J. Hobart,

Earth Auger,

No. 4,531. Patented May 23, 1846.

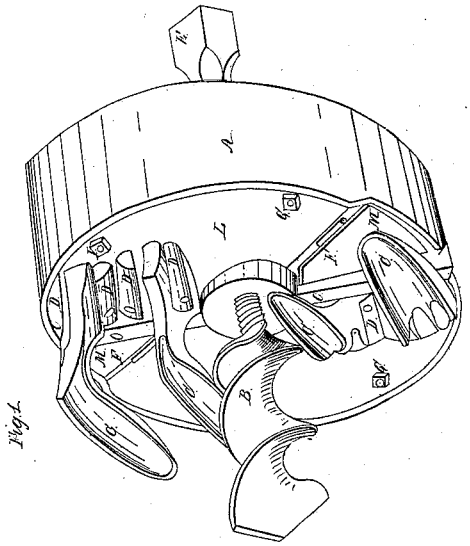

Fig. 1.

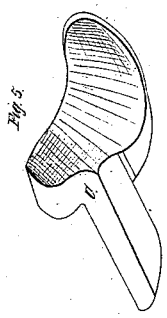

Fig. 5.

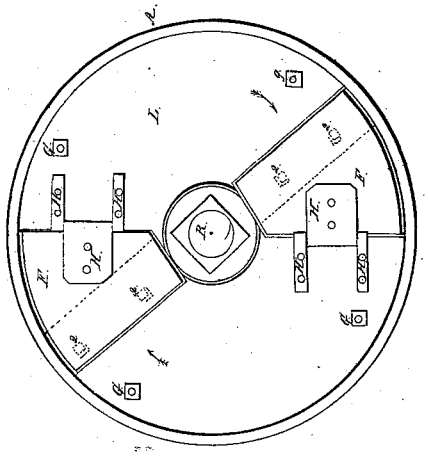

Fig. 3.

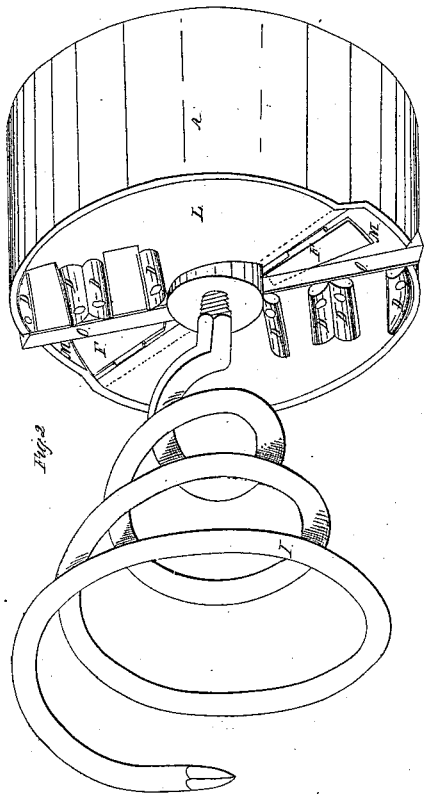

Fig. 2.

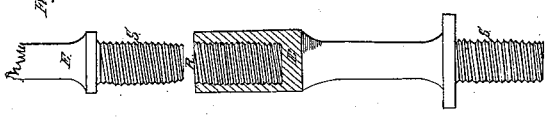

Fig. 4.

UNITED STATES PATENT OFFICE.

JOSHUA HOBART, OF DUBUQUE, IOWA TERRITORY.

MINING-AUGER.

Specification of Letters Patent No. 4,531, dated May 23, 1846.

To all whom it may concern:

Be it known that I, JOSHUA HOBART, of Dubuque, in the Territory of Iowa, have invented a new and useful Machine for the Purpose of Boring the Earth, which I call a "mining-auger"; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the whole machine for boring the earth. Fig. 2, represents the machine with the spiral for elevating stones. Fig. 3 is the bottom view. Fig. 4 the manner of connecting or lengthening the shaft. Fig. 5, a side view of one of the plows.

In Fig. 1, A is a cylinder of iron, cast or otherwise, open at the upper part and having a bottom, L fastened by means of screws, G and *c*. In the center of the bottom L, is a shaft, cast to the bottom part of the cylinder in which is screwed a part of the shaft E. In the bottom L, are two oblique openings M, M, which are closed by shutters to valves F, F, they being fastened to the bottom by hinges, opening on the inside of the cylinder. Under the shutters F, F, are two knives O O. Attached outside of the bottom L, are cleats D &c. C, &c. are plows having wedge shaped bases fastened under the cleats or dovetails D, &c. In the center of the bottom L is a female screw, P. B is an auger screwing into P.

In Fig. 2 is a corresponding view of Fig. 1, with the exception, that instead of the auger B, which screws into P, is a spiral, conical screw I, for the purpose of elevating stones of such size as will not pass the openings M, M.

In Fig. 3, is a representation of the inside of the bottom L. G &c. are screws fastening the bottom to the cylinder as before described. F, F, the shutters. H, H, the hinges. I &c. are dotted lines of the screws that fasten the knives O, O, to the bottom L, as seen in Fig. 2.

Fig. 4 is a view of the shaft E, and the mode of connecting it, in which the port S, screws into R in Fig. 3.

Fig. 5, is a view of the plow for working in hard earth.

The operation of the machine consists in placing a common lever upon the shaft E, and turning it as an auger, the screw B works into the earth, the plows loosen it, and by turning the loose earth is forced through the apertures M M, into the cylinder until it is full, by stopping the turning motion the trap doors F, F, shut by their own gravity and thus secure the earth that has been forced into the cylinder which is then elevated and the contents displaced. This operation is to be repeated until any required depth is obtained.

Should stones arrest the operation of boring, the screw B and the plows C, &c., are to be displaced, and the conical spiral screw I is to be screwed into the P, and a like operation performed. The stones will be fastened between the spirals and can then be elevated, and displaced.

What I claim in the foregoing described machine, and desire to secure by Letters Patent, is—

The combination and arrangement of the several parts to wit, the plows, spiral screw, projecting tipped knives and valves, in their application to the mining auger.

JOSHUA HOBART.

Witnesses:

S. A. FENGH,

AUGUST A. VON SCHMIDT.