

(No Model.)

J. J. CARR.

MANDREL FOR BENDING LEAD PIPES.

No. 391,945.

Patented Oct. 30, 1888.

Fig. 1.

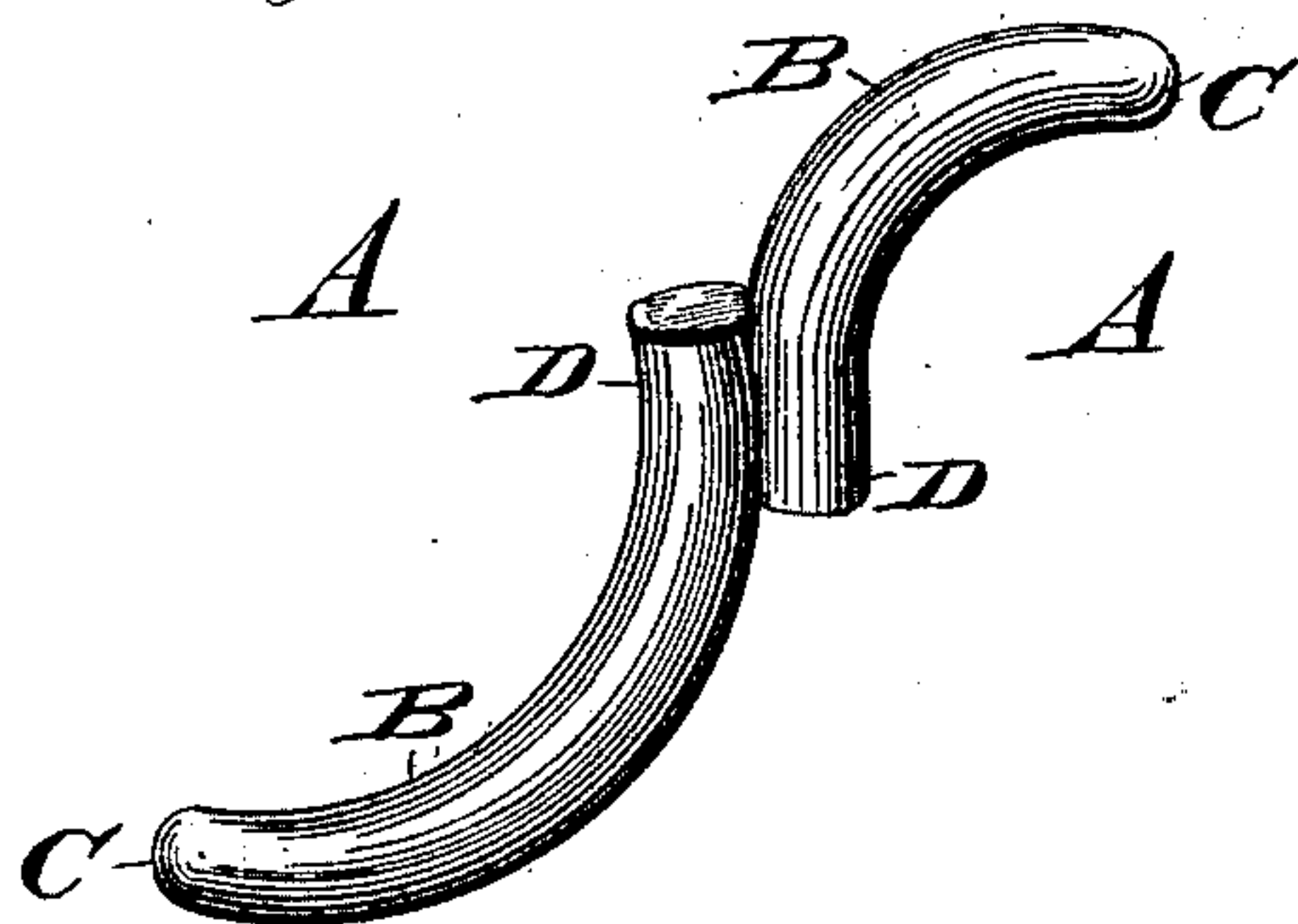


Fig. 2.

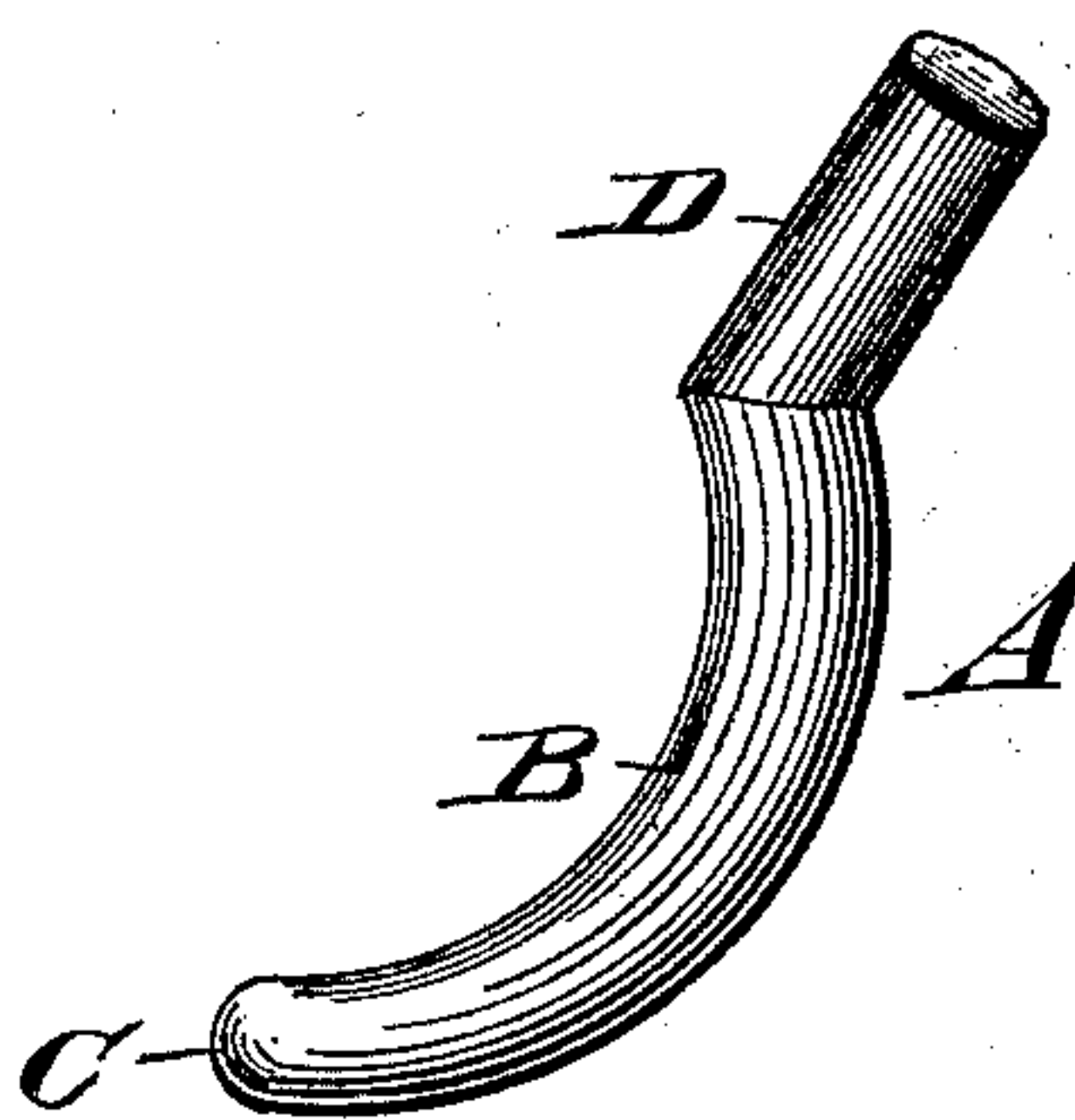


Fig. 3.

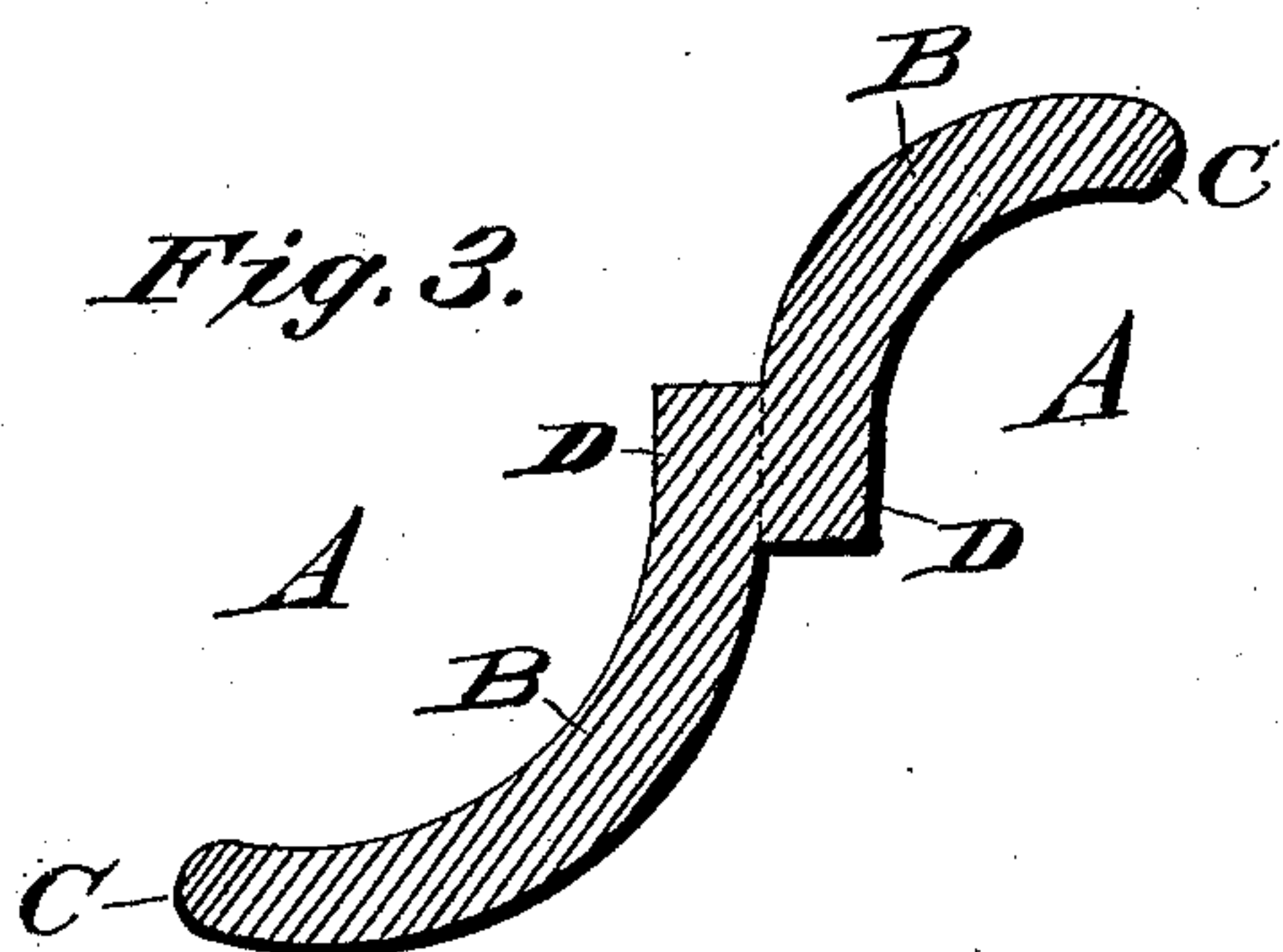


Fig. 4.

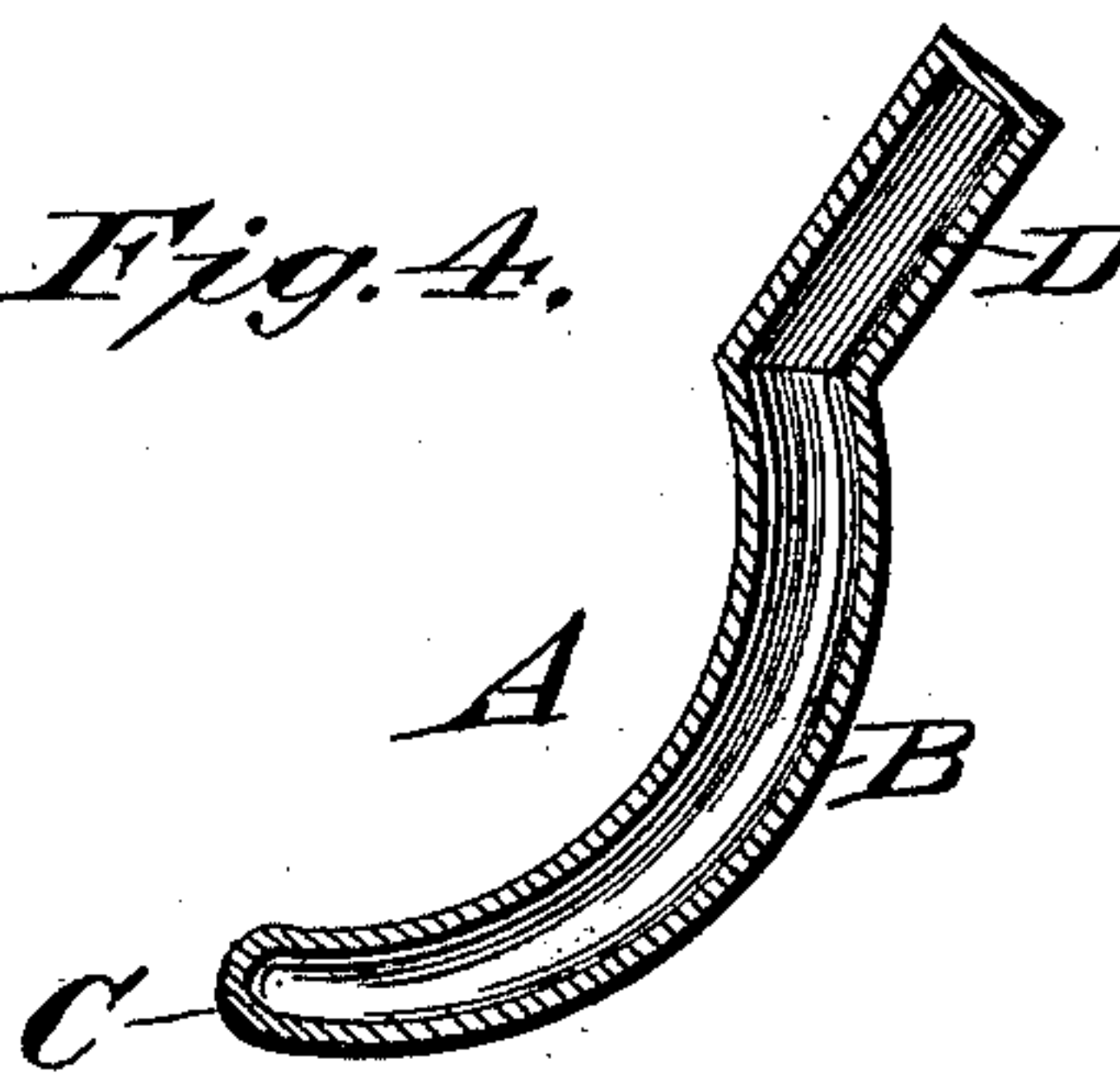
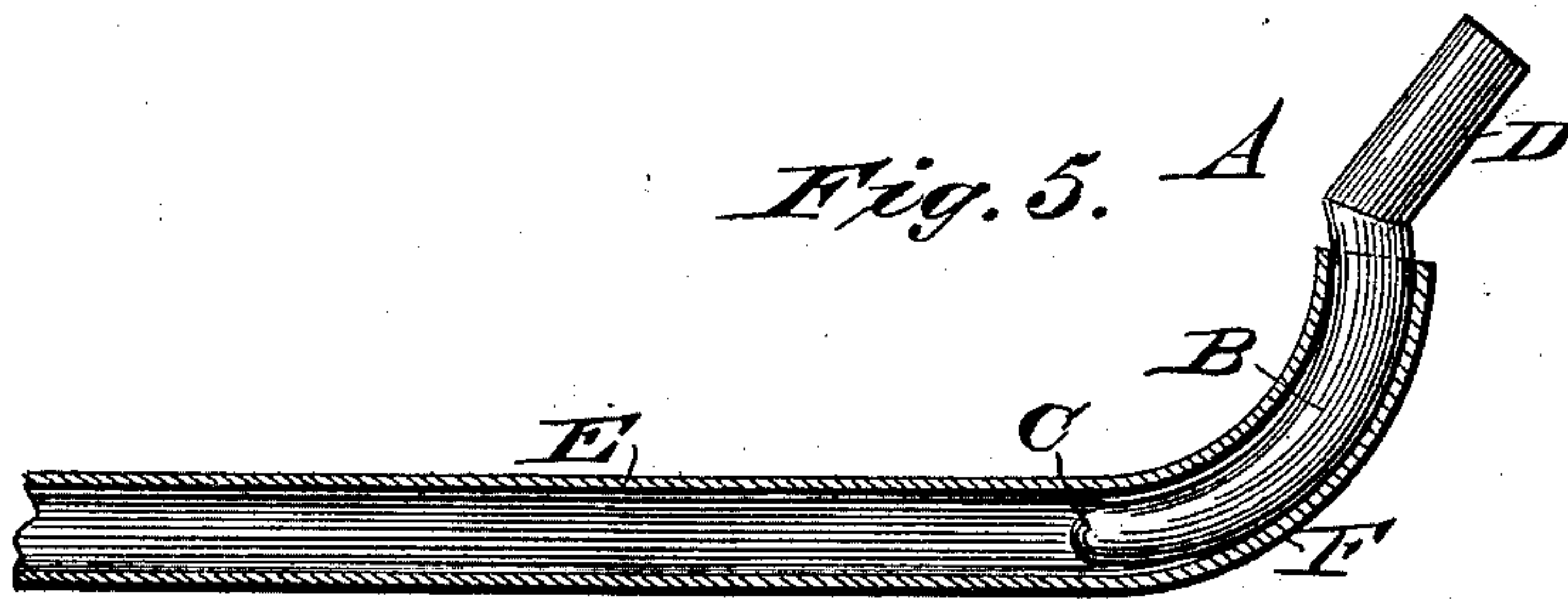


Fig. 5.



WITNESSES:

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MANDREL FOR BENDING LEAD PIPES.

SPECIFICATION forming part of Letters Patent No. 391,945, dated October 30, 1888.

Application filed January 31, 1888. Serial No. 262,487. (No model.)

To all whom it may concern:

Be it known that I, JOHN JOSEPH CARR, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Mandrel for Bending Lead Pipes, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved mandrel specially adapted for plumbers' use and serving to bend lead pipes rapidly without injury to the same.

The invention consists of a mandrel provided with a shank having a quarter-bend and slightly tapering and a shoulder formed on the shank for driving the latter wholly or partly into the pipe to be bent.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a double mandrel. Fig. 2 is a like view of a single mandrel. Fig. 3 is a sectional elevation of a solid double mandrel. Fig. 4 is a sectional elevation of a hollow single mandrel; and Fig. 5 represents a side elevation of a single mandrel as applied to a pipe which is shown in section.

The mandrel for bending lead pipes can be made in double form, as shown in Figs. 1 and 3, or in single form, as shown in Figs. 2, 4, and 5.

The mandrel A is provided with a shank, B, which tapers slightly from the point C to its other end. On the latter is formed an offset or shoulder, D, extending from the shank B in any desired direction, as illustrated in Figs. 1 and 2. The shank B may be made solid or hollow, as shown in Fig. 4, and the mandrel can be made of any desired material, wood or metal.

In forming a double mandrel, as illustrated

in Figs. 1 and 3, I prefer to attach the shanks so as to extend in opposite directions to each other, and I form the quarter-bend of the shanks to different radii, so as to be able to bend pipes to different radial bends with one double mandrel.

The improved mandrel is used as follows: Into one end of the straight lead pipe E is inserted the point C of the shank B, and then the operator strikes on the end of the shoulder D with a hammer or other tool, so as to drive the shank B into the lead pipe E. At the same time the operator presses on the end of the lead pipe E, so as to form the latter to the shape of the bent shank B. By continuing this operation the mandrel A is driven wholly or partly into the lead pipe E, which is thus formed to the shape of the said mandrel. When the desired bend is obtained, the operator strikes on the side of the shoulder D with his hammer, so as to remove the mandrel from the pipe E.

The tapering shank B permits of an easy entrance into the pipe E and of a like removal when the bend is formed. It is understood that the shank B at its largest end is of the same diameter as the inside of the pipes to be operated on; hence for various sizes of pipes it is necessary to employ shanks of various diameters.

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

A mandrel for bending lead pipes, consisting of a tapering shank having a bend and a shoulder formed on the large end of the said shank, substantially as shown and described.

JOHN JOSEPH CARR.

Witnesses:

JAMES McMANUS,
HERMAN STRUCK.