

(Model.)

W. FORMAN.
EXPANSION JOINT.

No. 250,904.

Patented Dec. 13, 1881.

Fig. 1

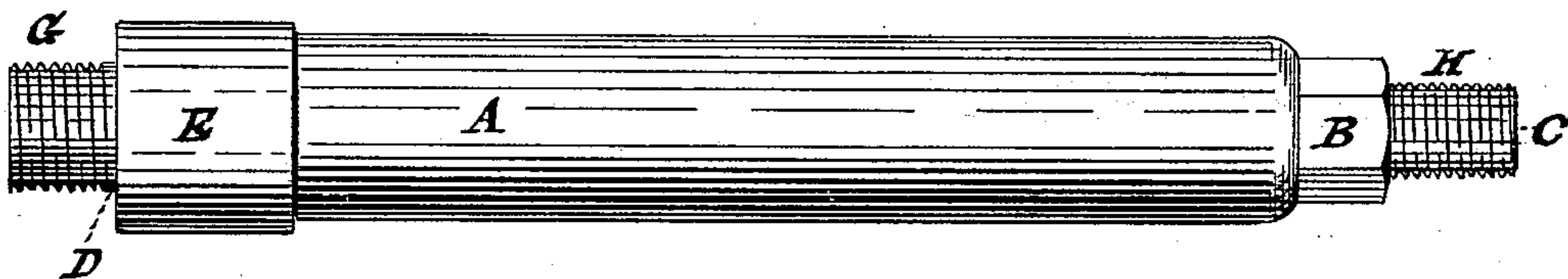


Fig. 2

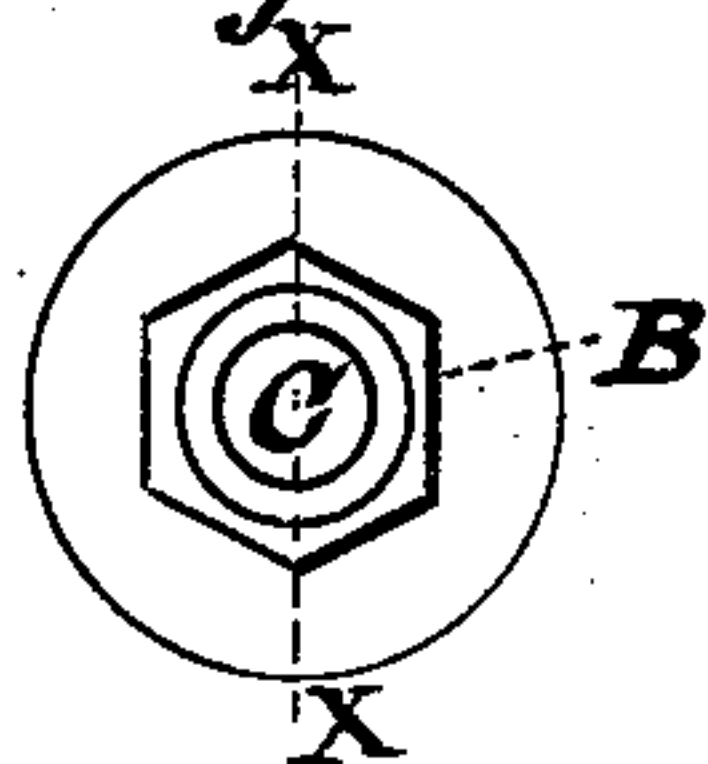
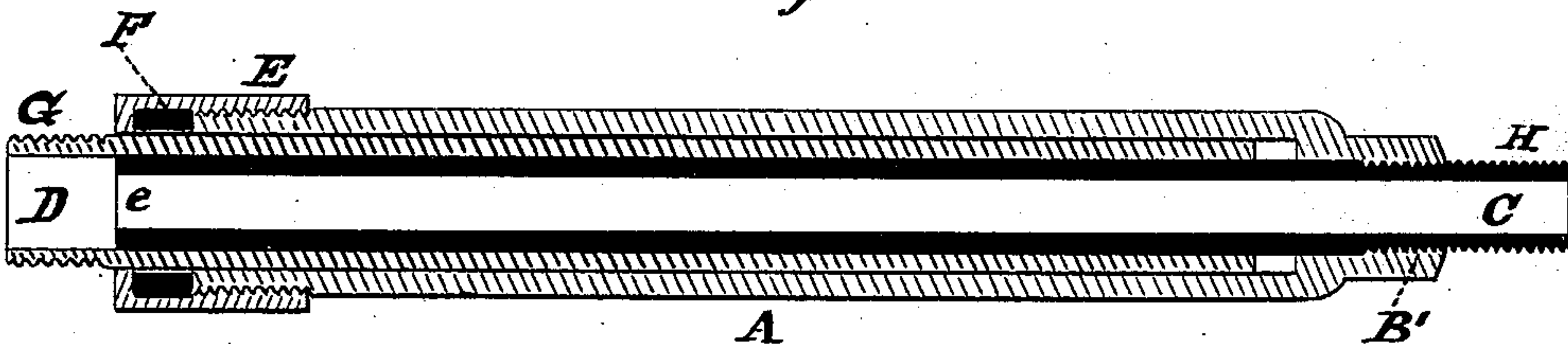


Fig. 3



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM FORMAN, OF BRADFORD, PENNSYLVANIA.

EXPANSION-JOINT.

SPECIFICATION forming part of Letters Patent No. 250,904, dated December 13, 1881.

Application filed June 29, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM FORMAN, a citizen of the United States, residing in Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Expansion-Joints, of which the following is a specification.

The object of my invention is to provide for the expansion and contraction of long lines of steam-pipes, water or oil pipes; and it consists of a cylinder or case having a stuffing-box on one end and a pipe extending through it, or partly through it, or into it, and tightly fastened on the inside at the opposite end, in combination with a tube adapted to fit nicely and slide within the case over the tube attached to the interior of the case, the tubes being provided with the usual screw ends to connect with a line of pipe, as and for the purposes which will be more clearly hereinafter shown by reference to the drawings, in which—

Figure 1 is a side elevation; Fig. 2, an end view; and Fig. 3 represents a vertical longitudinal section through line X X, Fig. 2.

A is the case. It is provided with a square or nut end, B, so that a wrench may be used to hold it while attaching the pipe.

To the inside end, B', of the case A is firmly attached a tube, C, (see Fig. 3,) thereby leav-

ing an annular space, into which the pipe D is truly fitted, so as to slide easily back and forth within the case A and over the tube C.

E represents a stuffing-box, made to screw onto the tube or case A and leave sufficient space for the stuffing, F.

The tubes C and D are each provided with the usual screw portions at the ends G H to attach the pipes.

By this improvement it will be seen that any required amount of expansion may be provided for, and that a straight open passage is left through the joint; and it will be further seen that the danger of leakage is much less than it would be without the tube C, because in case of a leakage the vapor or liquid would have to pass along a nearly-closed annular space between the outer side of C and inside of D, and then between the closely-fitted outside of D and inside of the case to the stuffing-box.

I claim as my invention—

An expansion-joint consisting of the case A, provided with a stuffing-box, E, and an interior tube, C, in combination with a movable tube, D, for the purposes described.

WILLIAM FORMAN.

Witnesses:

JAMES SANGSTER,
A. J. SANGSTER.