

(No Model.)

2 Sheets—Sheet 1.

J. O. THERIEN.
VISE.

Patented Mar. 12, 1895.

No. 535,513.

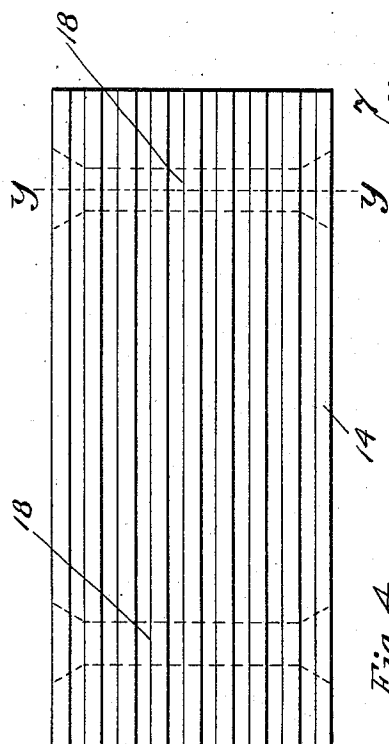
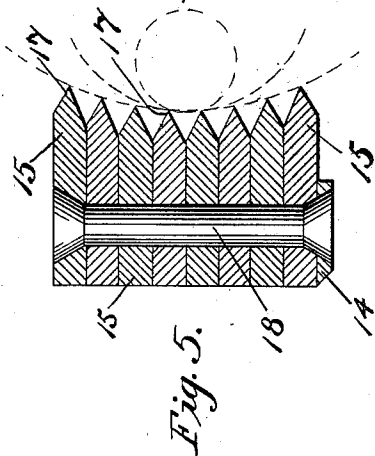


Fig. 4.

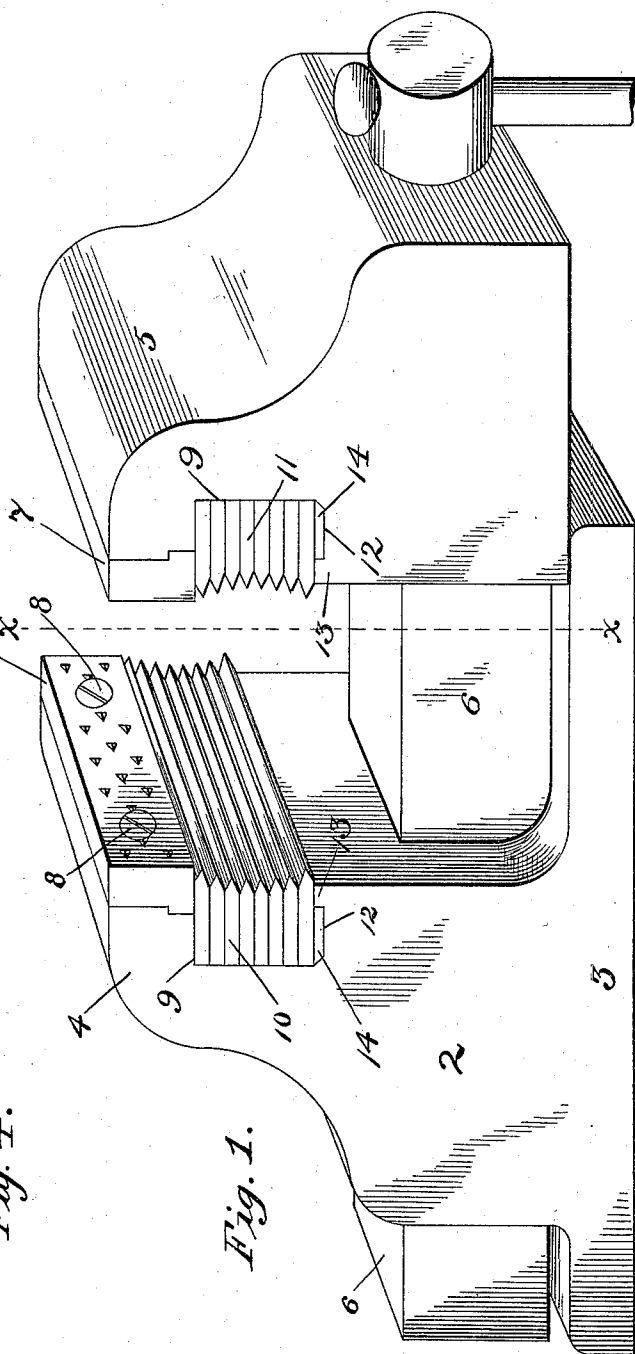


Fig. 1.

Witnesses;

Henry B. Avery.
F. S. Lyon

Inventor;
Joseph O. Therien.

By Paul H. Hawley
his attorneys.

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J. O. THERIEN.
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2 Sheets—Sheet 2.

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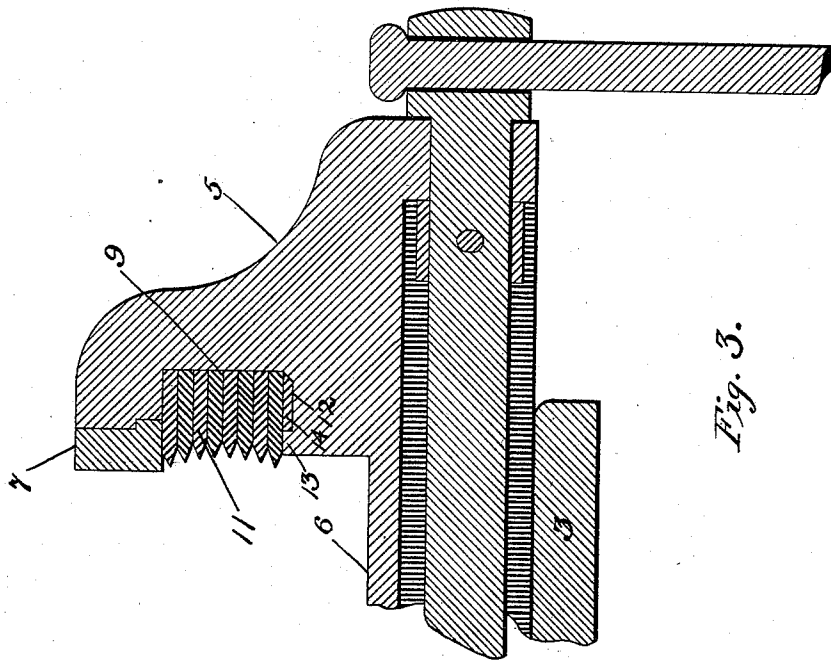


Fig. 3.

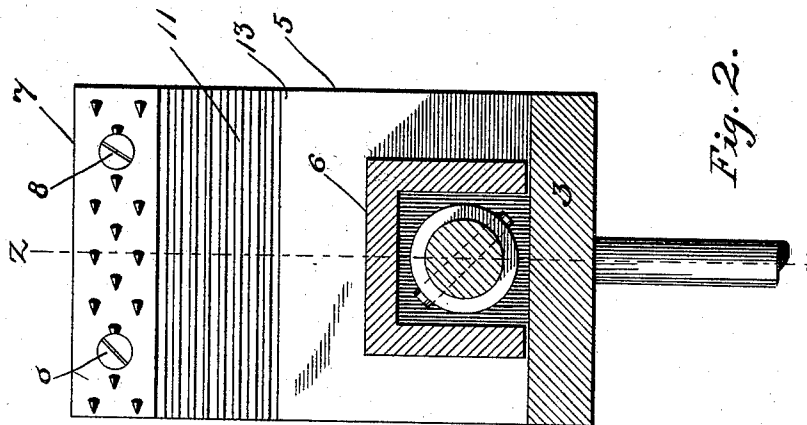


Fig. 2.

Witnesses;

Henry B. Arny.
F. B. Lyon

Inventor;

Joseph O. Therien.

By *Paul O. Hawley*
his attorneys.

UNITED STATES PATENT OFFICE.

JOSEPH O. THERIEN, OF MINNEAPOLIS, MINNESOTA.

WISE.

SPECIFICATION forming part of Letters Patent No. 535,513, dated March 12, 1895.

Application filed April 23, 1894. Serial No. 508,560. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH O. THERIEN, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a certain new, useful, and Improved Vise, of which the following is a specification.

My invention relates to a combination bench and pipe vise.

The object of my invention is to provide a vise equally adapted for the common uses on a bench, and for the additional use of holding pipes or round rods of various sizes or diameters.

A further object is to so construct my combination vise that it may be made at substantially the same cost as an ordinary bench vise.

To this end my invention consists in the combination, with the jaws of a vise, of underlying and horizontally arranged teeth, on blocks or strips whereof the points or ridges conform to the general form and position of an arc of a circle; and further my invention consists in details of construction and in combinations, all as hereinafter described and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of a vise embodying my invention. Fig. 2 is a vertical cross-section showing the inside of one of the jaws, the section being taken on a line $x-x$ of Fig. 1. Fig. 3 is a partial vertical longitudinal section of the vise on a line $z-z$ of Fig. 2. Fig. 4 is an enlarged view of one of the corrugated or toothed pipe-gripping blocks. Fig. 5 is a cross section thereof on a line $y-y$ of Fig. 4, showing the construction of the block.

A detailed construction of the vise shown in the drawings is substantially that of the common bench vises, and is immaterial to my invention, 2 representing the box, having the bed plate 3 and the rear jaw 4 formed thereon. The forward jaw 5 is of the usual construction, having the sliding bar 6. The means for forcing the jaws together need not be explained. The jaws are preferably provided with the steel-faced blocks 7 fastened in place by screws 8; and beneath and parallel with the faced-block of each jaw, I provide a large groove or seat 9 adapted to receive the blocks

10 and 11 respectively. The lower part of each groove terminates in a shallow groove 12, outside of which is a lip 13, and on the under side of each block 10 and 11 is a narrow strip 14 fitting the groove and aiding in holding the block in position. The blocks are preferably slipped in place and then the facing blocks 7 are screwed fast above the same. The pipe gripping blocks 10 and 11 are preferably composed of thin plates 15, preferably of steel and of any number desired, an even number of the plates being preferably employed. The two middle plates are of the same width, and both above and below these plates the succeeding plates are gradually widened so that the sharp edges 17 of the several plates conform to the outline of a large cylinder. Furthermore, the lower corner of the facing plate 7 is extended out to be in line with the general curve of the pipe-gripping block. As the ridges or sharp edges of the block are parallel with this lower corner, it aids in gripping and holding a large pipe. Similar pipes or rods will obviously be held between fewer numbers of the ridges or edges, while pipes which are of a greater diameter than the curve of the two blocks will be gripped on four points or lines only. The long bearing which is afforded by these blocks provides exceptionally good fastening upon the pipe or rod to prevent the same from turning. At the same time all of the edges of the two blocks are beneath and back of the plane of the overlying plates 7, so that they in no manner interfere with flat objects which may be placed between the upper parts of the jaws. The steel plates 15 are first cut to size and then sharpened, and after being assembled in the proper order of narrow and wide plates, all are securely fastened together by long vertical rivets 18, as shown in Fig. 5.

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

1. In a vise the combination, of the jaws, provided with grooves 9 extending the full width thereof, and shallow grooves 12 beneath said grooves 9, pipe gripping blocks to fit into said grooves 9 and provided with a narrow strip to fit into said groove 12, the inner face of said blocks being concave and provided with a series of grasping teeth, each tooth ex-

tending the full width of the block and its cutting edge being the same height the entire length of the tooth, the face blocks secured to said jaws above said gripping blocks and
5 overlapping the inner face thereof, substantially as described and for the purpose specified.

2. In a vise the combination of the jaws, each provided with grooves 9 extending the
10 full width thereof, and shallow grooves 12 beneath said grooves 9, pipe gripping blocks to fit into grooves 9, said blocks being composed of a series of thin sharp edged plates of varying widths whereby the inner face of the

blocks has a general concave form, the cutting 15 edge of each plate being the same height the full length thereof and a narrow plate to fit said groove 12, the face blocks secured to said jaws above said gripping blocks and overlapping the inner face thereof substantially as 20 described and for the purpose specified.

In testimony whereof I have hereunto set my hand this 15th day of April, A. D. 1894.

JOSEPH O. THERIEN.

In presence of—

C. G. HAWLEY,
F. S. LYON.