

(No Model.)

J. E. WAKEFIELD.
CLAMPING JAWS FOR PIPE VISES.

No. 545,324.

Patented Aug. 27, 1895.

Fig. 1

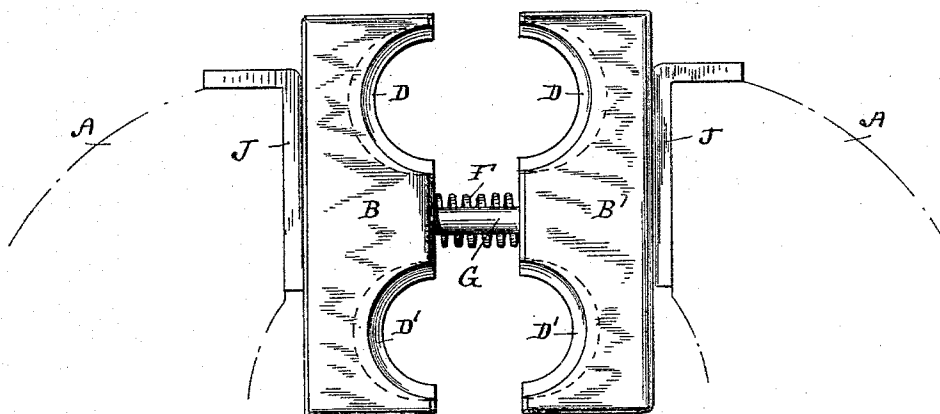


Fig. 2

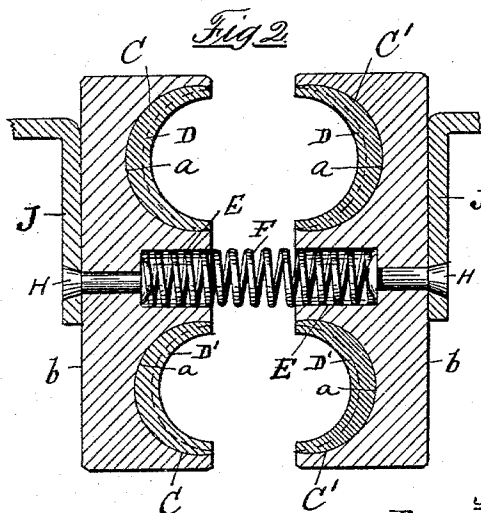


Fig. 3

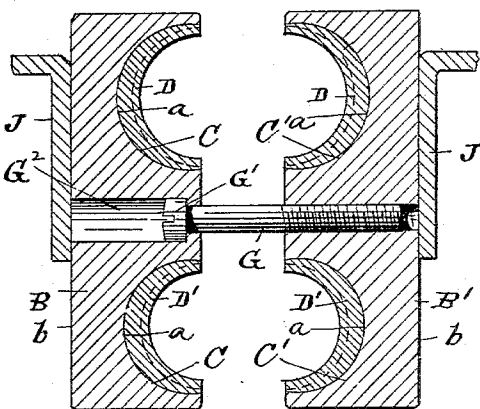
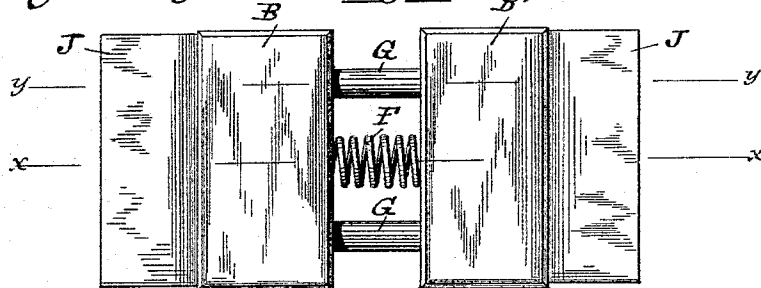


Fig. 4



Witnesses
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CLAMPING-JAW FOR PIPE-VISES.

SPECIFICATION forming part of Letters Patent No. 545,324, dated August 27, 1895.

Application filed January 6, 1890. Serial No. 336,070. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. WAKEFIELD, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Clamping-Jaws for Brass Pipe, of which the following is a specification containing a full, clear, and exact description, and accompanied by drawings forming a part of the same, in which—

Figure 1 represents a view in elevation of a pair of clamping-jaws embodying my invention and represented as applied to and held by the jaws of an ordinary vise. Fig. 2 represents a sectional view on line X X, Fig. 4. Fig. 3 represents a sectional view on line Y Y, Fig. 4; and Fig. 4 represents a top view of the clamping-jaws.

Similar letters refer to similar parts in the different figures.

The object of my invention is to provide jaws for holding brass or finished pipe of any variety and prevent the abrasion of the surface of the pipe when pressure is applied to clamp the jaws firmly upon the pipe; and it consists in the use of a jaw provided with a metal face softer than the metal forming the pipe, said soft-metal face being supported by a hard-metal back; in the employment of a retaining shell or case in which the soft-metal face is cast; in the means for supporting the jaws by the jaws of a vise, and in certain details of construction by which the jaws are pivoted to allow them to assume any desired angle with the jaws of the vise and by which their motion apart is limited and, further, in the use of an actuating-spring by which the jaws are normally held apart.

Referring to the accompanying drawings, A A denote the jaws of an ordinary plumber's or steam-fitter's vise.

B B' are the hard-metal blocks forming the body of the jaws, each of the blocks being provided with the concave recesses C C' to receive the soft-metal faces D D'. Each block is provided with a recess E to receive the ends of a spiral spring F, the tension of which serves to press the blocks apart until their motion is limited by the bolts G G, screwed into one of the blocks and having heads G' sliding in the recesses G² in the other block as the blocks are pressed to-

gether. The blocks B B' are pivoted upon the rivets H H, which are rigidly held in the angle-plates J J, resting upon the tops of the vise-jaws A A. The axes of the rivets H H are coincident, forming an axis about which the blocks turn in order to vary the angle formed by the blocks B B' and the jaws of the vise, to accommodate the blocks to the work to be held. The inner surfaces of the soft-metal faces D D' are semicircular, and for convenience in holding pipes of different diameters I prefer to make the faces D and the faces D' of different radii, allowing two sizes of pipe to be held by a single pair of blocks. The concave surfaces *a a* of the recesses C C' are eccentric to the semicircular faces of the soft metal D D'. This eccentricity of the outer surface of the soft-metal castings prevents their turning within the recesses C C' as force is applied to turn the pipe held in the jaws. By the combination of the soft-metal face having a concave and semicircular face inclosing the pipe to be held, and a supporting hard-metal block of substantially rectangular form, as shown, I secure the maximum frictional contact of the jaw upon the surface of the pipe, and also am able to apply to the outside of the hard metal block a force sufficient to compress the soft metal upon the pipe and prevent the rotation of the pipe with the jaw. The parallel sides *b b* of the blocks B B' are adapted to receive the force of compression exerted by the jaws of the vise as they are brought together, preventing the rotation of the jaws as the pipe is turned in the jaws, and at the same time the entire surface of the pipe within the jaws is held in contact with the soft metal or antifriction faces of the jaws.

A single pair of soft-metal faces can be used in each block instead of two pairs of different sizes, and the blocks in all the essential features of their construction, minus the pivoted angle-plates and the spring F and limiting-bolts G G, are adapted for use in connection with a pipe-wrench of any of the well-known methods of construction, as well as with the jaws of a vise, as shown, it only requiring for the practical application of my improved jaws that means be employed to exert a force of compression by which the jaws are compressed upon the pipe, and this

can obviously be effected by many of the known forms of pipe-wrenches now in use.

What I claim as my invention, and desire to secure by Letters Patent, is—

5 The combination of the hard metal blocks B, B', provided with recesses, the soft metal faces D D', held in said recesses, angle plates J, J, pivoted to said blocks, spring F, by

which the blocks are forced apart, and bolts G, G, by which the movements of said blocks are limited, substantially as described.

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