

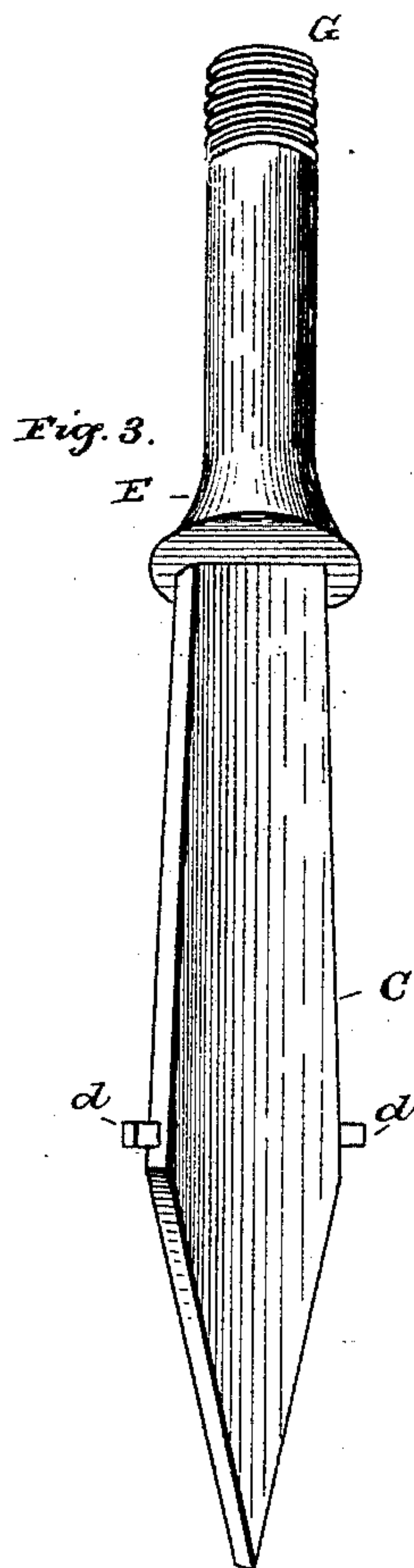
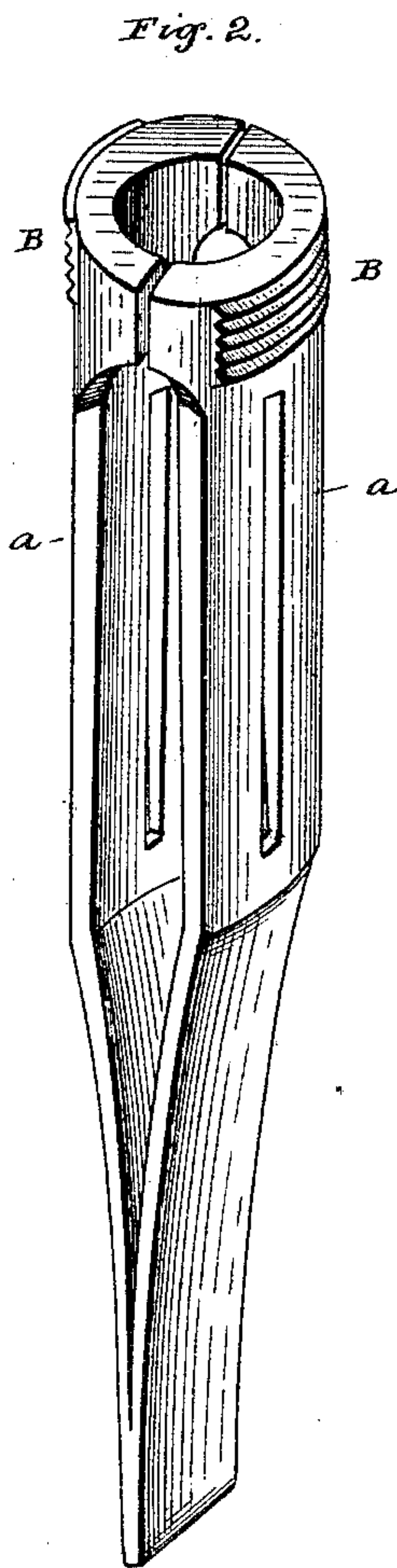
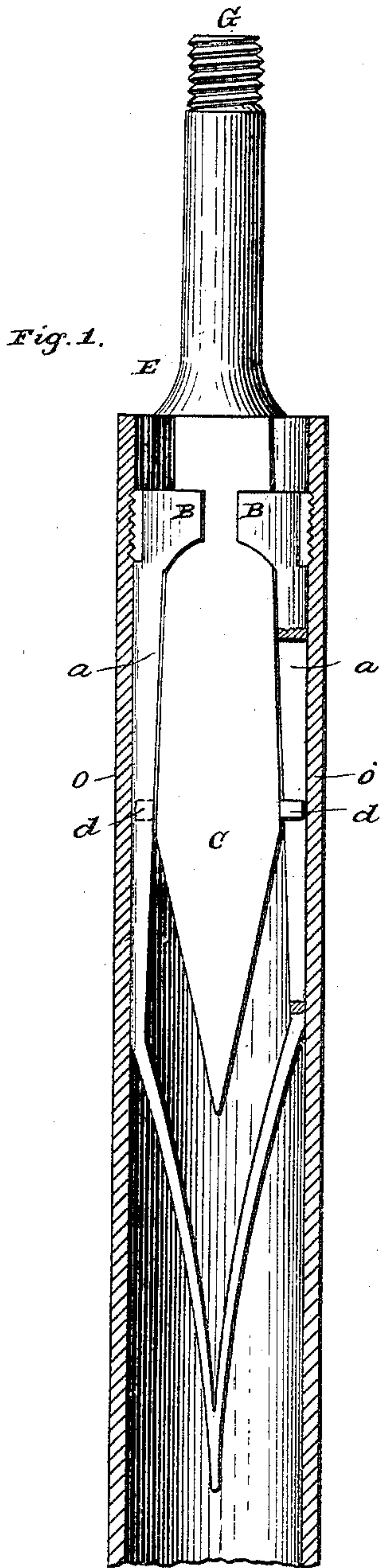
(No Model.)

S. MAXFIELD.

IMPLEMENT FOR RECOVERING LOST PIPE FROM TUBULAR WELLS.

No. 424,612.

Patented Apr. 1, 1890.



ATTEST.

Victor J. Evans
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UNITED STATES PATENT OFFICE.

SAMUEL MAXFIELD, OF ANGOLA, INDIANA, ASSIGNOR OF ONE-HALF TO
CYRUS CLINE, OF SAME PLACE.

IMPLEMENT FOR RECOVERING LOST PIPE FROM TUBULAR WELLS.

SPECIFICATION forming part of Letters Patent No. 424,612, dated April 1, 1890.

Application filed August 26, 1889. Serial No. 322,063. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL MAXFIELD, residing at Angola, in the county of Steuben and State of Indiana, and being a citizen of the United States, have invented a new and useful Improvement for the Purpose of Recovering Lost or Hidden Pipe from Tubular Wells, of which the following is a specification.

The invention relates to a pipe-grip and aims to effect the following objects: first, to apply a lifting-power to the lost or broken pipe in such a manner that the force used in drawing the same shall be in a line with the center of the pipe; second, to fasten or loosen the grip at any point inside the lost, broken, or hidden pipe; third, to apply the same force extended for securing the grip to the lost, broken, or hidden pipe and drawing the same for disengaging the grip from said pipe. I attain these objects by the mechanism illustrated in the attached drawings, in which—

Figure 1 is a vertical section, parts being broken away, of the pipe-grip, showing it attached to lost, broken, or hidden pipe under ground. Fig. 2 is a perspective view of the gripping-jaws detached. Fig. 3 is a perspective view of the jaw-expanding device.

The double steel spring-jaws *a' a'* clasp over the body of the harpoon C, the two small lugs *d d* fitting into the slots H H of the double spring-jaws *a a*, the object being to keep the springs *a a* from shifting from side to side and to prevent the springs *a a* from slipping off the harpoon C in case the pipe should split in attempting to remove it.

The double spring *a a* is widened at the open ends, so that the lapping edges B B nearly encircle the harpoon C at the shoulder E E, the purpose being to better retain the springs *a a* in position and also to give a larger attaching-surface to the lost or hidden pipe, as shown in Fig. 1, the lapping edges B B and the tops of the double springs *a a* being serrated externally, so that they will readily attach to the pipe and prevent slipping. The shoulder E E of the harpoon C, as shown in Fig. 3, fits down closely upon the edges B B and top of springs *a a* when ready to be applied, the purpose being to form a point of contact, so that force applied to the rod or pipe attached

to the harpoon at G will be suddenly communicated to the springs *a a* at B B and cause the springs *a a* suddenly to separate or expand and start downward along the sides of the harpoon C until they come in contact with the sides of the lost or hidden pipe *o o*, as shown in Fig. 1. The wedge of the harpoon C should be one-third the length of the harpoon C to the shoulder E E, and the harpoon C should be so narrowed in its construction from the points *d d* toward the shoulder E E and the double springs *a a* so thickened in construction from a point on the springs *a a* corresponding to the points *d d* and the harpoon C toward the end of the double springs *a a* to the points B B that at any point along the body of the harpoon C that the springs *a a* may be placed the harpoon C will exactly fit the springs *a a*. The springs *a a* should have simply clasp-power sufficient to hold them in place along the harpoon C.

The manner of operating the grip is as follows: Introduce the grip into the lost or hidden pipe to the proper distance, first having attached the necessary extension at the point G of the harpoon C. Hold the machine and extension suspended and strike a blow with an ordinary hammer on the end of the extension sufficiently strong to drive the springs *a a* downward until they come in contact with the sides of the pipe *o' o'*, as shown in Fig. 1, after which levers or screws may be applied for the purpose of raising the pipe.

The grip may be attached to the lost or hidden pipe in another manner—to wit, by suspending in the grip the lost or hidden pipe and drawing up quickly on the harpoon, which will cause the jaws *a a* to separate and grip the sides of the pipe.

The machine may be loosened from the sides *o o*, as in Fig. 1, in exactly the same manner as it was made fast. A stroke upon the end of the extension-rod will drive the harpoon C back between springs *a a*, and the machine can be withdrawn or the action of the jaws may be reversed and the springs loosened and the same end accomplished.

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

1. A pipe-grip comprising the double spring-

jaws *a a*, having the ends of the jaws widened at B B and externally serrated and having slots H H therein, and the harpoon having lugs *d d*, which are inserted in the slots H H, and having shoulder E E, substantially as

5 and for the purpose described.
2. The hereinbefore-specified pipe-grip, comprising the double spring-jaws *a a*, which have slots H H and which are thickened at

their upper ends, said ends being expanded at B B and externally serrated, and the harpoon having shoulder E E and lugs *d d*, the latter entering the said slots H H, substantially as set forth.

SAMUEL MAXFIELD.

Witnesses:

GEO. E. YOUNG,
JESSE H. CARPENTER.