

N. Baldwin,

Vise,

No. 91,199.

Patented June 15. 1869.

Fig 1.

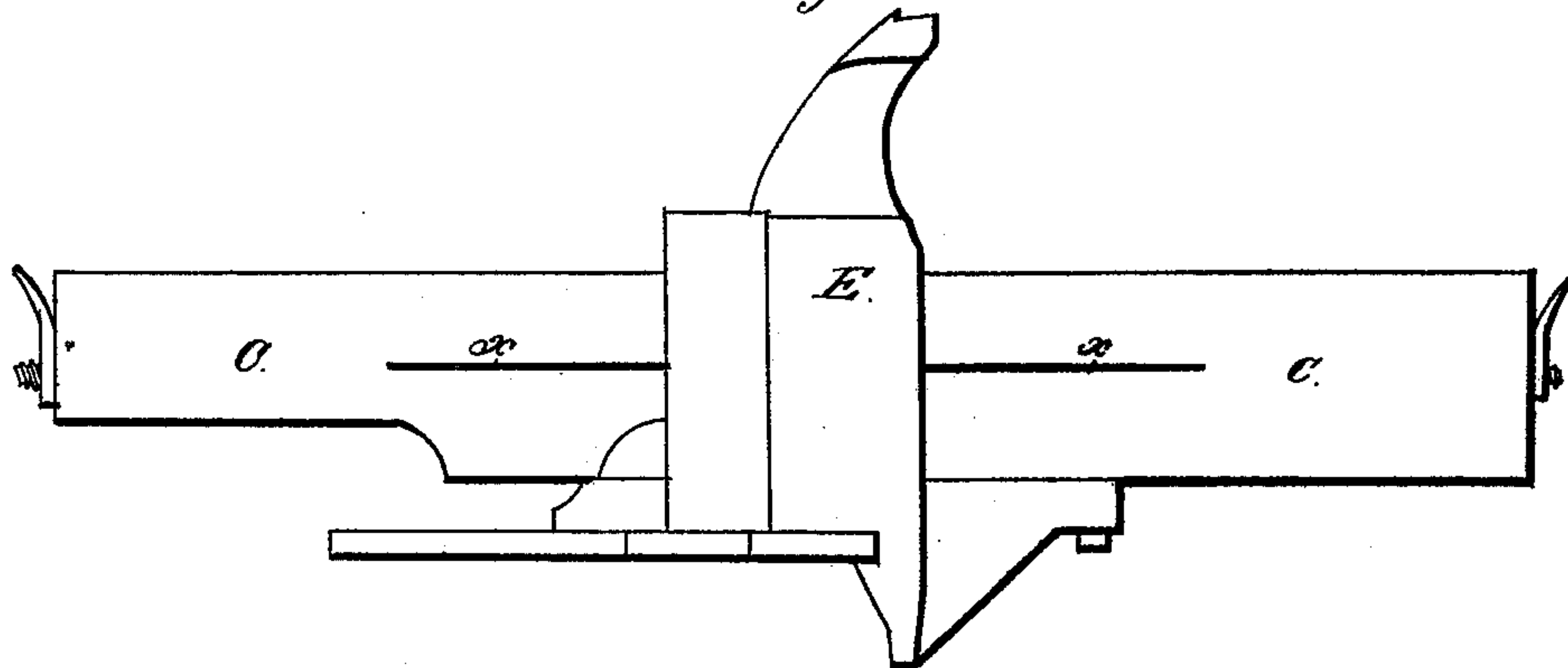


Fig 2.

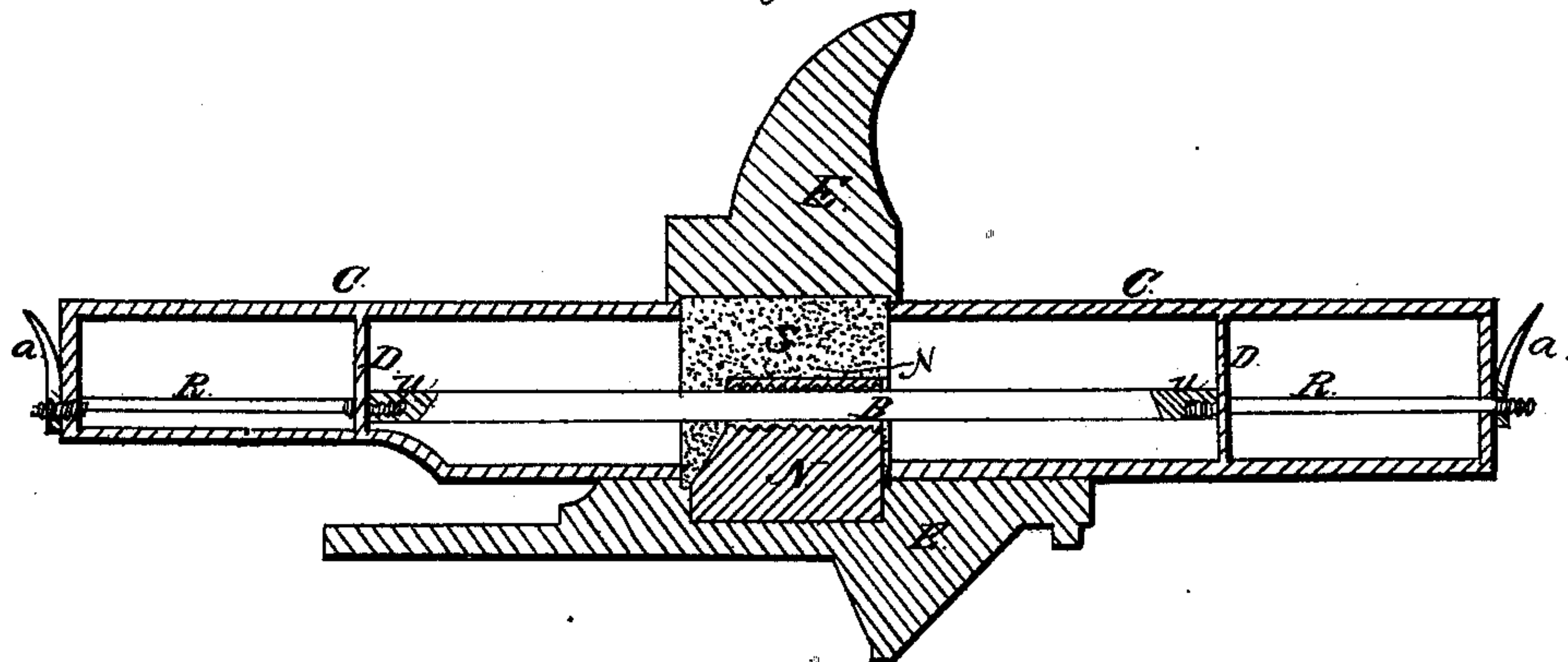


Fig 3.

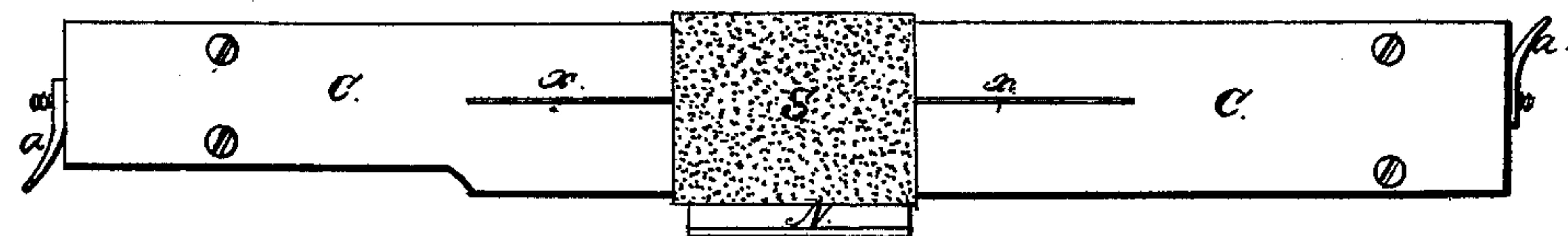
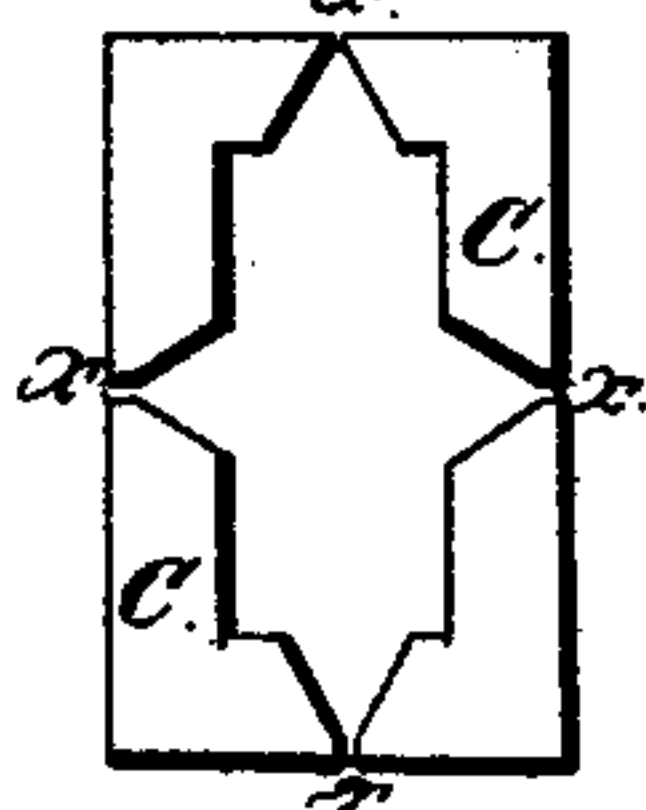


Fig 4.



Witnesses:

*L. H. Hall's
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Inventor:

Noyes Baldwin

United States Patent Office.

NOYES BALDWIN, OF BUFFALO, NEW YORK.

Letters Patent No. 91,199, dated June 15, 1869.

IMPROVEMENT IN VISE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, NOYES BALDWIN, of Buffalo, in the county of Erie, and State of New York, have invented a new and improved Mode of Constructing Bench-Vises; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of the fixed part of a common slide-vise, as it is taken, with chills attached, from the flask of the foundry.

Figure 2 is a longitudinal section of the same.

Figure 3 is a side view of the chills, in connection with the sand core and nut.

Figure 4 is a view of the inner end of a chill.

My invention relates to the fixed, or female part E, figs. 1 and 2, of the slide-vise; and

It consists in a process, or device by which the nut N, fig. 2, of said part, is fixed therein, at the time that part is cast, and by which, also, the broaching-process, which is both difficult and dangerous to the integrity of the casting, is done away.

In the following description the form of the slide, or male part of the vise contemplated, is that of a rectangular parallelipedon; but should that part be of any other form, the modifications necessary will readily recur to those skilled in the art.

I first make two chills, marked C in the figures. They must be of the same form with the slide of the vise, and slightly larger.

They may be made of cast-iron, in two parts, these being screwed together, as shown in fig. 3, or otherwise firmly secured, or each chill may be cast in one piece.

They are best made hollow at their inner ends, as shown in fig. 4, which hollow should extend for some distance, as to D, fig. 2.

The inner end of each chill has a slot running longitudinally on each of its sides. These slots are marked *x* in the figures, and may be made with a saw of narrow cut.

I now take the nut N, fig. 2, which may be of the usual form, and made in the usual way, with the thread cut in it.

Through the nut, I slide the straight bar B, fig. 2, which exactly fills its bore, letting it rest at the centre.

The ends of the bar B are now passed into the hollows of the chills, to the shoulders D and D, through which the small rods R R are passed, and screwed into the ends of the bar B, as shown at *u u*.

To the ends of the rods R R, levers, or nuts *a a* are attached, by means of which the ends of the bar B are screwed up tightly against the shoulders D D. This is done to connect the chills with the nut N, and

to hold them in proper relation; but any other device known in mechanics that will effect the same end may be employed.

Care must be taken that the bar B be of just such length as that, when in position, the distance between the ends of the chills shall be less than the depth of the part E, by exactly that part which it is desired to have chilled.

The position of the holes in D D, through which the rods R R are passed, regulate the position of the eye of the nut N, in the part E.

The chills and nut N being connected as above described, and held so that the corresponding sides of the chills shall lie in the same plane with the lower part of the nut, in its proper position, the sand core *s*, fig. 3, is made upon and surrounding the nut, but leaving the lower part of the nut extending downward below the core, as far as it is desired to have it inserted in the casting E, as shown in fig. 3.

The core *s* is somewhat greater in thickness and depth than the chills, so that the planes of its sides lie outside the planes of the corresponding sides of the chills.

The core is baked in the usual way, its relative position, as formed, to the chills and nut being carefully preserved.

On being coated with moulders' facing, the chills and core, as shown in fig. 3, are now ready for use.

The pattern by which the part E is moulded has prints attached, fitted for the chills C C, fig. 3. This is, of course, done in the usual way, and when the pattern is drawn from the sand, the combined parts, shown in fig. 3, are carefully laid in position in the prints, and the casting completed in the usual way.

When taken from the sand, the casting and chills will, of course, appear as in fig. 1.

The nuts *a a* are now removed from the outer ends of the chills, when they are readily drawn out from the casting E, and are again ready for use.

Let, now, the bar B and the sand of the sand core be removed from E, and, if the conditions have been properly observed, it will be found that the nut N is securely fixed in its true position, as shown in fig. 2, and that the casting E is regularly and truly fitted to receive the slide-part of the vise without broaching, which, owing to the imperfection of the casting, chills not being used, has heretofore been necessary, and the nut N could not be inserted in the casting E previous to broaching, from the requirements of that process.

It remains only to explain the use of the slots *x* in the chills C.

They are for the purpose of permitting the ends

of the chills to be slightly diminished, under the contracting force of the metal in E, when cooling, these slots, with the elasticity of the metal in the chills, affording such facility, so that the chills are afterward easily removed, as before stated, and without injury.

I do not, in my invention here set forth, claim any addition of parts to the vises now in use; but

I claim—

1. The manner of inserting the nut N in the part E, as, or substantially as set forth.
2. The chill C, as and for the purpose set forth.

NOYES BALDWIN.

Witnesses:

ALEXANDER DICK,
LYMAN P. PERKINS.