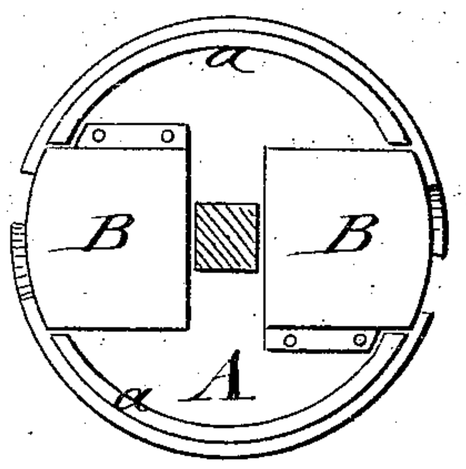
D. PAGE.

Earth Augers.

No. 153,013. Patented July 14, 1874.

Fig: 1.

Fig: 2.



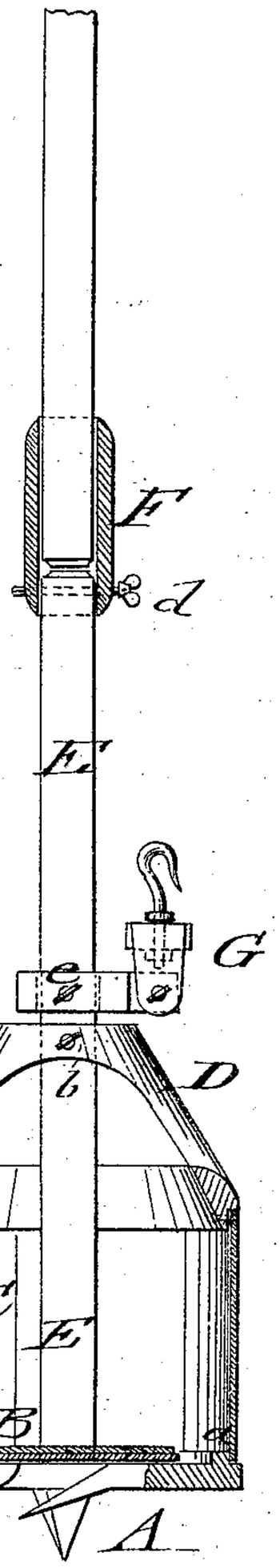
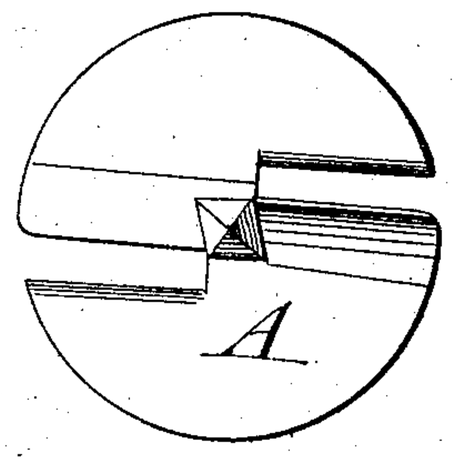


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DEXTER PAGE, OF MONTICELLO, IOWA.

IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. **153,013**, dated July 14, 1874; application filed March 28, 1874.

To all whom it may concern:

Be it known that I, DEXTER PAGE, of Monticello, in the county of Jones and State of Iowa, have invented a new and Improved Well-Boring Apparatus, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section through my improved well-boring apparatus, showing construction of sand-auger, bucket, and shaft attachment. Figs. 2 and 3, respectively, show top and bottom views of the sand-auger.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described, and then pointed out in the claim.

In the drawing, A represents the sand-auger, which is attached to the shafting, in place of the common spiral flanged earth-borer, after a stratum of quicksand, mud, gravel, or other soft or loose substance has been reached. Previous to lowering the sand-auger, a curb is sunk into the well and forced through the quicksand for preventing the ingress of the same from the sides. The sand-auger is provided with valves B, which take up the loose substances fed by the cutters of the auger. A cylindrical bucket, C, fits tightly to a rim, *a*, of the auger, and slides by means of its conical top part D on the auger-shaft, to which it is firmly applied by a set-screw, *b*. The conical top or cap prevents the bucket from catching under the curb when working inside or under it. The load of the bucket is readily discharged at the top of the well by loosening the set-screw and raising the bucket, the sand flowing instantly out between the auger and the lower end of the bucket. When the bucket is filled with muddy water, the sediment closes every crevice in the bottom and makes the bucket therefore water-tight, which is very desirable. The rectangular auger-shaft E is provided at its upper end with a sleeve or socket, F, applied by a screw-bolt, *d*. The rope for raising the auger is not attached to the upper end of the shafting, as heretofore, but to the lowermost section above the sand-bucket to a swivel, G, being fastened there permanently by bolt or pin *e*. The sections of shafting are not pinned together, but set loosely into the sleeve or socket connection, being only used as a means of turning the auger. As soon as the bucket is loaded, the windlass is set in motion to raise the shafting and auger. As fast as a section of shafting is raised above the ground it is removed by merely lifting it out of the top socket of the lower section and laid aside. The same operation in reversed order is done in lowering the auger, the attendant inserting one section of shafting after the other as soon as the socket passes down near the surface. The turning of the windlass is not interrupted, nor the swivel detached and attached, nor scantling put up, so that thereby the operation of raising and lowering the auger, as well as of emptying the bucket, is greatly facilitated and attended to with less trouble and delays.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with sand-auger A having rim *a*, of the sliding bucket C detachably held to shaft E, screw *b*, and top D, constructed and arranged as and for the purpose specified.

DEXTER PAGE.

Witnesses:

CHAS. W. GURNEY,

J. A. CHANDLER.