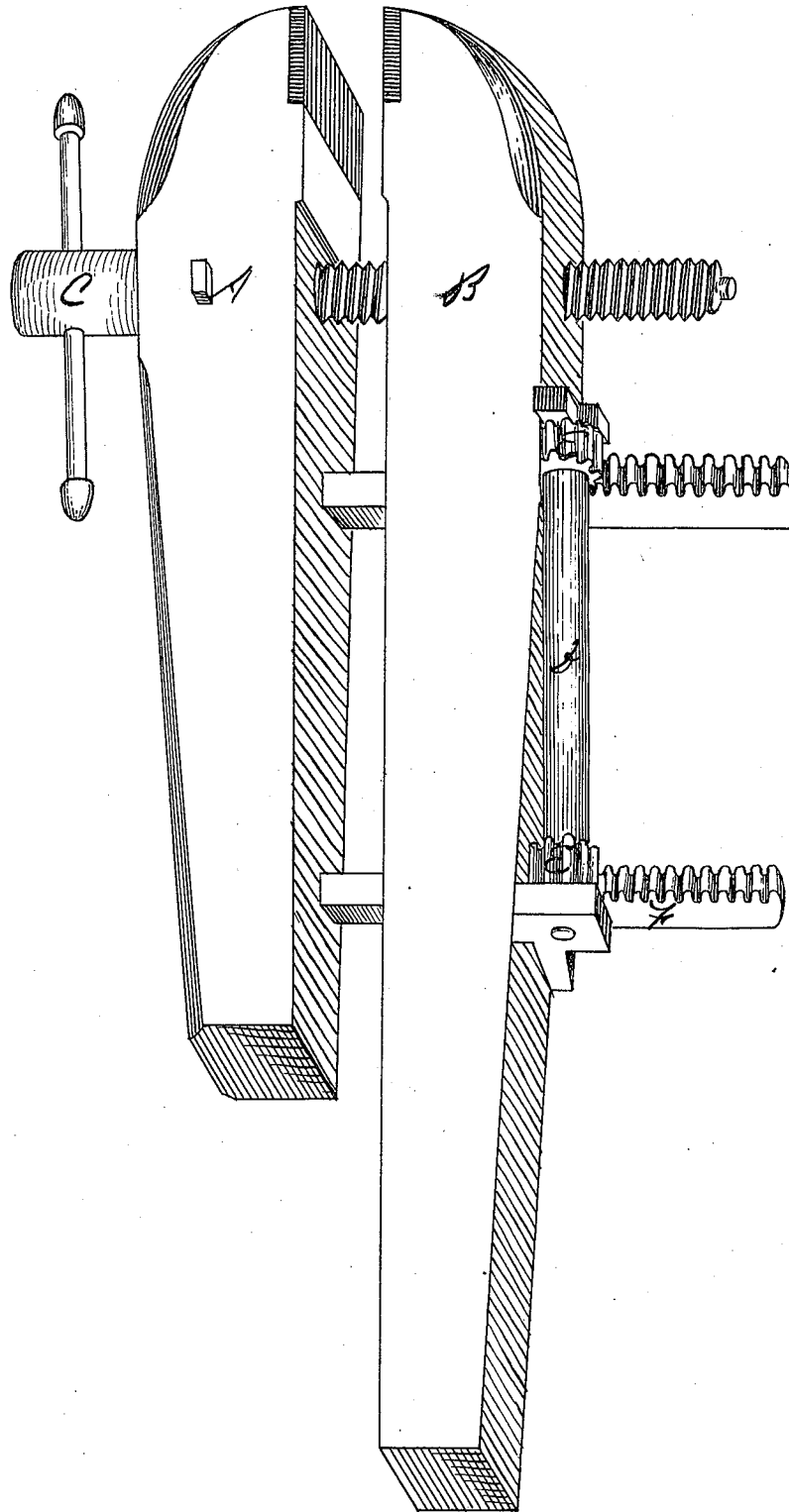


J. COWLES.
BENCH VISE.

No. 5,458.

PATENTED FEB. 22, 1848.



UNITED STATES PATENT OFFICE.

JOSIAH COWLES, OF BELCHERTOWN, MASSACHUSETTS.

BENCH-VISE.

Specification of Letters Patent No. 5,458, dated February 22, 1848.

To all whom it may concern:

Be it known that I, JOSIAH COWLES, of Belchertown, in the county of Hampshire and State of Massachusetts, have invented a
5 new and useful Improvement on Vises, Either of Wood or Iron.

The nature of my invention consists in combining with the vise, a revolving arbor, with pinions at each end, which pinions are
10 connected with and play upon horizontal racks, being made fast at one end, to the movable jaw of the vise, but sliding through the stationary jaw.

The following I declare to be a full and
15 exact description of the construction and operation of my invention, reference being had to the drawings making a part of this specification.

I construct my vise in the common and
20 known form, either of wood or iron, viz., consisting of two jaws A, and B, one being stationary, and the other movable. Through both of the jaws, near the top, a common screw, C, revolves. The two jaws A and B,
25 and the screw C, are not new. But in order to keep the movable jaw A, plumb and perpendicular with the stationary jaw B, so that the material to be inclosed, will be held more

square and even, and more firm, than with the common vise; and in order to obviate
30 the necessity of moving the lower part of the movable jaw with the hand and of using pegs to keep it in the place desired, as is the case with the common vise; and also to prevent the breaking of the screw thread, 35 which frequently happens with the common vise.

I connect with the stationary jaw B, a revolving arbor, D, at each end of which are pinions, E, E, which play upon two
40 racks, F, F, the racks being made to slide through the stationary jaw B, but being made fast at one end to the movable jaw A. As the screw C, is turned, and the movable jaw A, is carried back or forward, the racks, 45 F, F, playing upon the pinions E, E, keep every part of the movable jaw A, perpendicular with the stationary jaw B.

What I claim as my invention and desire
to secure by Letters Patent, is— 50

The screw and jaw, in combination with racks, pinions and arbor.

JOSIAH COWLES.

Witnesses:

ALLEN BANGS,
I. W. GORHAM.