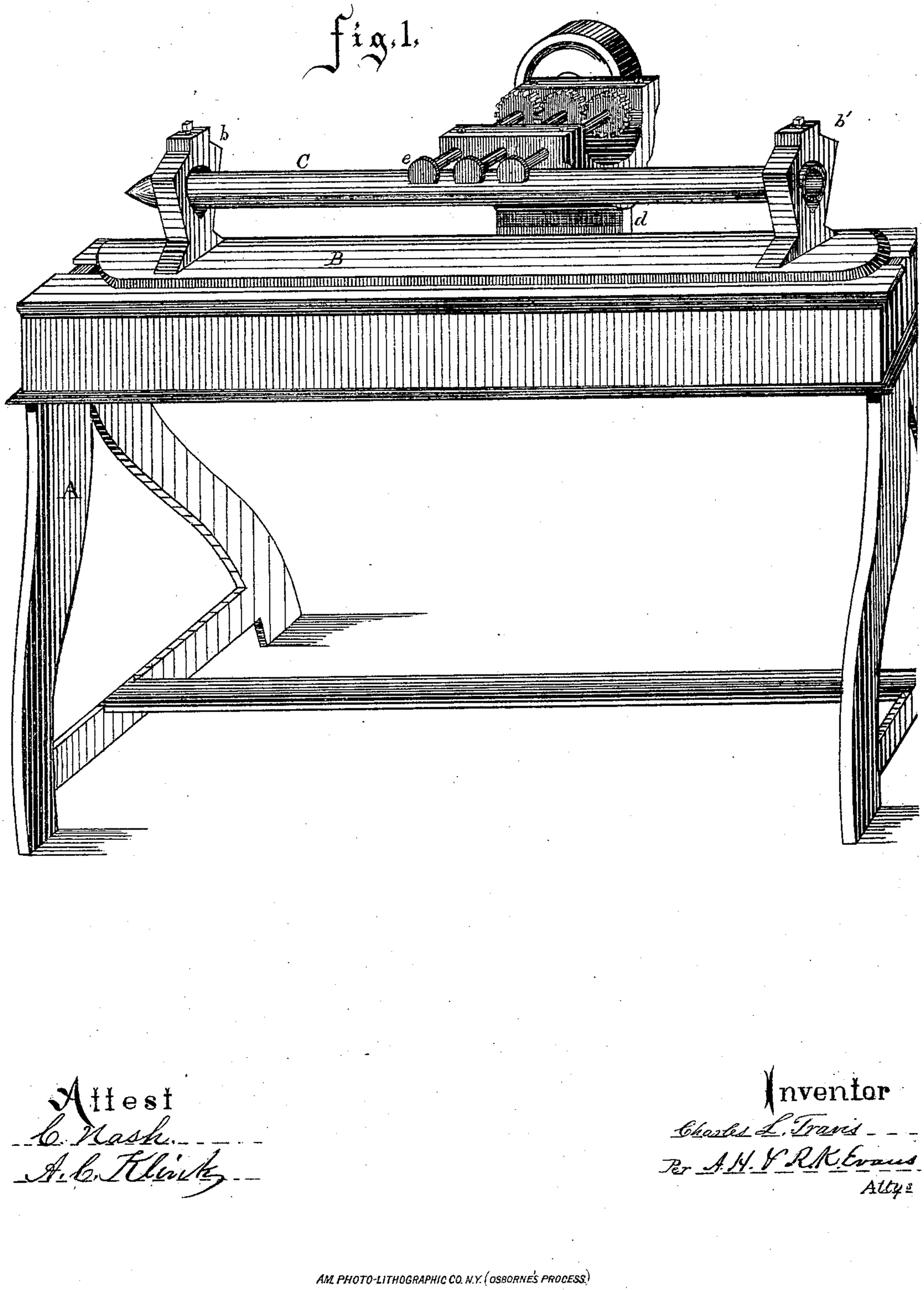
2 Sheets--Sheet 1.

C. L. TRAVIS.

Machines for Perforating Drive Well Points.

No. 141,188. Patented July 22, 1873.

Fig. 1.



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2 Sheets--Sheet 2.

C. L. TRAVIS.

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Fig. 2.

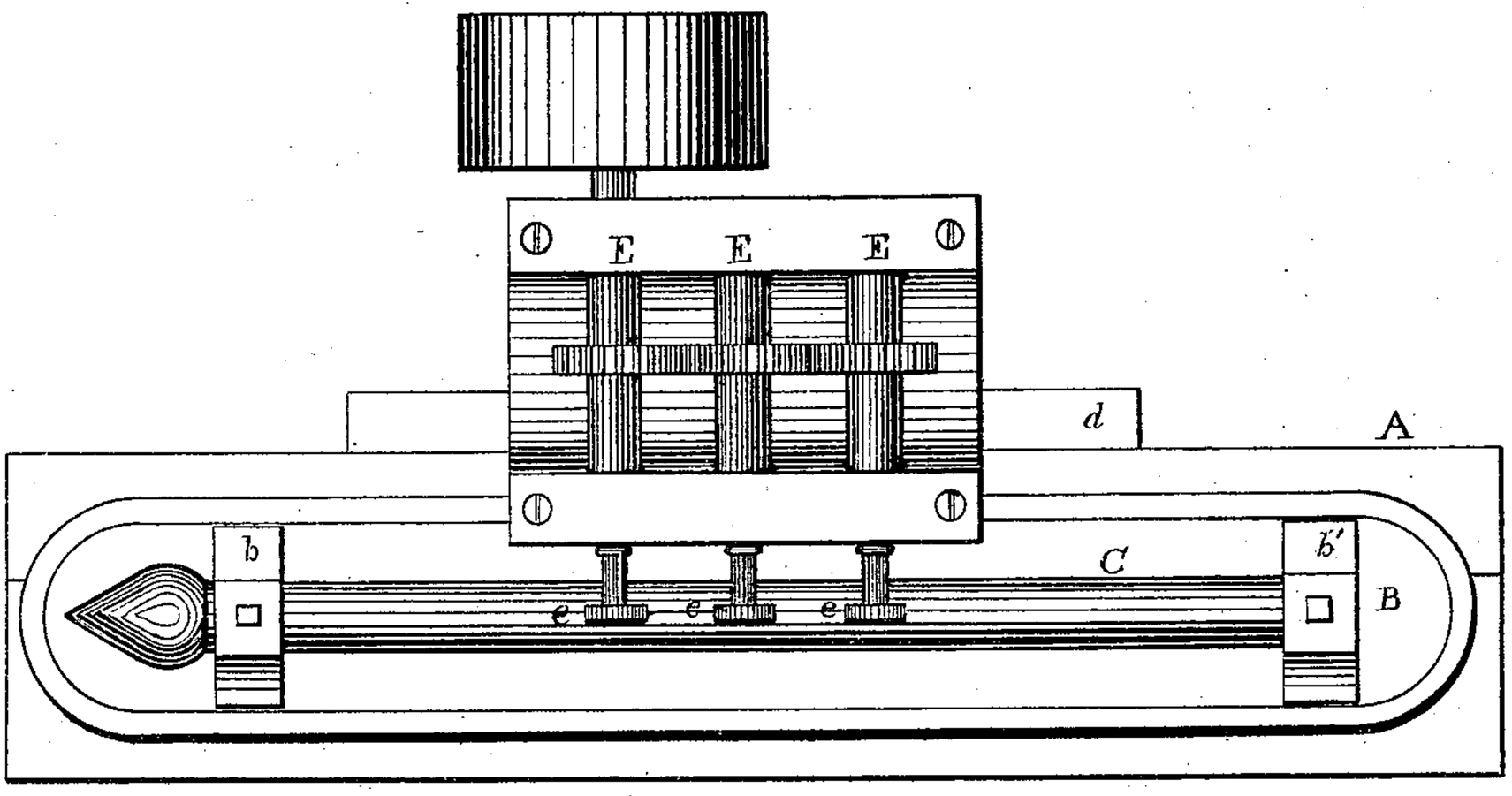
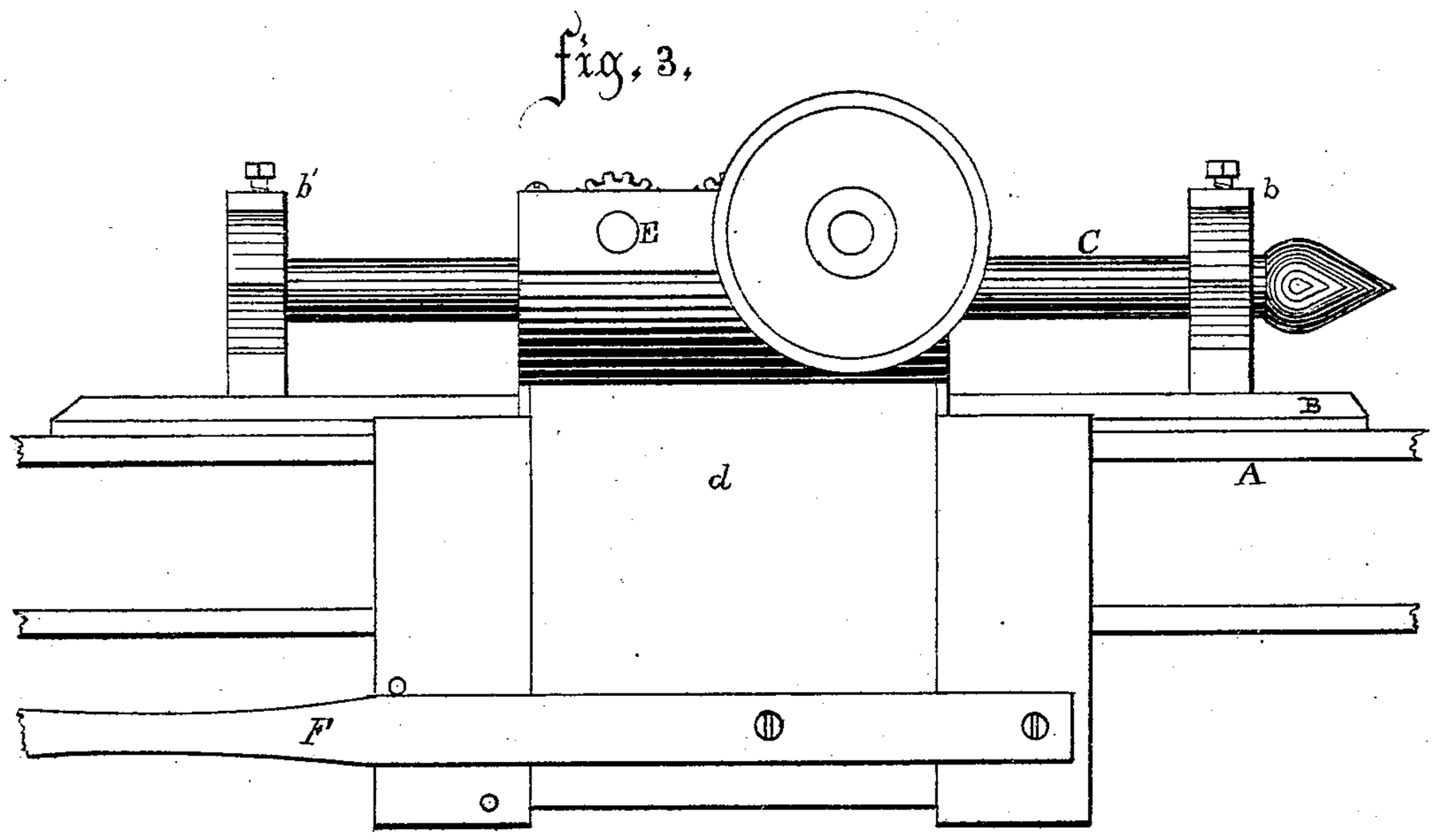


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES L. TRAVIS, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN MACHINES FOR PERFORATING DRIVE-WELL POINTS.

Specification forming part of Letters Patent No. **141,188**, dated July 22, 1873; application filed May 6, 1873.

To all whom it may concern:

Be it known that I, CHARLES L. TRAVIS, of Minneapolis, Minnesota, have invented a new and Improved Machine for Perforating Drive-Well Points and Water and Steam Pipes or Cylinders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a perspective view of my machine. Fig. 2 is a top or plan view; Fig. 3, a side view, showing the frame by which the cutter-arbor is raised or lowered, as required.

My invention relates to the perforation of that class of pipes or cylinders designed to be introduced into wells for the purpose of drawing water; and consists in a combination of mechanism in which circular cutters are employed for making the perforations for the inlet of water.

In order that others skilled in the art may make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents the bed and legs of my machine, and B the carriage, carrying sockets *b* and *b'*, with set-screws to hold the pipe C to be perforated. Attached to the side of the bed A are two perpendicular grooved ways, D D, supporting the frame *d* containing the cutter-arbors E E, which are horizontal, and at right angles to the carriage B. On the ends of the arbors E E, and on a direct line with the sockets *b b'*, are screwed or otherwise properly secured the circular steel cutters *e e* for cutting the required holes. These cutters may be of any desirable diameter, thickness, and form of cutting-face, and may be propelled by any appropriate arrangement of pulleys or gears, singly or in gangs or sets. The frame *d*, containing the cutter-arbors, is raised or lowered by means of the lever F, operated by hand, and the cutters *e e* caused to perform their work.

The cutters being circular, the holes made by them will necessarily be larger on the outside of the tube than on the inside, thereby securing a larger straining-surface with less deterioration to the strength of the tube than can be obtained by any other form of hole.

Any orifice that is covered by wire-gauze or any other strainer material is more or less obstructed and the flow of water decreased. To obviate this difficulty and preserve the strength of the tube is the object of my invention.

It is evident that by the use of my circular cutters I secure an opening the capacity of which is equal to the size of the hole on the inside of the metal, while the straining-surface is equal to the outside of the hole.

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

In a machine for perforating drive-well points, the circular cutters *e e*, in combination with the arbors E E, the frame *d*, the lever F, the carriage B, and bed A, all constructed and arranged substantially as and for the purpose set forth.

CHAS. LESLIE TRAVIS.

Witnesses:

C. E. MACOMBER,

VERNON BELL.