No. 640,657. Patented Jan. 2, 1900.

P. HESSELIUS.

EARTH AUGER.

(Application filed Jan. 24, 1899.)

(No Model.)

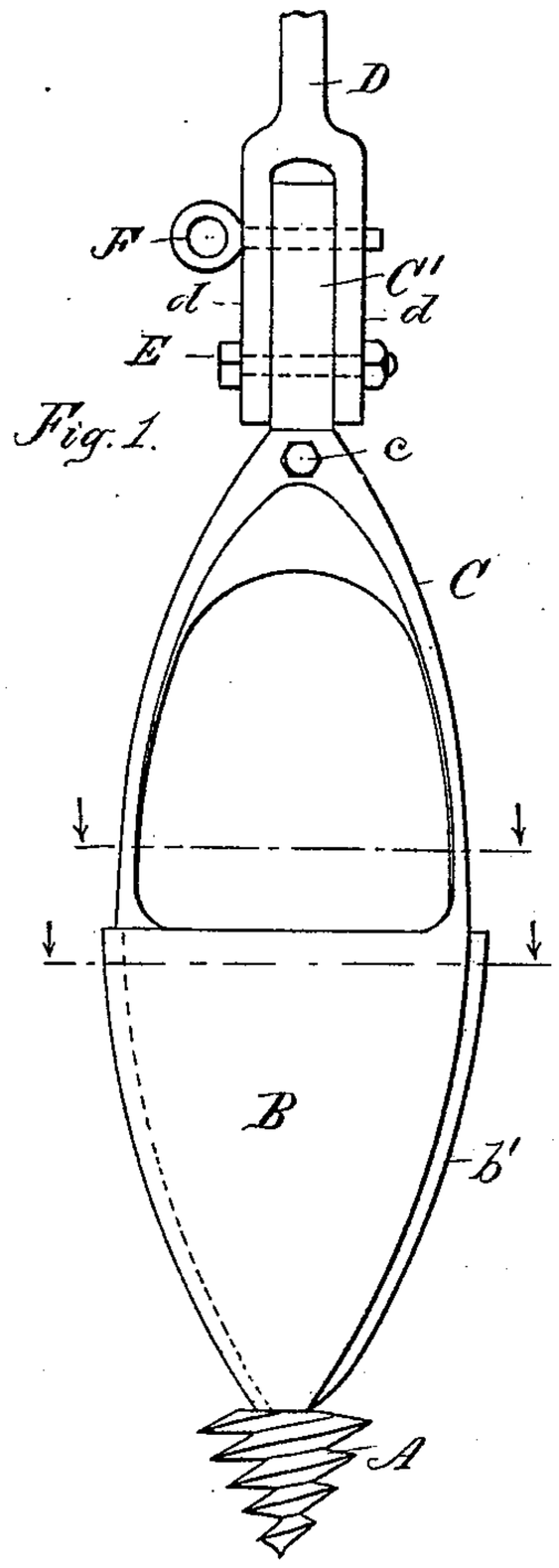


Fig. 1.

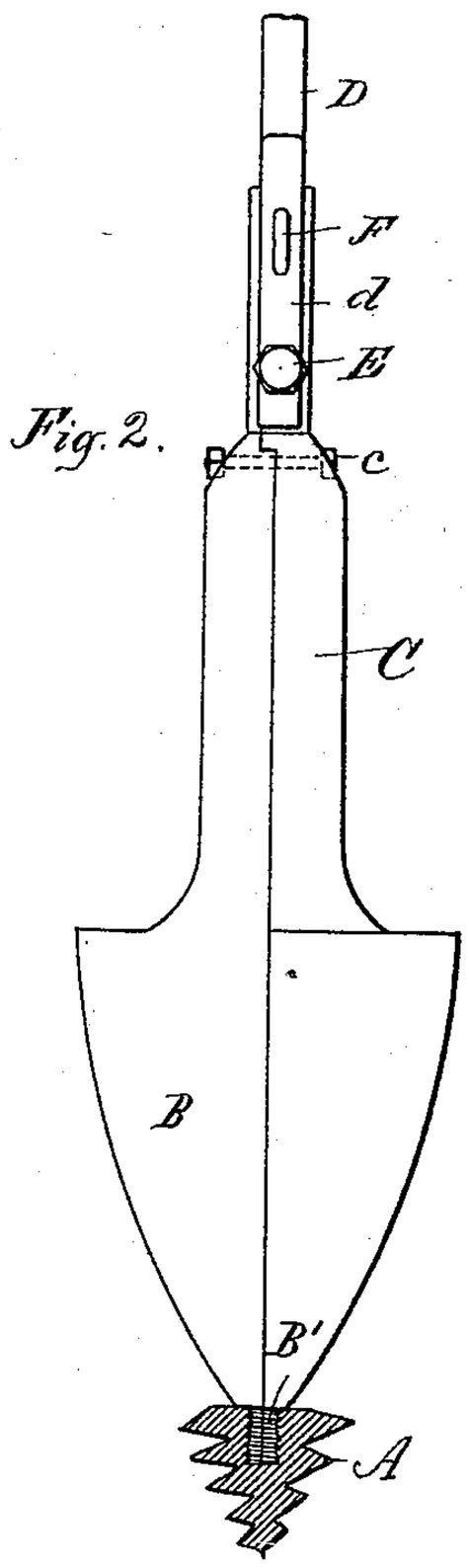


Fig. 2.

Fig. 3.

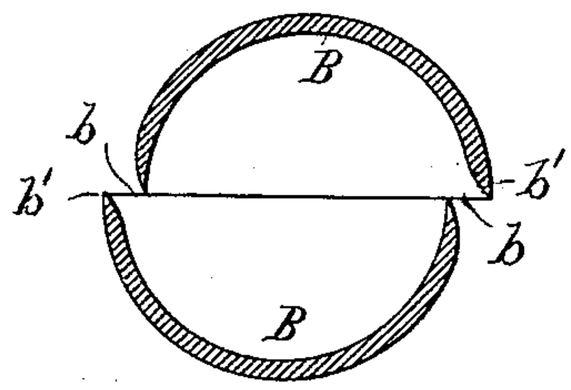
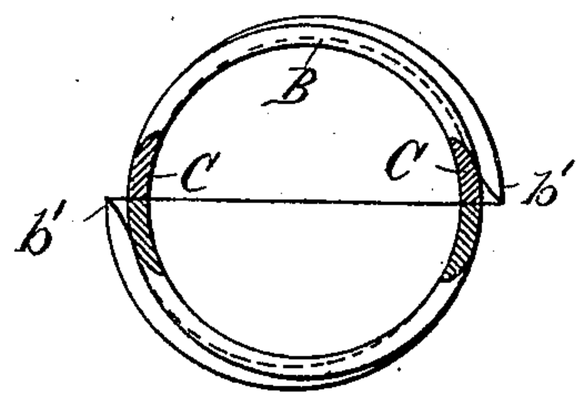


Fig. 4.



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UNITED STATES PATENT OFFICE.

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EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 640,657, dated January 2, 1900.

Application filed January 24, 1899. Serial No. 703,258. (No model.)

To all whom it may concern:

Be it known that I, PETER HESSELIUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Earth-Augers, of which the following is a specification.

The object of the present invention is to provide an improved auger that may be used generally for excavating earth, and particularly excavating earth in forming post-holes, wells, and the like.

The invention is not in any way limited to or concerned with the means for operating the auger, and the character of this part of the device may be left to the manufacturer or user, to be determined by the size of the auger and the character of the excavation required. For such purposes as boring post-holes the stem of the auger will be provided with a suitable handle adapted to be manually operated; but where great power is required other means for operating the auger may be used.

The invention consists in the features of novelty that are herein fully described, and in order that it may be fully understood I will describe it, with reference to the accompanying drawings, which are made a part hereof, and in which—

Figures 1 and 2 are elevations of an auger embodying the invention viewed from different positions. Figs. 3 and 4 are horizontal sections thereof on the lines 3 3 and 4 4, respectively.

The improved auger comprises a tapering screw-point A, a hollow conoidal body B, a bail C, and a stem D.

The conoidal body and the bail are made in two longitudinal sections meeting upon a line which is parallel with the axis of the auger and divides the sides of the bail longitudinally into two parts, as shown more clearly in Fig. 2. The sides of the bail are preferably constructed upon segments of a circle struck from the axis of rotation of the auger, as shown in section in Fig. 3. Each of the two longitudinal halves of the conoidal body B is constructed upon a segment of a circle; but the two halves are decentered with respect to each other and with respect to the axis of rotation of the auger, as shown more clearly in Figs. 3 and 4. As a result of this disposition openings *b* are left between the adjacent edges of the two sections of the body. Considered with respect to the direction of rotation the forward margin *b'* of each of the longitudinal sections of the body B forms the rear margin of one of the openings *b*, while the rear margin of each of said sections forms the front margin of one of the openings. In other words, the front margin of each of the sections of the body is disposed at a greater radial distance from the axis of rotation than is the adjacent rear margin of the other section. As a result of this the forward edge of each of the sections acts as a knife or scoop, which cuts the earth and directs it through the openings *b* and into the interior of the conoidal body. As a result of the above-described construction and disposition of the bail—*i. e.*, in two longitudinal parts joining the two sections of the body at their meeting edges—the bail serves to give direct support to the parts subjected to the greatest strains—*i. e.*, the parts immediately in rear of the openings as the auger is being rotated.

Projecting from the bottom of the conoidal body is a threaded stem B', one-half of which is integral with each of the two longitudinal sections of the body, and onto this stem the screw-point A is screwed, so that while the stem provides means for attaching the screw-point A to the conoidal body the screw-point serves as a means for holding together the lower ends of the two longitudinal sections of the body. The upper portions of the two sections of the body are held together by a bolt or other suitable device *c*, which is passed through perforations in the upper portions of the two parts of the bail.

Rising from the top of the bail is a short shank C', having through it two perforations registering with corresponding perforations in the two branches *d* of the bifurcated lower end of the stem D. Through the lower perforations a bolt E is passed and there permanently secured by means of a nut. Through the upper perforations a removable pin F is passed. With the bolt and pin both in place the head of the auger cannot move independently of the stem D; but when the pin F is withdrawn the head of the auger may move

about the bolt E as a pivot, the object of this being to enable the dirt to be dumped out of the auger when the latter is removed from the excavation.

The screw-point A is tapered and its upper portion is of somewhat greater diameter than the adjacent lower portion of the conoidal body. The object of this is to thoroughly loosen the earth before it comes in contact with the conoidal body, and thereby make it easier for the cutters *b'* to take hold of the earth.

I am aware that augers have heretofore been used for making excavations in the earth; but I believe myself to be the first to provide for this purpose an auger having the characteristics above pointed out and as particularly pointed out in the claims hereinafter.

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

1. An earth-auger having a hollow conoidal body formed in two longitudinal sections disposed with the front edge of one section at a greater radial distance from the longitudinal center of the auger than is the adjacent rear edge of the other section, thereby leaving in the side of the body a longitudinal opening, and a bail formed in two longitudinal parts each joining one of the sections at its edges adjacent to the edges of the other section, substantially as set forth.

2. An earth-auger having a hollow conoidal body formed in two longitudinal sections disposed with the front edge of one section at a greater radial distance from the longitudinal center of the auger than is the adjacent rear edge of the other section, thereby leaving in the side of the body a longitudinal opening, said sections being provided at bottom with a stem, one-half of which is carried by each section, a screw-point having a socket receiving said stem whereby the bottoms of the two sections are held together, means for holding the screw-point in place on the stem, and a bail connected to the body, substantially as set forth.

PETER HESSELIUS.

Witnesses:
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