No. 612,415. Patented Oct. 18, 1898.

O. H. HANSON.

COMBINED ANVIL, VISE, AND DRILL.

(Application filed Feb. 5, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

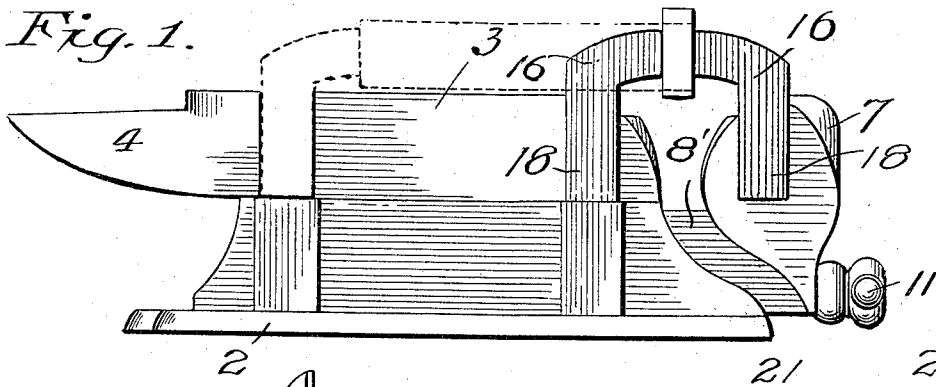


Fig. 3.

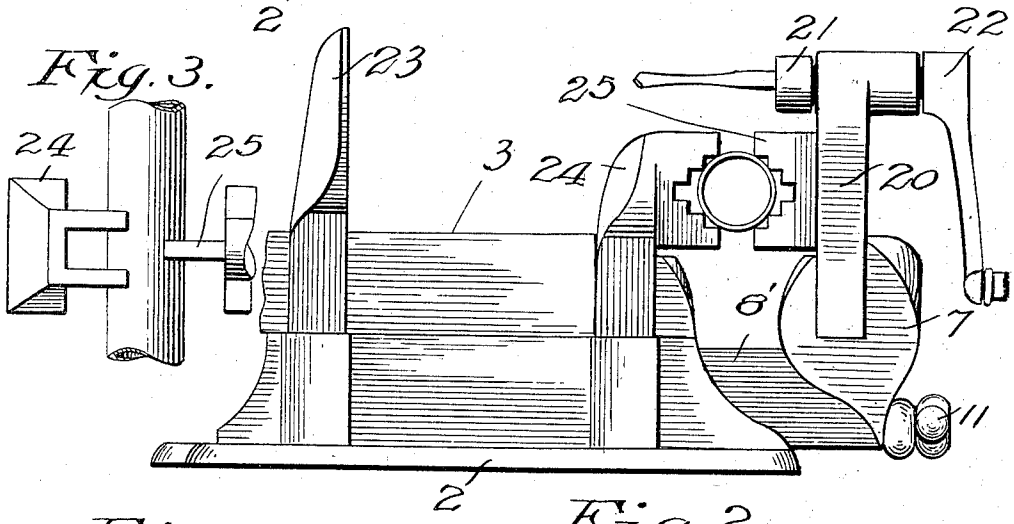


Fig. 5.

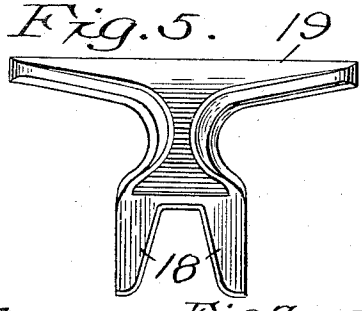


Fig. 2.

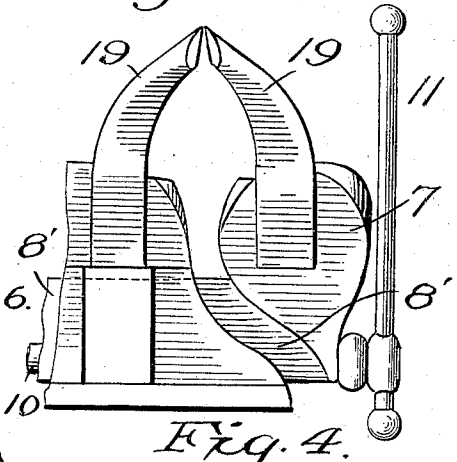


Fig. 8.

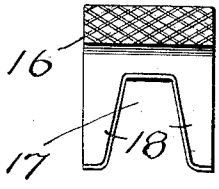


Fig. 7.

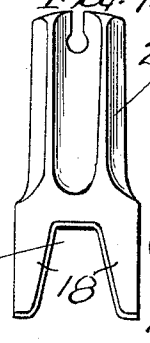


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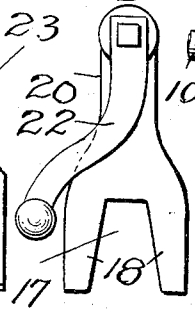


Fig. 4.

Inventor;
Ole H. Hanson By
Paul & Hawley his attys
Witnesses;
C. E. Van Doren.
Richard Paul.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 9.

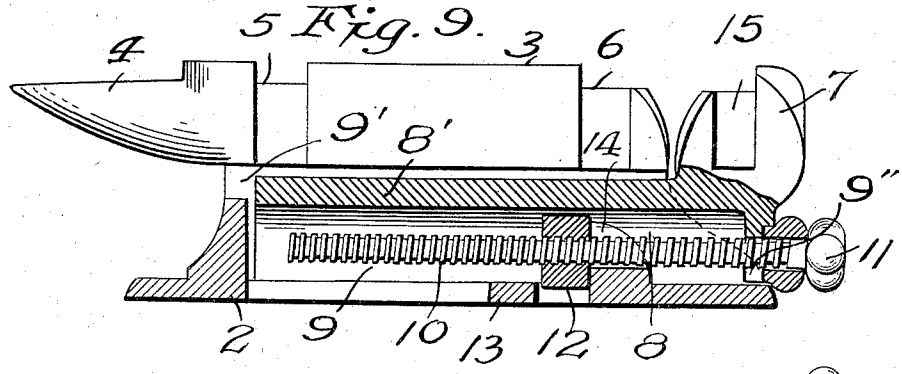


Fig. 10.

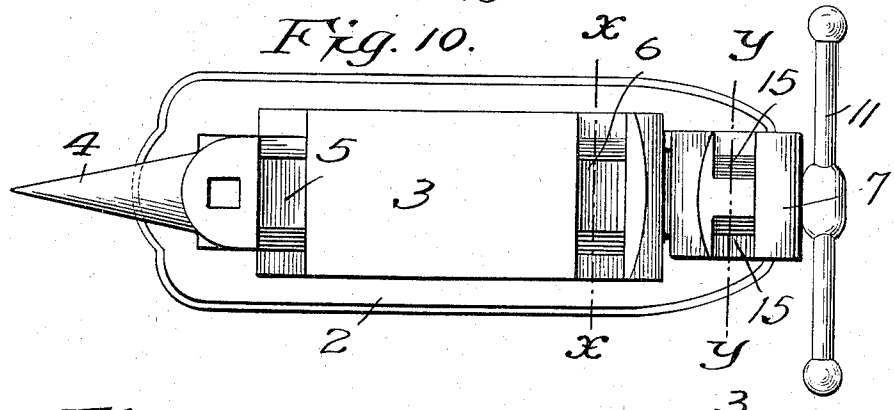


Fig. 13.

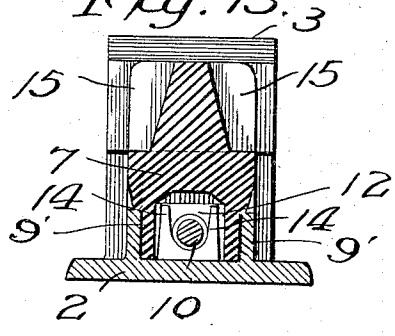


Fig. 11.

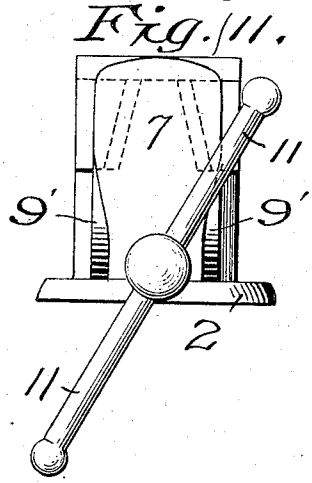
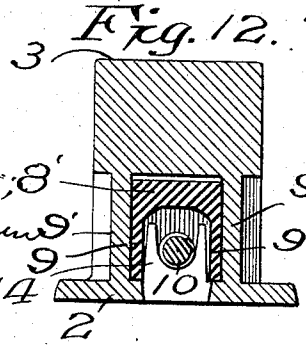


Fig. 12.



Witnesses;
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his attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OLE H. HANSON, OF LITCHFIELD, MINNESOTA.

COMBINED ANVIL, VISE, AND DRILL.

SPECIFICATION forming part of Letters Patent No. 612,415, dated October 18, 1898.

Application filed February 5, 1898. Serial No. 669,177. (No model.)

To all whom it may concern:

Be it known that I, OLE H. HANSON, of Litchfield, Meeker county, Minnesota, have invented certain new and useful Improvements in a Combined Anvil, Vise, and Drill, of which the following is a specification.

My invention relates to improvements in combination-tools; and the object of the invention is to provide a combination anvil, vise, and drill in a compact convenient form wherein each of the devices may be used with the same efficiency that they could be if constructed separately.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of an anvil with an ordinary vise-jaw attached thereto. Fig. 2 is a similar view showing the drilling attachment and the pipe-jaws. Fig. 3 is a plan view of a portion of the pipe-jaws. Figs. 4 and 5 are details showing the saw-vise jaws attached to the anvil and separated therefrom. Figs. 6, 7, and 8 are details of the drilling attachment and a vise-jaw. Fig. 9 is a side elevation of an anvil, the base being shown in section. Fig. 10 is a plan view of an anvil without the attachment. Fig. 11 is an end elevation of Fig. 10. Fig. 12 is a transverse section on the line $x\,x$ of Fig. 10. Fig. 13 is a similar view on the line $y\,y$ of Fig. 10.

In the drawings, 2 is the base of the anvil, having a face 3 and a horn 4 of the ordinary form and of any desired size. At its ends the anvil is recessed in its top and sides, forming sockets 5 and 6, wherein the attachments hereinafter described are supported. The base 2 is also provided with longitudinal recesses 8 in its lower part, wherein a bar or shank 8′ is adapted to slide, said bar being provided with flanges 9, resting upon the base between the upright guides 9′. Said bar or shank is recessed upon its under side and provided at its forward end with a preferably integral block 7, having a smooth hole or slot 9″, through which passes a horizontally-moving screw 10, having a lever 11 at its outer end and provided within the recess in said base with a nut 12, engaging a cross-bar 13, and a shoulder or projection 14, preferably formed integrally with the lower part of said base. The nut 12 corresponds substantially in cross-section to the diameter of the recess in the bar 8′. Consequently when the nut engages the cross-bar 13 and projection 14 it will be locked against movement in either direction, and the operator by moving the lever 11 may slide the bar 8′ in the guideway and draw the block 7 toward the end of the anvil. The block 7 is provided with a socket 15, corresponding to the sockets 5 and 6, heretofore described, and adapted to receive one of two normally-fixed but detachable jaws 16, the other correspondingly-shaped jaw being oppositely arranged in either the socket 5 or 6, according to the size of the article it is desired to place in the vise. These jaws are provided at their lower ends with U-shaped recesses 17, forming legs 18, which fit snugly in the sockets and project down upon either side of the anvil, whereby the jaws are held securely in position on the anvil while in use, though readily removable when it is desired to place other attachments in the sockets.

To clamp a saw-blade, I provide jaws 19, having long bearing-surfaces at their upper ends and corresponding at their lower ends to the jaws 16. These saw-blade jaws are usually arranged in the sockets 6 and 15, as shown in Fig. 4. I also provide a drilling attachment consisting of a standard 20, corresponding at its lower end to the vise-jaws 16 and carrying at its upper end a drill-spindle 21, mounted in bearings and provided with a crank 22, by means of which the drill may be revolved. I also provide a drill-rest 23, fitting into either of the sockets and supporting the article to be drilled. 24 is a pipe-jaw, also fitting the sockets upon the anvil and provided with a V-shaped recess in its face having serrated edges to clamp the surface of a pipe to prevent the same from turning. The drill-standard 20 is provided with a correspondingly-shaped jaw 25 opposite the jaw 24 and which moves back and forth with the block 7 as the screw is operated. It will be observed that when all these attachments are removed from the anvil the device is substantially like an ordinary anvil, and that the attachments may be quickly placed in position when needed for use and as readily re-

moved. The jaws 16 may be placed close together or at opposite ends of the anvil, and the same is true of the drilling attachment, and while the device can be used for a variety of purposes and takes the place of a number of cumbersome devices it is compact in form and extremely strong and durable in construction.

I do not limit myself to the details of construction of the devices shown and described, as the same may be varied without departing from my invention.

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

1. In a combined anvil, vise and drill, the combination, with an anvil having sockets in its face, of a bar slidably arranged in the base of said anvil and provided at or near its outer end with a socket substantially in the plane of the sockets in said anvil, a normally-fixed but detachable drill-rest 23 fitting either of the sockets in said anvil, a standard 20 fitting the socket in said bar, a drill-spindle mounted on said standard, said standard being provided with a pipe-jaw 25 and a second pipe-jaw 24 adapted to fit the socket in said anvil, substantially as described.

2. In a device of the class described, the combination, with an anvil having a socket in its face, of a bar slidably arranged in said anvil and provided with a socket 15 at or near its outer end, a standard 20 supported by said bar in said socket 15, a pipe-jaw 25 carried by said standard and a second pipe-jaw 24 adapted to fit the socket in said anvil, substantially as described.

In testimony whereof I have hereunto set my hand and seal, this 31st day of January, 1898, at Litchfield, Minnesota.

OLE H. HANSON. [L. S.]

In presence of—

AND. ELOFSON,

MORRIS ELOFSON.