

No. 749,257.

PATENTED JAN. 12, 1904.

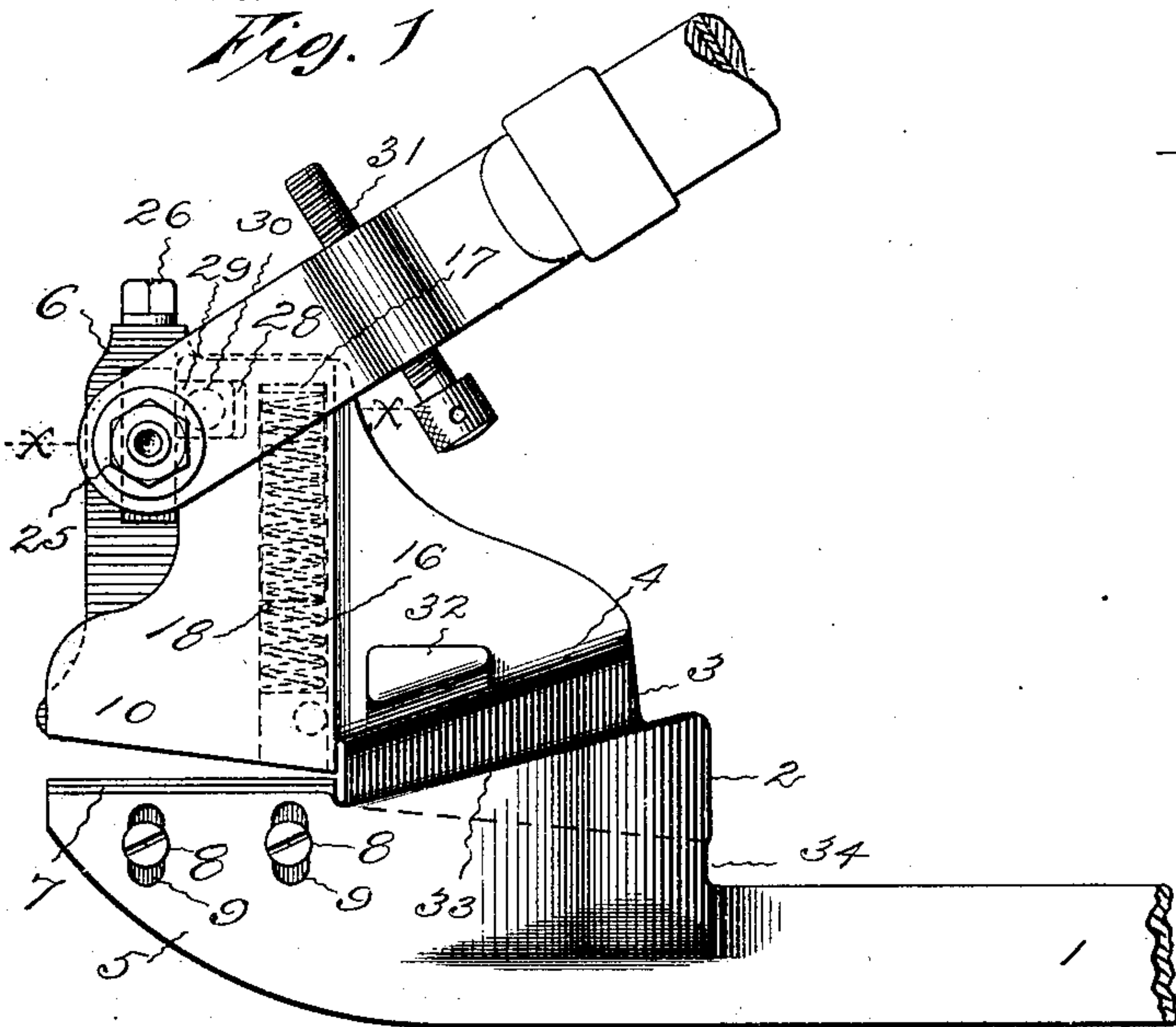
G. J. CAPEWELL.

BENCH SHEARS.

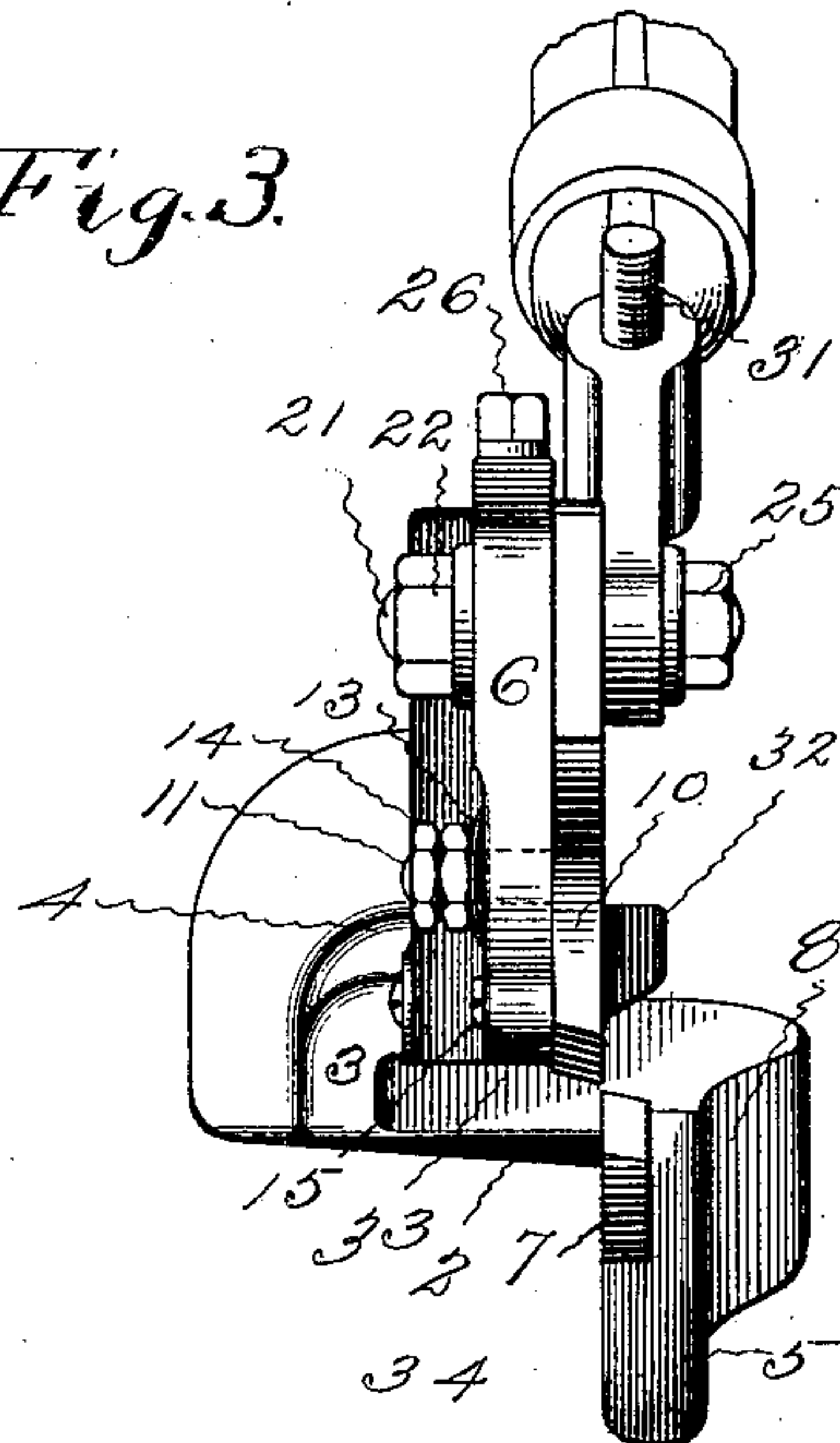
APPLICATION FILED JUNE 14, 1902.

NO MODEL.

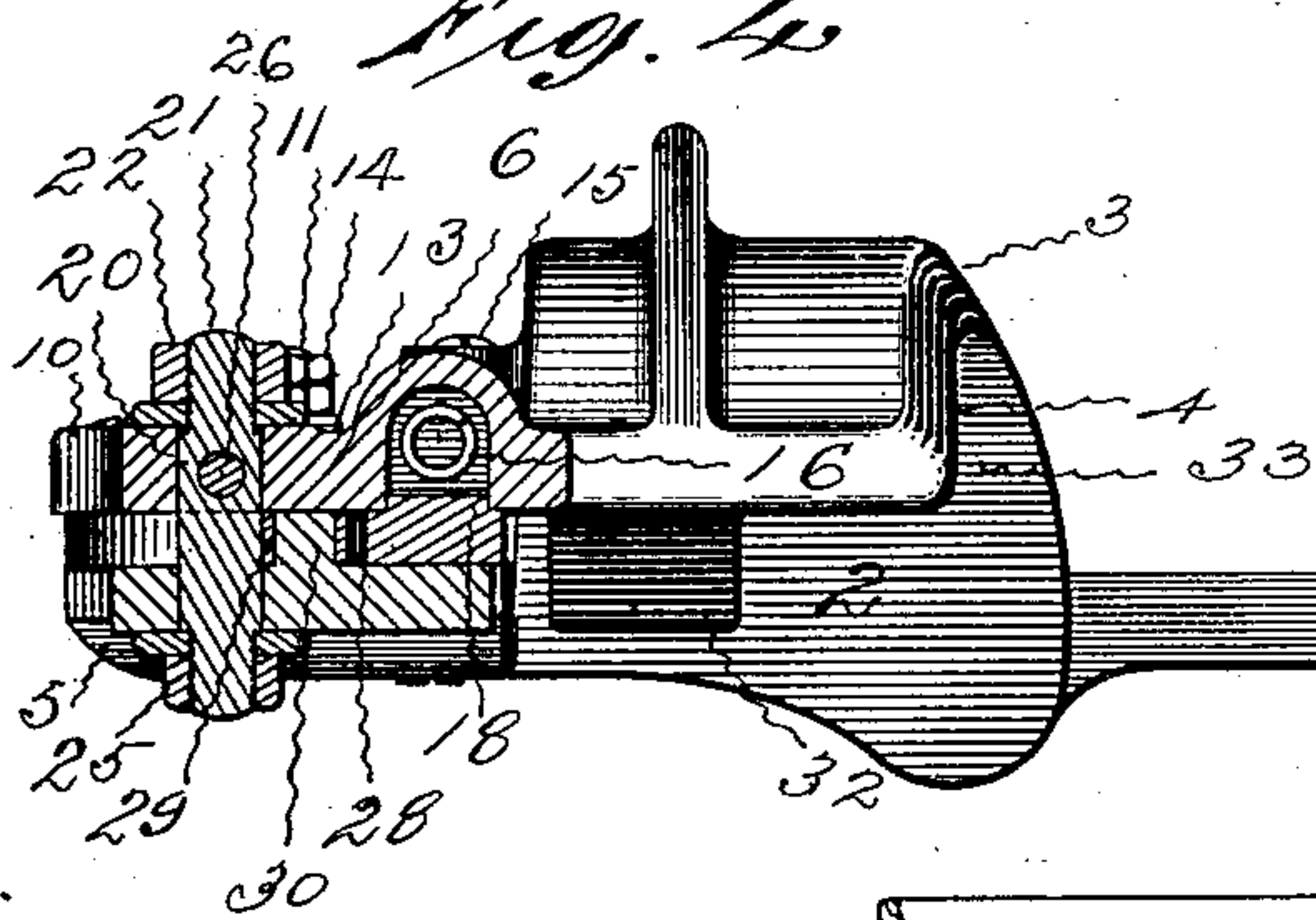
*Fig. 1*



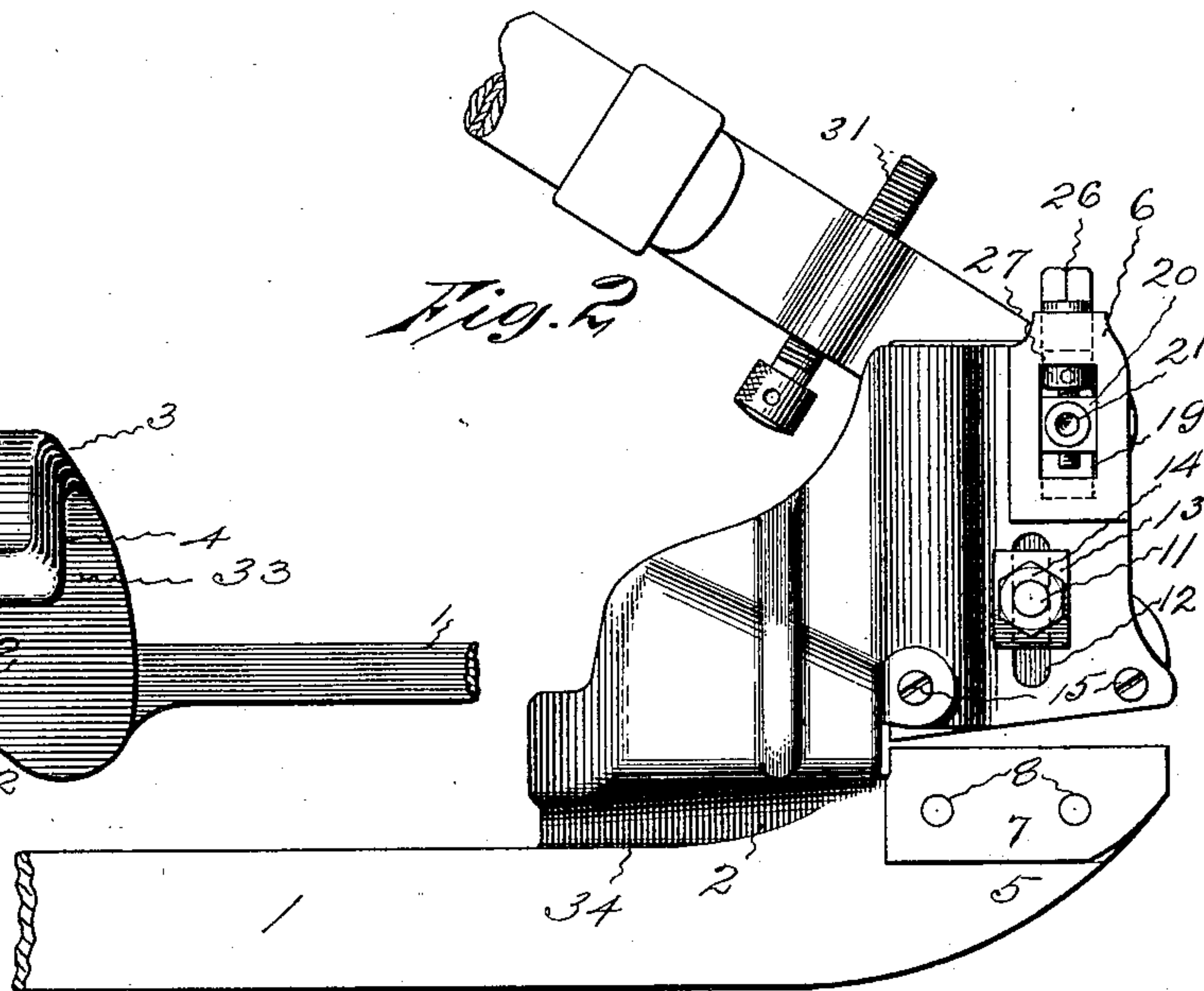
*Fig. 3*



*Fig. 4*



*Fig. 2*



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

GEORGE J. CAPEWELL, OF HARTFORD, CONNECTICUT.

## BENCH-SHEARS.

SPECIFICATION forming part of Letters Patent No. 749,257, dated January 12, 1904.

Application filed June 14, 1902. Serial No. 111,606. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE J. CAPEWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bench - Shears, of which the following is a specification.

This invention relates to the construction of a portable bench-shears.

The object is to produce a powerful shears with blades that have an easy, fine, and extended adjustment and are so supported that curved or flat sheet metal can be conveniently sheared into long strips or can be notched or cut into various more or less intricate designs without being bent out of shape.

The shears that is illustrated as embodying the invention has a supporting bench-bar with a double offset frame, the lower part of which has an adjustable fixed blade, while the upper part has an opposing reciprocatory blade, also an opening containing an adjustable block, that has a pivot which supports the handle-lever, that is loosely connected with the movable blade.

Figure 1 of the drawings shows an elevation of one side of the shears, with the bench-bar and handle broken off. Fig. 2 shows a similar view of the other side. Fig. 3 shows an end elevation looking from the front, and Fig. 4 shows a horizontal section on the plane indicated by the broken line *xx* of Fig. 1.

The bench bar or support 1, which may be of any size and shape, is preferably cast integral with the offset frame. This frame rises a little above the bar, has a substantially horizontal section 2 extending a considerable distance beyond the side of the bar from which it starts, has a short vertical section 3, that rises from the outer end of the lower horizontal section, and has a horizontal section 4, that extends toward the bar above the lower horizontal section. Extending forwardly from the lower section of the frame and in line with the bench-bar is a vertical section 5, and extending forwardly from the upper section one side of the front end of the lower section is a vertical section 6. The fixed blade 7 is set into one face of the lower vertical section of the frame and adjustably secured by screws

8, that pass through slots 9 into the blade. The movable blade 10 is held against the face of the upper vertical section of the frame by a stud 11, that projects from the back face of the blade through a slot 12, and on the other side of the frame has a spring-washer 13 and set and clamp nuts 14. Screws 15 butt against the inner face of the movable blade, so as to align its cutting edge with the cutting edge of the fixed blade. A spring 16 is located in a socket in the inner face of the upper vertical section of the frame back of the blade, so as to thrust against a lug 17, that extends from the back of the blade into the socket above the upper end of the spring. The movable blade, which is normally held lifted by the spring, has a small tongue 18 on its back face that extends into the spring-socket. This tongue extending into the spring-socket and the holding-stud extending through the slot in the frame guide the blade in its vertical reciprocatory movement.

In an opening 19 through the upper vertical section of the frame is a block 20. On the back side this block has a threaded stud 21 for the reception of a washer and clamp-nut 22, and on the front side this block has a stud which forms the pivot 23 of the handle-lever 24. The front end of the pivot-stud is threaded for the reception of a washer and clamp-nut 25. The opening 19 is larger vertically than the part of the block 20 that occupies the opening, and a screw 26 extends vertically through a perforation in the top of the frame into the opening and through a threaded perforation in the block. This screw has a collar 27 to hold it in place in the frame, and when the screw is turned the block, with the pivot-stud, is moved vertically up or down in the opening in the frame, according to the direction the screw is turned. Consequently the pivot of the handle may be adjusted vertically by means of this screw and then clamped in exact position by the washers and clamp-nuts.

There is a mortise 28 in the front edge of the movable blade and fitting this mortise vertically but not horizontally, so as to be movable horizontally, independently of the blade, is a perforated block 29. A stud 30 pro-



jects from the back of the handle-lever into the perforation in this block, so that the oscillation of the handle gives a vertical reciprocation to the movable blade. A stop-screw 31 is arranged in a threaded perforation through the handle-lever, so its head will engage the lug 32, projecting from a part of the frame for the purpose of limiting the downward movement of the handle.

The lower fixed blade of this shears is adjustable vertically, and the upper reciprocatory blade is adjustable transversely, so that the cutting edges may be properly alined. The pivot of the handle is adjustable, so that the best possible effect of the movement of the handle may be obtained, and the connection between the handle and the blade is so near the pivot of the handle that the most powerful leverage results, while that connection is made in such manner that the strong blade is firmly held in position against the face of the frame while a heavy piece of metal is being cut. The downward movement of the handle is terminated by the contact of the adjustable stop-screw with the stop-lug on the frame. The blades are attached to the front ends of the frame of this shears in such manner that there is space each side of the blades and a clear way to the rear in line with them both above and below the plane of their cutting edges. By reason of this, long sheets of metal of any ordinary widths can be cut without being bent out of shape, one piece of the cut passing to the rear through the space 33 above the lower horizontal section of the frame and the other

piece passing through the space 34 below the lower horizontal section.

Curved pieces, as sections of stovepipe, and spiral or pieces otherwise curved or bent may be readily cut into strips or notched by this shears, the double offset design of the frame and the arrangement of the blades permitting the metal to be twisted and turned to accomplish the desired cut.

I claim as my invention—

A portable shears having a frame consisting of a supporting-bar, a section that extends horizontally from one side of the bar, a section that rises vertically from the edge of the horizontal section distant from the bar, a section that extends horizontally toward the bar from the upper edge of the vertical section, a vertical section extending forwardly from the lower horizontal section and a vertical section extending forwardly from the upper horizontal section, with a blade fixed to the lower forwardly-extending vertical section, a blade movably held against the upper forwardly-extending vertical section, said blades being forward of and extending at right angles to the opening between the horizontal sections of the frame, and a handle pivoted to the frame and connected with the movable blade so as to have a movement parallel with the movable blade, substantially as specified.

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Witnesses:

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