

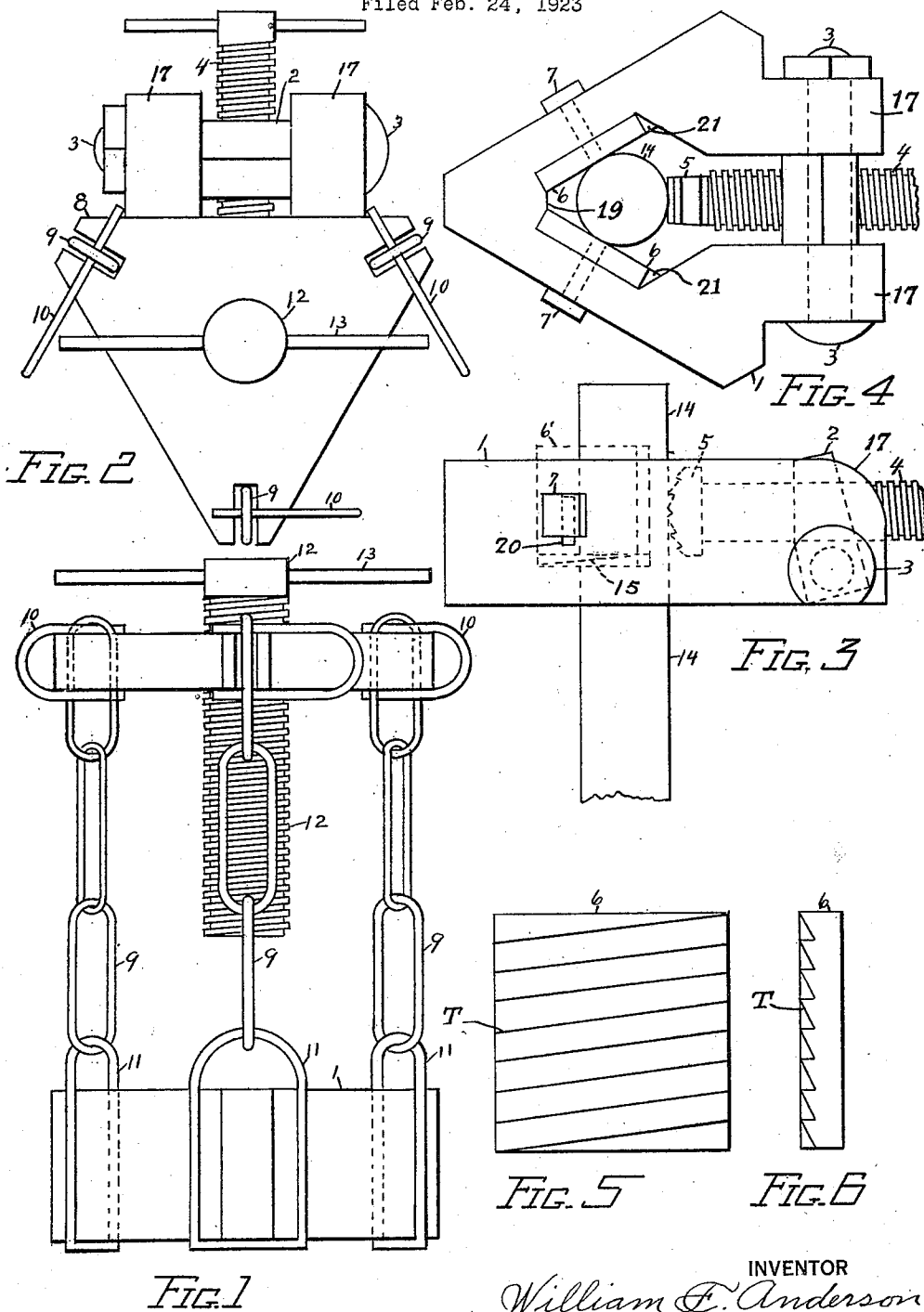
Jan. 1, 1924

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1,479,441

VICE

Filed Feb. 24, 1923



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UNITED STATES PATENT OFFICE.

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VISE.

Application filed February 24, 1923. Serial No. 621,045.

To all whom it may concern:

Be it known that I, WILLIAM F. ANDERSON, a citizen of the United States, and a resident of the city of Torrington, in the county of Goshen and State of Wyoming, have invented a new and useful Vise, of which the following is a specification.

My invention relates to vises for holding round shafts and has for its objects the provision of a vise of this class having adjustable means therein whereby any sized shaft (within its capacity) may be gripped and to afford facilities whereby the gripped shaft may be quickly released. Other objects will appear as the description progresses.

I do not confine myself to the precise form of the invention as hereinafter disclosed but wish it understood that various modifications and minor details of construction may be made within the scope of what hereinafter is claimed, without departing from the spirit of the invention.

Similar reference characters refer to like parts throughout the several views.

Figure 1 represents an elevation of the invention; Fig. 2, a plan view of Fig. 1; Fig. 3, an elevation of the body; Fig. 4, a plan view of Fig. 3; and Figs. 5 and 6, a front and end elevation, respectively, of a toothed jaw, drawn to an enlarged scale.

The invention comprises a body 1, having substantially a V groove 19 running vertically therein and apertures 20 in the sides thereof; ledges 21 extending horizontally inward at the lower end of said groove 19; lugs 17 extending horizontally from said body 1, said lugs having horizontal holes therethru at right angles thereto; a bolt 3 disposed in said holes; a block 2, having a threaded hole therein, mounted on said bolt 3; a threaded bolt 4, having a grooved head 5, screwed thru said threaded hole in block 2; jaws 6, having teeth T thereon the faces thereof being sloped downward toward the apex of groove 19, disposed vertically against the sides of groove 19; springs 15 disposed under jaws 6 and on ledges 21, adapted to lift said jaws to the position shown by the dotted lines 6'; and bolts 7 extending thru apertures 20 and into threaded holes in jaws 6; a plate 8, having slots in the corners thereof; chains 9 disposed in said slots and held by staples 10; stirrups 11 connected to chains 9 and supporting the

corners of body 1; and a screw 12 mounted in plate 8, having a lever 13.

Primarily the invention is intended to be used in connection with a pressure press, its function being to hold a shaft while a gear is forced thereon by the action of the press exerting a pressure of about thirty tons. When used in this connection, the body 1 is laid on the bed of said press; the shaft 14 placed between the jaws 6 and the bolt 4 screwed up until the grooved head 5 touches the shaft 14. As the shaft 14 moves slightly downward, the ridges formed between the grooves on head 5 engage the surface of shaft 14 and swings bolt 4 in an arc of a circle of which bolt 3 is the center and thereby produces a toggle effect which holds shaft 14 firmly against the teeth of jaws 6 and prevents further downward movement, thereby holding said shaft securely while a gear or collar is forced thereon. The shaft 14 may be released by swinging bolt 4 upward, or by lifting said shaft. The head 5 may be a swivel head or may be made integral with bolt 4. For use on jobs where a press is not available I provide a plate 8 having screw 12 and connect body 1 thereto by chains 9 as shown in Figs. 1 and 2. The shaft 14 is clamped in the same manner as above described and the screw 12 is used to force the gear or collar thereon. The jaws 6 move vertically as indicated in Fig. 3 and are held normally, by the pressure of spring 15, in the position shown by the dotted lines 6' but when shaft 14 is forced downward the jaws 6 also move downward thereby cutting into the shaft but not scraping said shaft.

I claim:

1. A vise of the class described, in combination, a horizontally disposed body adapted to be mounted on the bed of a pressure press, said body having substantially a V groove running vertically therein, and apertures in the sides thereof extending into said groove; ledges extending horizontally inward at the lower end of said groove; lugs extending horizontally outward from said body, said lugs having horizontal holes therethru at right angles thereto; a bolt disposed in said holes in said lugs; a block mounted on said bolt, said block having a threaded hole therethru; a threaded bolt screwed thru said threaded hole, said bolt having a grooved head; jaws, having

threaded holes therein and teeth thereon the faces of which slope downward toward the apex of said V groove, disposed vertically against the sides of said V groove bolts extending thru said apertures and screwed into the threaded holes in said jaws; and springs disposed under said jaws and on said ledges, adapted to lift said jaws; for the purposes set forth.

2. A vise of the class described, comprising a horizontally disposed body; toothed jaws disposed within said body; a threaded nut pivoted within said body; a threaded bolt, mounted within said threaded nut, having a toothed head thereon, a horizontally disposed plate disposed above said body, having a threaded hole therein; vertically disposed chains connecting said body and said plate; and a vertically disposed threaded shaft mounted in said threaded hole; for the purposes set forth.

3. A vise of the class described, in combination, a body adapted to be mounted horizontally on the bed of a pressure press, said body having substantially a V groove running vertically therein; ledges extending inwardly from said body at the lower end of said V groove; lugs extending outwardly from said body and having horizontal holes therein; a bolt mounted in said holes; a block, having a threaded hole therethru, mounted on said bolt; a threaded bolt screwed thru said threaded hole in said block; and jaws, having teeth thereon, disposed vertically against the sides of said groove above said ledges; for the purposes set forth.

4. A vise of the class described in combination, a body adapted to be mounted horizontally on the bed of a pressure press, said body having substantially a V groove running vertically therein and apertures in the sides thereof opening into said groove; lugs, having horizontal holes therethru, extending from said body a bolt mounted in said horizontal holes; a block, having a threaded hole therethru, mounted on said bolt; a threaded bolt screwed thru said threaded hole; jaws disposed vertically against the sides of said

groove; bolts extending thru said apertures and into said jaws; and springs adapted to lift said jaws; for the purposes set forth.

5. A vise of the class described, in combination, a body adapted to be mounted horizontally on the bed of a pressure press, said body having substantially a V groove running vertically therein; lugs, having horizontal holes therethru, extending from said body a bolt mounted in said holes; a block, having a threaded hole therethru, mounted on said bolt; a threaded bolt screwed thru said threaded hole; jaws disposed vertically against the sides of said V groove in said body; and bolts extending thru the sides of said body and into said jaws; for the purposes set forth.

6. In a vise of the class described, in combination, a horizontally disposed body; vertically disposed toothed jaws mounted within said body; a horizontally disposed plate disposed above said body; a threaded shaft mounted in said plate; and chains connecting said body and said plate; for the purposes set forth.

7. In a vise of the class described, in combination, a body adapted to be disposed horizontally on the bed of a pressure press, said body having substantially a V groove running vertically therein and two lugs thereon; a block, having a threaded hole therethru, rotatably mounted between said lugs; and a threaded bolt screwed thru said threaded hole in said block; for the purposes set forth.

8. In a vise of the class described, in combination, a body adapted to be horizontally disposed on the bed of a pressure press, said body having substantially a V groove running vertically therein and a pair of lugs extending horizontally therefrom; a block rotatably mounted between said lugs, said block having a threaded hole therethru; a threaded bolt screwed thru said threaded hole in said block; and a pair of jaws disposed vertically against the sides of said V groove; for the purposes set forth.

WILLIAM F. ANDERSON.