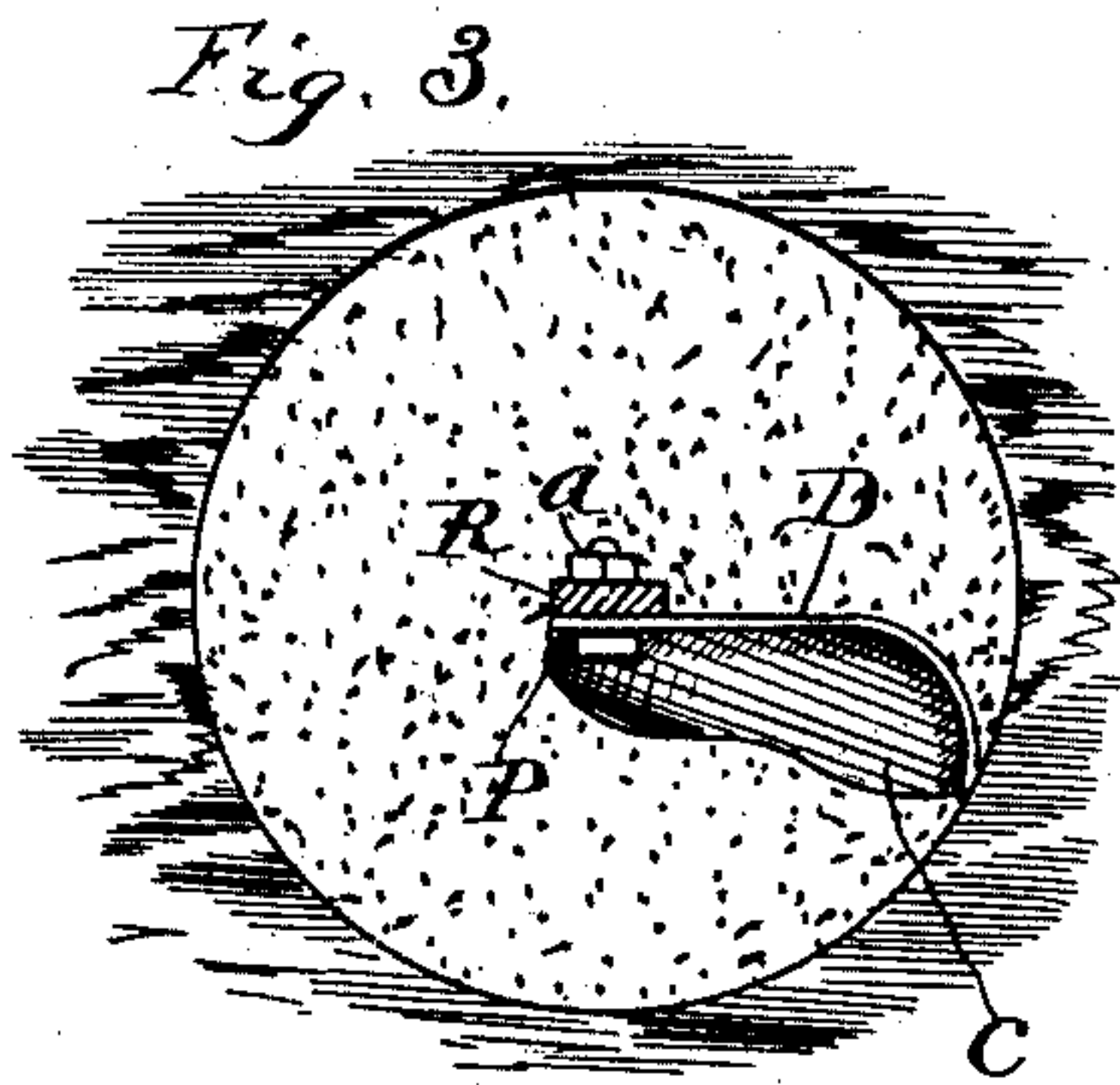


Fig. 3.

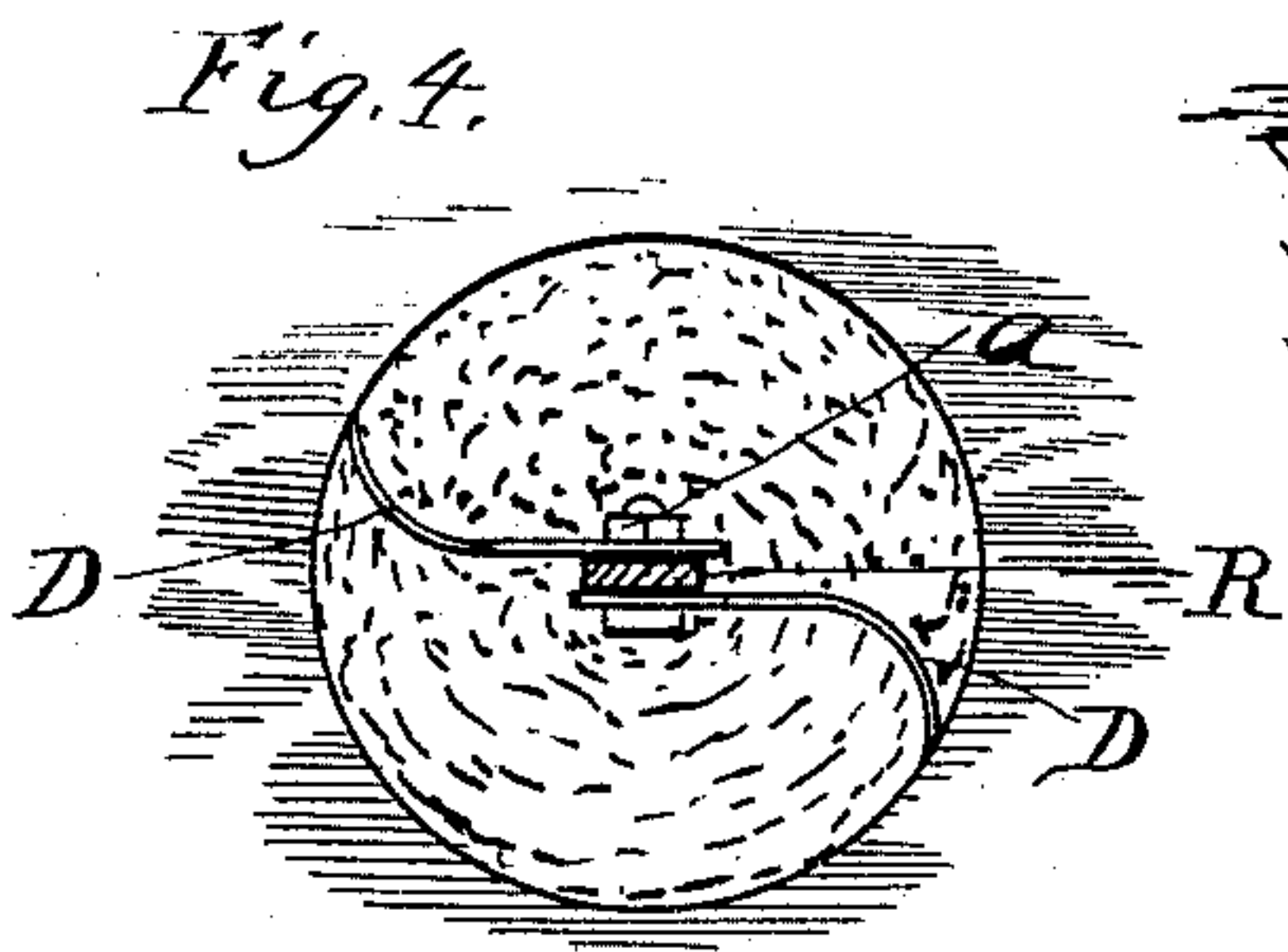


Fig. 4.

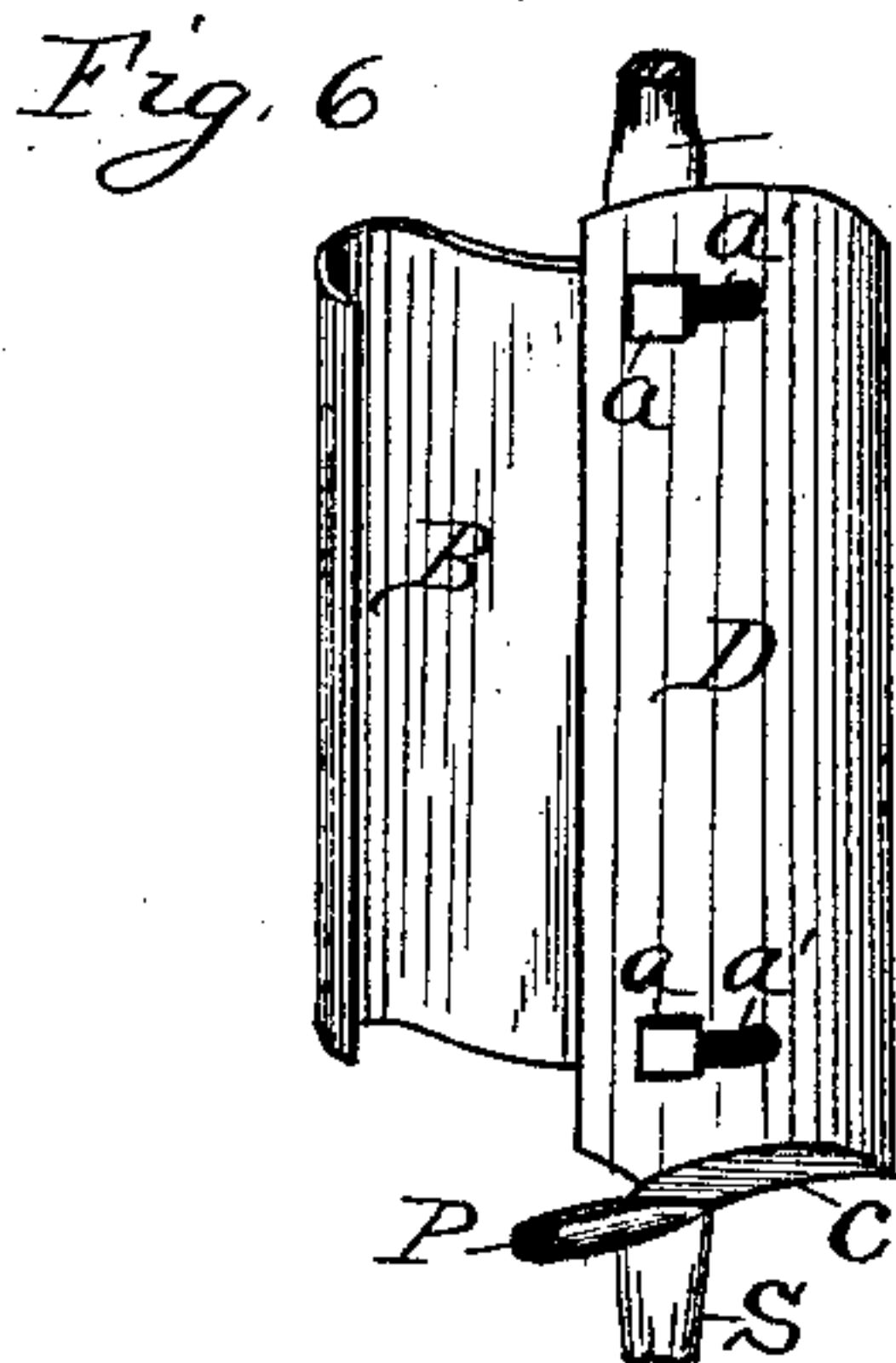


Fig. 6.

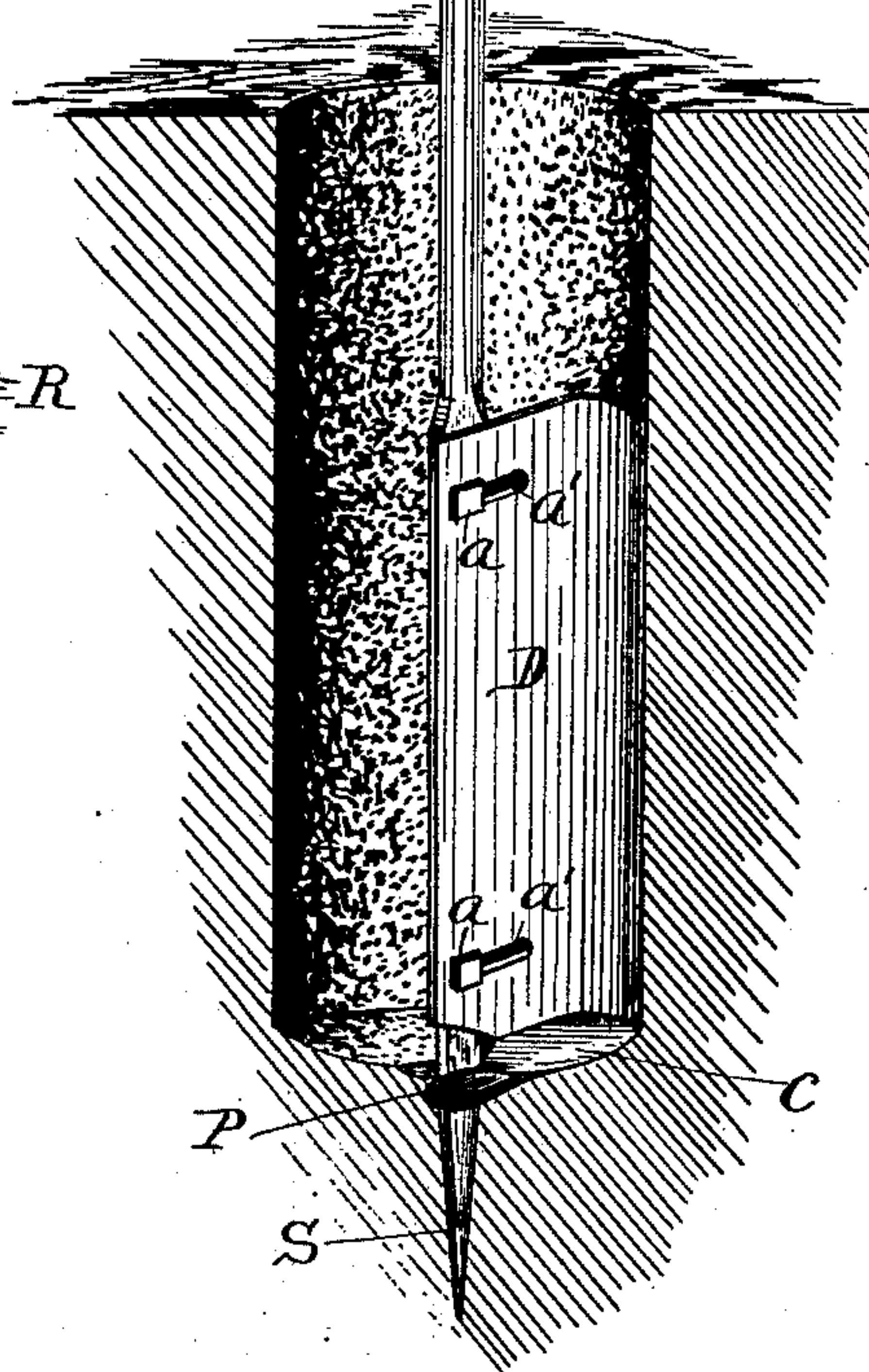


Fig. 5.



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UNITED STATES PATENT OFFICE.

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EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 354,265, dated December 14, 1886.

Application filed April 20, 1886. Serial No. 199,551. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. STEPHEN, a citizen of the United States of America, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Earth-Augers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain improvements in adjustable earth-augers for boring post-holes, the construction of which and the manner in which it is used being fully set forth and explained in the following specification and claims, reference being had to the accom-
15 panying drawings, and the letters and figures thereon, which form a part of this specification, in which—

20 Figure 1 is a perspective view of the auger as it would appear at work boring a post-hole, the earth being shown in section to more clearly illustrate the operative position of the auger. Fig. 2 is a top plan view of the auger represented at work boring a post-hole, the upright
25 shaft thereof being shown in cross-section, and its bit being adjusted to bore a small hole. Fig. 3 is a similar view with the auger-bit adjusted to bore a large hole. Fig. 4 is also a similar view showing a cutting-bit arranged
30 on either side of the upright shaft. Fig. 5 is a perspective view of the lower part of the shaft of the auger, to which the cutting-bits are attached, and the extreme lower end of which forms the auger-point; and Fig. 6 is a perspec-
35 tive view showing the adjustable auger-bit, a curved guide-plate, and a portion of the auger-shaft.

Referring to the drawings, R represents a shaft or bar of iron having a portion near its
40 lower end flattened and provided with a pair of bolt-holes, $a^2 a^2$, as shown in Fig. 5, and having its extreme lower part or end tapered to a point, S, as shown in Figs. 1 and 5.

G represents a shank secured to the upper
45 end of shaft R, and barreled for the reception of the handle H, as shown in Fig. 1.

D represents the bit, having transverse slots $a' a'$ arranged therein with relation to the holes
50 $a^2 a^2$ of shaft R, the bit being adjustably secured to said shaft by means of the bolts $a a$. The outer extending side part of said bit is

curved forward and sharpened to form a cutting-edge, and its lower part is formed at an angle to the body part and arranged to project forward and in advance of said body part, 55 and is sharpened to form the two cutting-edges P and C, as shown, the point or cutting-edge P being formed in advance and arranged at an angle, so that when the auger is rotated it will worm its way into the earth 60 near the center of the post-hole and properly feed the auger forward, while the following cutting-edge, C, cuts the outer part of the hole, and the upright cutting-edge of the bit trims the hole. The bit D, being slotted as 65 described, can be radially adjusted to bring its cutting-edges either to or from the shaft R within limited diameters, to bore a small hole or a large one, as desired, by simply loosening the bolts $a a$, to permit the bit to be thus 70 radially adjusted. The point S is for the purpose of centering and holding centered the auger while at work; but in instances where the earth is too soft for the point to properly hold to the center of the hole, a curved guiding- 75 plate, B, such as is shown in Figs. 2 and 6, is used, adjustably secured to the opposite side of shaft R from bit D, and arranged to bear against the opposite side of the hole from the upright cutting-edge of said bit to hold it to 80 its work and compel it to follow its proper course.

If desired, two bits, such as is represented in Fig. 1, may be used by securing them to opposite sides of shaft R, so their cutting-edges 85 will be opposite each other and the cut divided, as shown in Fig. 4.

The manner in which the auger is used is substantially as follows: The handle H is grasped and the point S of the shaft R is 90 started in the desired place and direction in which the post-hole is to be bored. The auger is then rotated until it has advanced far enough to accumulate a quantity of borings, when it is removed, using the bit D as a scoop 95 to clean the borings from the hole, as its form adapts it to such use, and being much smaller than the hole it can be very easily used. When the borings have been thus removed, the boring is continued as before until the required 100 depth is reached.

The form of the bit and its size in compari-

son to the hole bored by it adapts it to use in gravel and quite stony ground, and stones nearly the size of the hole can readily be removed in the manner stated.

5 The form of the bit D prevents frictional contact of the borings with the walls of the hole, and thus renders the tool much more easily operated than an ordinary earth-auger.

The auger can be used in nearly any ordinary soil without the guide-plate B, as the point S will hold the auger centered. By this construction the auger is adapted to bore any sized hole within certain limits, and save the necessity of having augers of several sizes to
15 correspond with different-sized posts.

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

1. The earth-auger shown and described, consisting of the shaft R, having the point S 20 and handle H, bit D, having the slots a' , cutting-edges P and C, and a vertical cutting-edge for trimming the sides of the hole, and the bolts a , for securing the said bit to said shaft and radially adjusting said bit thereon, 25 substantially as set forth.

2. The combination, with shaft R and bit D, constructed as shown and described, of bolts a and curved guide-plate B, said bit and plate being adapted to be radially adjusted on said 30 shaft, substantially as and for the purpose set forth.

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