(No Model.)

W. E. SNEDIKER.

METAL MOLD FOR CASTING VISES.

No. 280,769. Patented July 3, 1883.

Fig1.

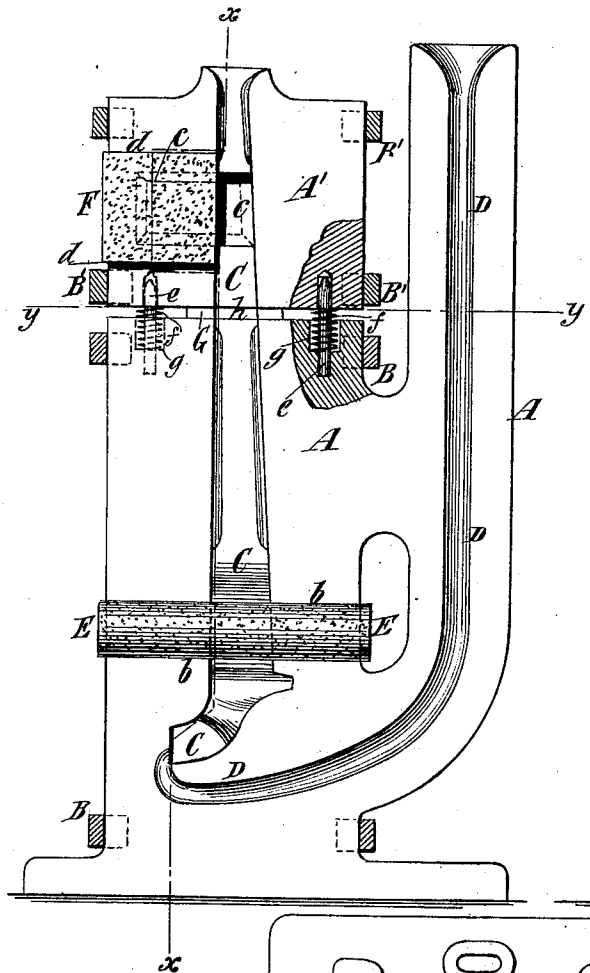


Fig2.

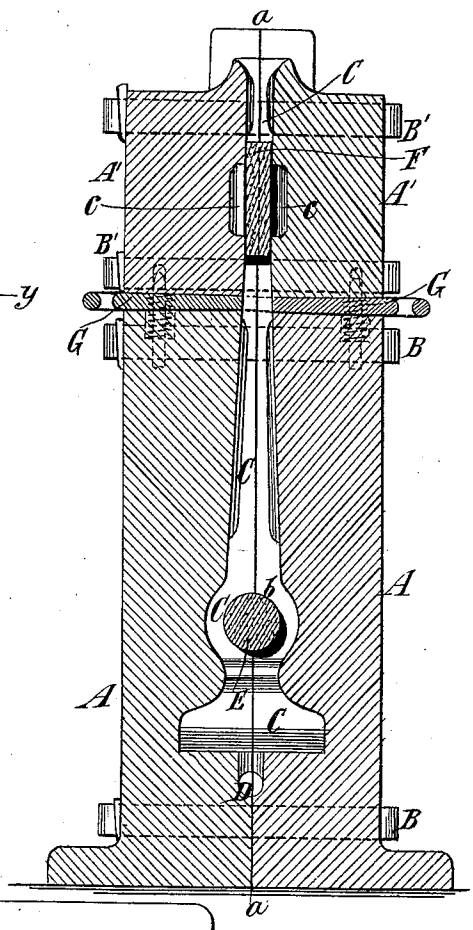
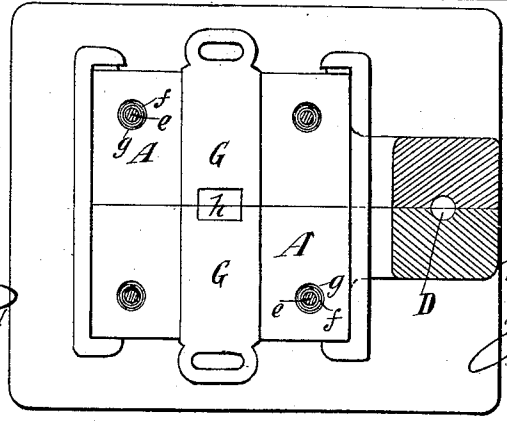


Fig3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM E. SNEDIKER, OF TRENTON, NEW JERSEY.

METAL MOLD FOR CASTING VISES.

SPECIFICATION forming part of Letters Patent No. 280,769, dated July 3, 1883.

Application filed May 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SNEDIKER, of Trenton, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Metal Molds for Casting Vises, of which the following is a specification.

My invention relates especially to molds for casting what are known as "leg-vises" of steel; but the invention may be embodied in molds for casting similar vises of iron.

The invention consists in novel details of construction and combinations of parts in a sectional metal mold, whereby it is particularly adapted to the purpose intended, and whereby the contraction or shrinkage in cooling of the metal of which the vise is cast will be permitted without any danger of cracking or breaking, as would be the case if no provision for the yielding of the parts of the mold were provided.

In the accompanying drawings, Figure 1 is a sectional elevation of a mold embodying my invention. Fig. 2 is a similar view on the dotted line *x x*, Fig. 1; and Fig. 3 is a horizontal section on the dotted line *y y*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A A designate the two upright halves or sections which form the principal portion of the mold, and which form a close vertical joint at the point *a*. The two said halves or sections are held together by clamps B when they are to be used, and by knocking off the clamps they can be separated and the cast article removed.

C designates the cavity wherein the molten metal is poured to form the article, and which is formed partly in each section A. To its lower end there extends a pouring-gate, D, which is also formed partly in each section A. This mold is for casting the portion of a leg-vise which is to be fixed to the bench or other support, and to which the movable jaw is hinged.

E designates a cylindric core, which rests in a core-seat, *b*, consisting of a round hole extending on opposite sides of the cavity C and open at both ends. This core forms the hole or aperture wherein the screw box or nut of the vise is to be secured. The cavity C has extending from it smaller cavities or recesses *c* in opposite sides, as shown in Fig. 2, and in these recesses *c* are formed the hinge-plates or cheeks, between which the movable portion of the vise is placed, and to which it is hinged. To form the space of requisite width between these hinge-plates which are to be formed in the recesses *c*, I employ a core, F, which rests in a seat, *d*, in the mold. I do not intend to cast the whole length of the leg of the vise in this mold, but I extend the mold somewhat above the hinge-plate recesses *c*, and after the vise is cast of steel I can weld a bar to it to form a leg of the requisite length.

The pouring-gate D is preferably formed in a two-part projection from the mold proper, as here shown.

Now, it will be obvious that, if the hinge-plate recesses *c* and the jaw portion of the vise were to be cast in a mold having no provision for contraction, the vise would break transversely in cooling. To prevent this I do not extend the sections A A clear to the top of the mold, but I form the upper part, which contains the core-seat *d* and hinge-plate recesses *c*, in two supplemental sections, A′ A′, which also meet on the line *a*. The two supplemental sections are held together by clamps B′, and they are connected with the sections A by steady-pins *e*, which insure the proper alignment of the two portions of the cavity C. I have represented springs *f*, which surround the steady-pins *e*, and are contained in recesses *g*, and these springs are sufficiently powerful to hold the supplemental portion A′ of the mold in an elevated position.

G designates a divided plate, which forms a continuation of the cavity C, between the portions A and A′ of the mold. The aperture *h* in said plate forms the continuation of the cavity C, and the plate is divided through said aperture, so that its two halves or portions can be drawn out in opposite directions. The two portions of the divided plate G may be of uniform width throughout; or they may be made in the form of wedges having a slight taper toward the aperture *h*, as shown in Fig. 2.

As here shown, the cores E F are in place and the mold is ready for pouring. After pouring, and as soon as the metal has become solid, the portions of the divided plate G are drawn out, and as the metal in the cavity C contracts in cooling the supplemental part A′ of the mold is drawn down and the transverse fracture of the

gradually-cooling metal is prevented. If the plate G is of uniform thickness throughout its portions, it must be entirely withdrawn before contraction takes place; but if the two portions are made in the form of wedges with a slight taper, as here shown, they may be withdrawn gradually.

The springs *f* are advantageous, because they keep the supplemental portion A′ of the mold elevated until it is drawn down by the contraction of the cooling metal, and there is no liability of the metal being crushed or spread if the plate G is drawn out before the metal is become sufficiently solid or set to sustain the weight of the supplemental part A′ of the mold.

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

1. The divided mold for casting leg-vises, comprising the cavity C, the hinge-plate recesses *c*, the pouring-gate D, and the core-seats *b d* for supporting the cores E F, all substantially as described.

2. The divided mold for casting leg-vises, composed of the sections A A, comprising the cavity C, the pouring-gate D, and core-seat *b* for the core E, and the supplemental sections A′ A′, capable of yielding relatively to the sections A A, and comprising the cavity C and hinge-plate recesses *c*, and the seat *d* for the core F, all substantially as described.

3. In the divided mold for casting leg-vises, the combination of the sections A A, the supplemental sections A′ A′, and the removable divided plate G, substantially as described.

4. In the divided mold for casting leg-vises, the combination of the sections A A, the supplemental sections A′ A′, the removable divided plate G, and the steady-pins *e* and springs *f*, all substantially as described.

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