

D. N. ROOT.
Well Augers.

No. 201,950.

Patented April 2, 1878.

Fig. 1

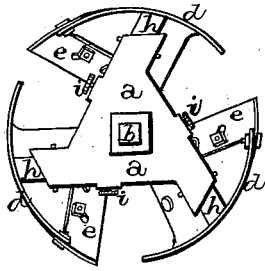


Fig. 2

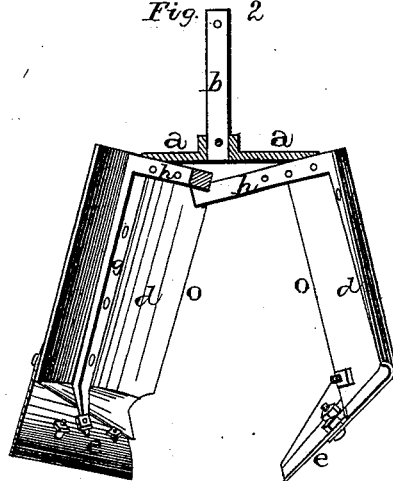
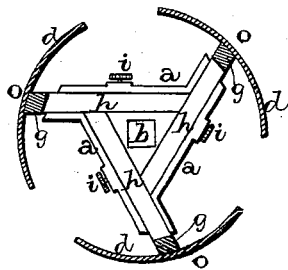


Fig. 3



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

DATUS N. ROOT, OF DUBUQUE, IOWA, ASSIGNOR TO O. F. HODGES, OF
SAME PLACE.

IMPROVEMENT IN WELL-AUGERS.

Specification forming part of Letters Patent No. 201,950, dated April 2, 1878; application filed
June 9, 1877.

To all whom it may concern:

Be it known that I, DATUS NELSON ROOT, of Dubuque, in the county of Dubuque and State of Iowa, have invented certain new and useful Improvements in Well-Augers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in earth-augers.

It consists in hinging each section to the auger-head, so that it can be opened outward, for the purpose of discharging the dirt after the auger is drawn up from the hole.

It further consists in making each section adjustable outward, for the purpose of increasing or decreasing the size of the hole that is to be bored, all of which will be more fully described hereinafter.

Figure 1 represents a plan view of my invention. Fig. 2 is a vertical section of the same; and Fig. 3, a horizontal section, showing the under side of the head.

a represents the head, in the top of which is secured a drill-rod, *b*. This head is made triangular in shape, and in its under side are made three recesses, which are arranged in relation to each other, as shown in Fig. 3.

The auger itself is composed of three sections, *o*, each one of which consists of the curved wall *d* and the adjustable slotted cutter *e*, that is bolted to its lower end. Inside of each section, and extending all the way down, are the braces *g*, which strengthen the walls and hold them rigidly in position. The upper ends of these braces are turned inward, as shown, and fit in the recesses in the under side of the head *a*. Each one of these upper ends *h* is provided with one or more holes for the purpose of receiving a pivot-pin, which passes through the ends of the head *a*, and upon which pins the sections of the auger are pivoted, so that they can be opened outward, as shown in Fig. 2, for the purpose of discharging the dirt.

Through each side of the head is passed a set-screw, *i*, or other equivalent device, which

bears against the ends *h*, and thus holds the sections rigidly in position.

By loosening one or more of these screws, the weight of the dirt will cause the lower end of the section to swing outward, and thus discharge the contents of the auger.

By having a series of holes in each end *h*, each section or any one of them may be adjusted outward, so as to increase the size of the hole that is being bored.

In boring a well, in case quicksand should be reached, the auger can be withdrawn, tubing put down in the hole, and then the auger reduced in size by moving each section inward a slight distance, and then passing it down through the tubing, and the well finished, the same as though the tubing had never been inserted at the top, but with this difference, that the hole below the tubing will be slightly smaller than the hole into which the tubing was inserted.

By making the cutters removable they can be fed forward as they wear away, or can be removed entirely, so as to be replaced by others when they have become worn out.

Having thus described my invention, I claim—

1. The combination of the head *a* with two or more sections, *o*, each section having a number of holes made through its shank, so that it can be adjusted outward or inward, substantially as shown.

2. In a well-auger, the combination of the head *a*, provided with clamping-screws and sections *o*, each section being provided with the shank *h*, having a series of holes, whereby they are given two separate and independent movements—a lateral adjustment at their upper ends, and a swinging movement at their lower ends, substantially as set forth.

3. The head *a*, having recesses in its under side, in combination with the shanks *h* of the sections, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of April, 1877.

DATUS NELSON ROOT.

Witnesses:

JOSEPH WOODHOUSE,
AUGUST B. RINEHART,