B. J. C. HOWE.

EARTH-AUGER.

No. 181,578. Patented Aug. 29, 1876.

Fig. 1.

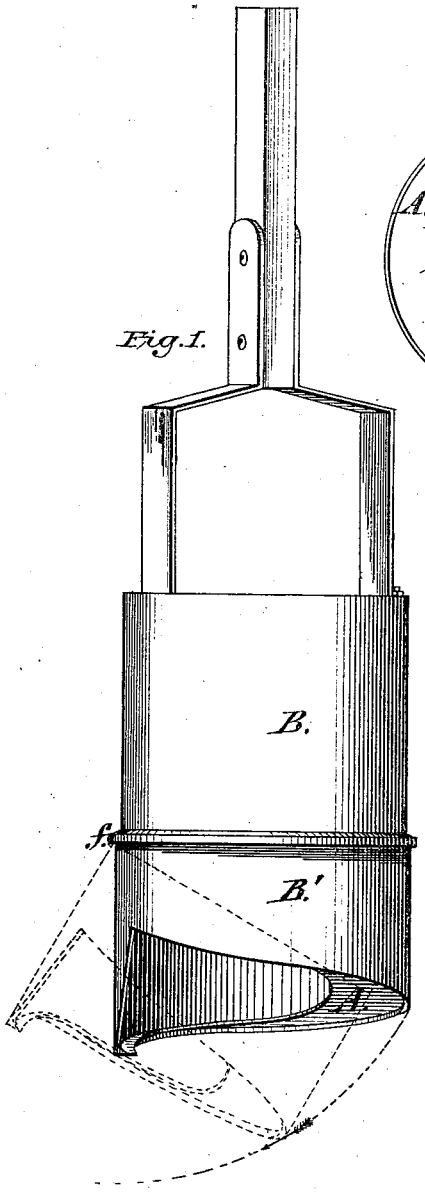


Fig. 3.

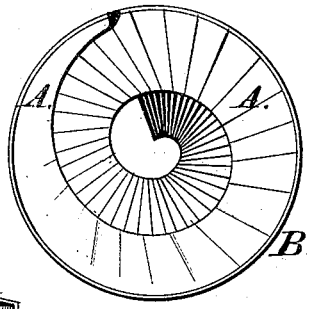
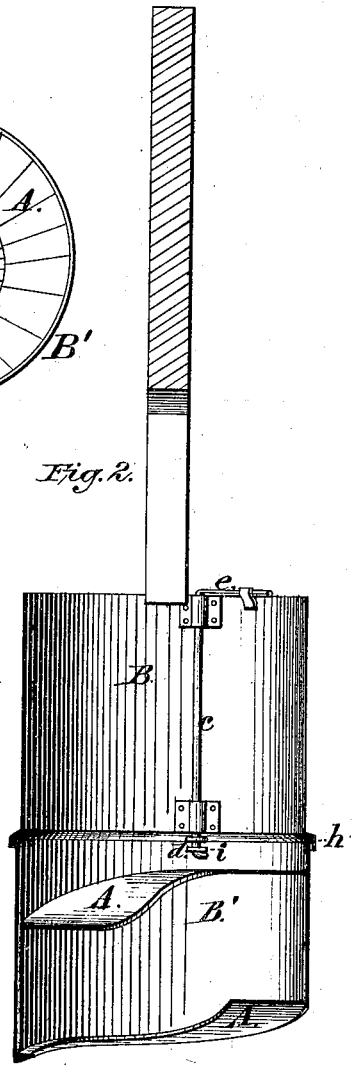


Fig. 2.



Attest:

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IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. **181,578**, dated August 29, 1876; application filed August 19, 1876.

To all whom it may concern:

Be it known that I, B. J. C. HOWE, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Earth-Augers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to rapidly excavate and remove the earth, stones, and other materials necessary for the formation of a well or other similar opening in the earth.

In the accompanying drawings, Figure 1 is a side elevation, giving a general view of the auger as it is arranged for boring. Fig. 2 is a vertical section. Fig. 3 is a view of the lower end, showing the construction and arrangement of the spiral flange A A, which is contained within and attached to the inner surface of the cylindrical case B′. This spiral flange, at its commencement at the base and circumference of the auger, is a narrow point, which gradually increases in width as it extends upward, in the form of a hollow screw, until it nearly or quite reaches the center or axis of the auger. Both the point and the inner edge of this flange are made sharp, for the purpose of penetrating the earth easily.

The object of the above-described construction of the cutting parts is to give a drawing or shearing motion to the edge, and also to take up stones that are too large to be received within the jaws of an auger having a fixed point in the center.

The cylindrical shell or case is divided into two parts, B and B′. These parts are attached to each other by a hinge on one side and a locking arrangement on the opposite side, so as to hold the two sections firmly to each other during the process of boring, and also to permit them to swing apart on the hinge, for the purpose of readily removing the materials that have been received within the auger.

The locking arrangement *i d c e* is for the purpose of attaching and detaching the upper and lower sections of the cylindrical case, and consists of a rod, *c*, attached to the upper section B, having a hook, *d*, at the lower end, capable of entering and of taking hold of a corresponding eye or socket, *i*, attached to the lower section B′. This rod is operated by the handle *e*, by means of which the two sections can be locked together or unlocked, as required.

The flange *h* is attached to the lower edge of the cylindrical case B, in such a manner as to overlap the upper edge of the shell or case B′, for the purpose of holding the two sections B and B′ in line, and also for strengthening the hinge and locking device. It will be seen that the flange *h* may be attached to the upper edge of the lower section B′ and receive the lower edge of the section B with precisely the same result.

The auger is operated by placing it in a vertical position, and causing it to revolve in such a manner as to press the point and cutting-edge of the flange against the earth, thereby raising that portion beneath the auger by means of the spiral flange A A, until the upper part of the cylindrical case is filled, when it is raised and emptied. The process is repeated until the excavation is complete.

It is obvious that various modifications might be made in the details of the locking arrangement which would not change the character of the invention.

I claim as my invention—

1. The auger-bottom B′, formed with the spiral cutting-flange A A, attached to its inner cylindrical surface, said flange gradually increasing in width from the point to the upper termination, substantially as described.

2. The combination of the spirally-flanged auger-bottom B′, upper shell B, hinge *f*, and locking device *d*, substantially as specified.

3. The locking device *d c e i*, constructed as described, for connecting the parts B and B′.

4. The cylindrical shell B, formed with the overlapping flange *h*, to embrace the lower section B′ and protect it from lateral displacement, substantially as specified.

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Witnesses:

D. P. COWL,

THOMAS C. CONNOLLY.