No. 726,246. PATENTED APR. 28, 1903.

J. M. BIRTELS.

SAW GUMMER.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.

Fig. 1.

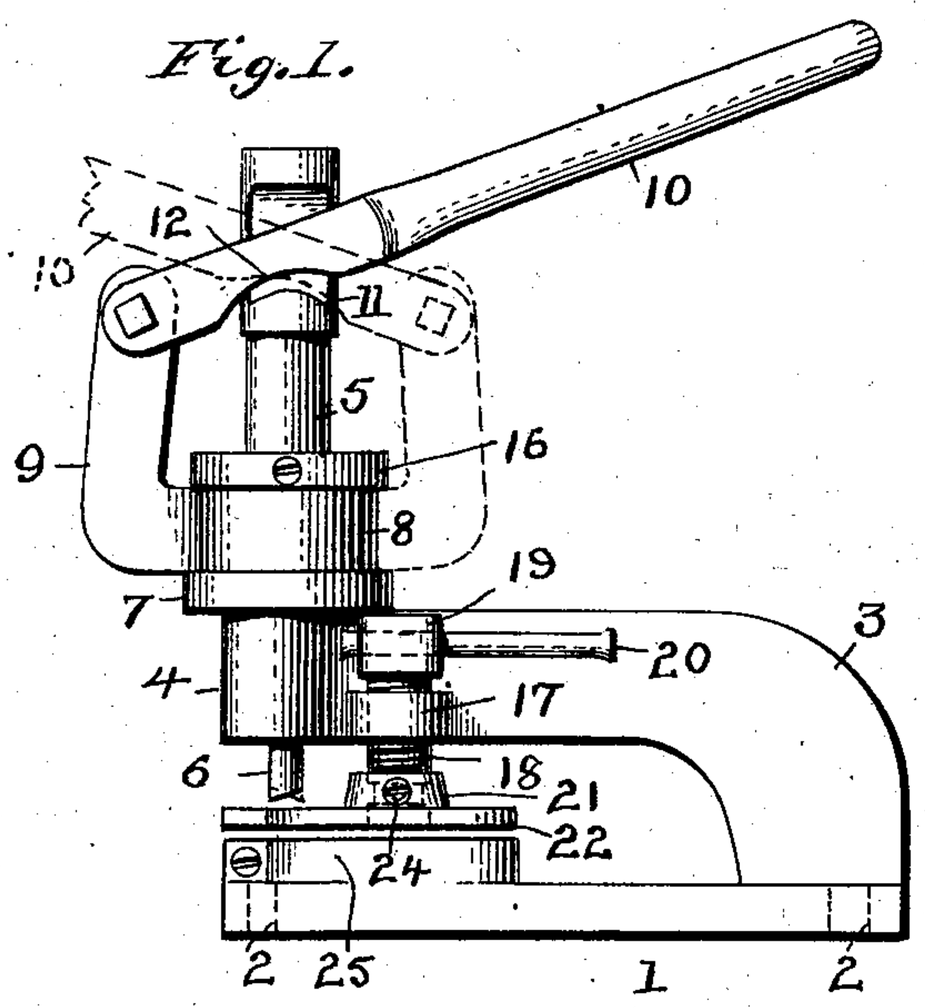



Fig. 2.

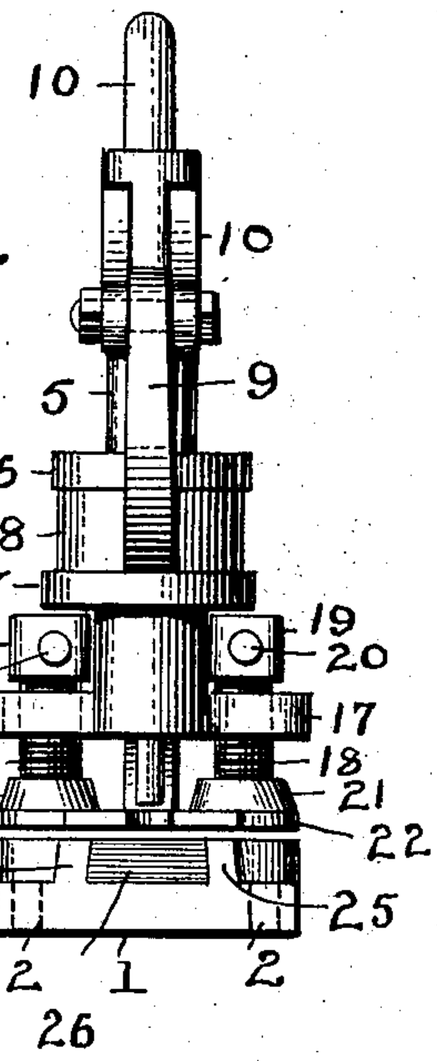



Fig. 3.

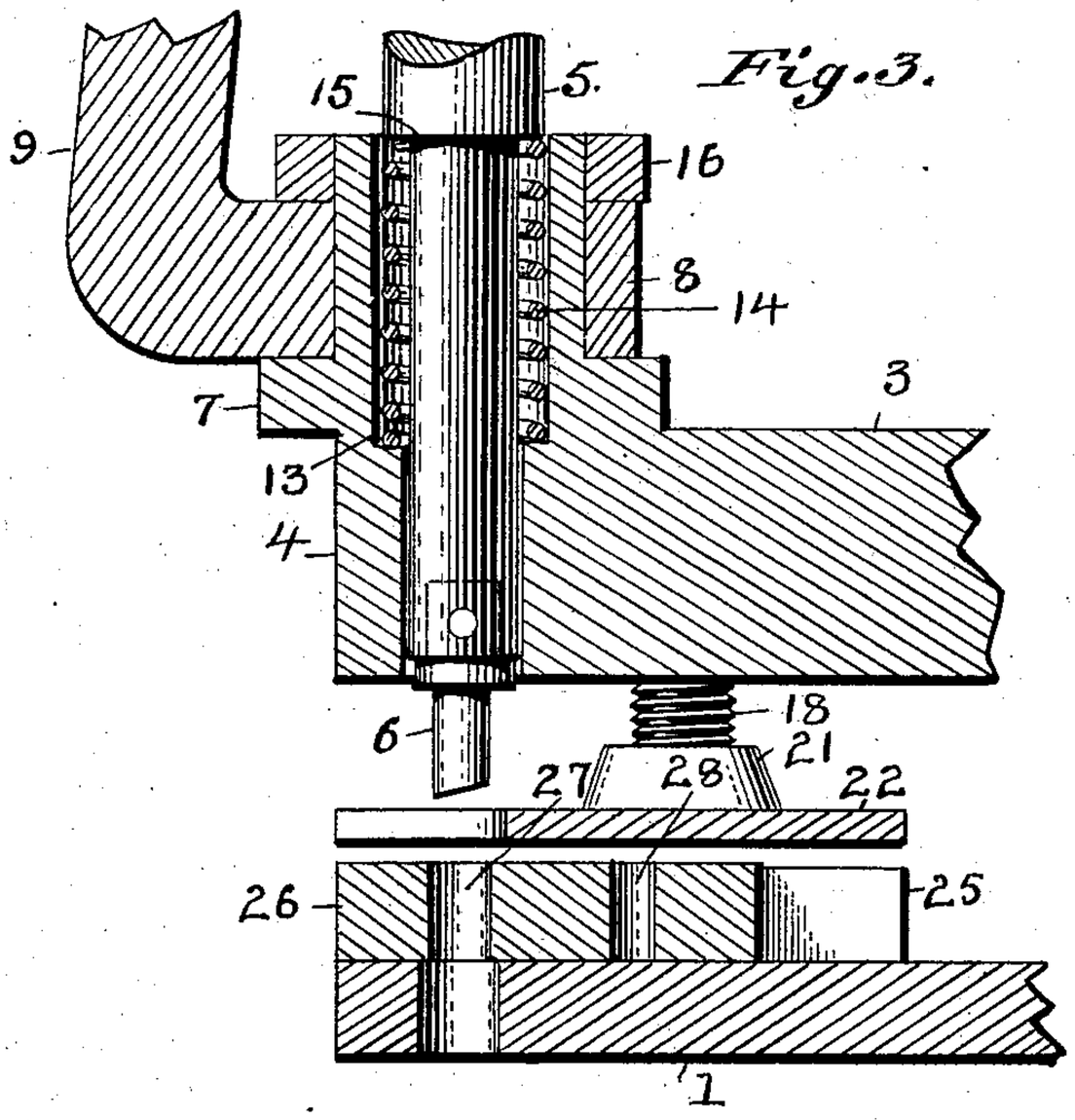
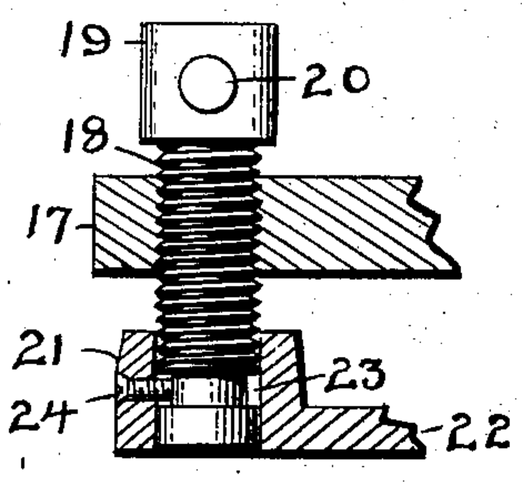



Fig. 4.




Witnesses
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# UNITED STATES PATENT OFFICE.

JOHN M. BIRTELS, OF CASS LAKE, MINNESOTA.

## SAW-GUMMER.

SPECIFICATION forming part of Letters Patent No. 726,246, dated April 28, 1903.

Application filed June 12, 1902. Serial No. 111,381. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. BIRTELS, a citizen of the United States, residing at Cass Lake, in the county of Cass and State of Minnesota, have invented certain new and useful Improvements in Saw-Gummers, of which the following is a specification.

My invention relates to saw-gummers; and its primary object is to provide a device of this character of simple and durable construction and capable of such adjustments as to adapt it for a wide range of work.

A further object of the invention is to provide effective means for clamping the saw firmly while it is being subjected to the action of the punch to avoid buckling.

Another object is to provide a punch adapted to give a shearing cut and means for revolving the punch.

A still further object of the invention is to provide improved means for supporting and manipulating the punch, whereby both leverage and striking pressure may be applied to the punch.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form part of this specification, and its novel features will be particularly pointed out in the appended claims.

Referring to the drawings, in which similar numerals of reference are used to denote similar parts in each of the several views, Figure 1 is a side elevation of the device, the adjustability of the operating-lever and its supporting means being illustrated by dotted lines. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section on an enlarged scale and partly broken away; and Fig. 4 is a detail vertical section, also on an enlarged scale, through one of the screws of the clamping-plate.

The reference-numeral 1 designates the base of the gummer, formed with screw-holes 2 at its corners to adapt it to be screwed upon a bench or other support.

Rising from the base 1 is an overhanging arm 3, formed at its forward end with a head 4, which is vertically bored to serve as a guideway for the plunger 5, which carries at its lower end the removable punch 6.

The head 4 of the arm 3 is provided with an annular flange 7, which serves as a support for a revoluble yoke, comprising a ring 8 and an upwardly-projecting angle-arm 9.

10 designates the operating-lever of the device, which is bifurcated at one end to adapt it to straddle the upper portion of the plunger 5 and pivotally secured to the upper end of the yoke-arm 9. The plunger 5 is recessed on opposite sides below its upper end to form cam-shaped shoulders 11, upon which the lever bears, the under surface of the lever being hollowed out, as seen at 12, to conform to the contour of the shoulders 11. The recesses of the plunger also permit the required movement of the plunger independently of the lever. The boring out of the head 4 provides an annular shoulder 13, upon which rests the lower end of a coil-spring 14, which surrounds the upper portion of the plunger and bears at its upper end against an annular shoulder 15, formed on the plunger.

A removable collar 16 surrounds the upper end of the head 4 to support the revoluble yoke in position.

Projecting from opposite sides of the arm 3 are two ears 17, bored and internally threaded to receive screws 18, the heads 19 of which are each formed with a horizontal opening to receive a longitudinally-sliding lever-handle 20, by means of which the screws are turned. The lower ends of the screws 18 rest within sockets 21, formed on a clamping-plate 22, and each of said screws is formed near its lower end with an annular groove 23, into which project set-screws 24, the function of these screws 24 being to secure the clamping-screws within the sockets without preventing their turning therein.

Projecting from the front end of the base 1 are two parallel guide-blocks 25, the inner sides of which incline toward each other, so as to form a wedge-shaped opening, in which is secured the die 26, the latter being formed with two openings 27 and 28 of different size and adapted to be reversed end for end to bring either of the openings into alinement with the punch, as is best shown in Fig. 3. The die 26 is forced in between the guide-blocks 25 and is firmly and snugly held in place therein. When it is desired to bring

into position for use an opening of a different size, all that is necessary is to force the die out and reverse same.

The utility and operation of the improvement will be readily understood. The saw is placed between the die and clamping-plate and by means of the screws 18 is firmly clamped and so closely surrounds the punch that it causes it to cut clean and not drag the saw through the die-hole or buckle it. The lever is then depressed to bring the punch into contact with the saw, after which a blow with a mallet upon the upper end of the plunger completes the work.

It will be noted that the lower end of the punch is slightly beveled, so that the cut is of a shearing character as distinguished from a straight vertical cut, and by revolving the plunger and punch by means of the lever the proper position of the punch with relation to the saw-teeth can be secured. By means of the lever the punch, with its beveled edge, may be revolved around the cut, and at different points the head of the plunger may be struck lightly and the cut started and the plunger then turned to the desired position and struck hard enough with a mallet to drive the punch through the saw-blade. In this way and by my device a saw may be gummed that is so hard it would break if you undertook to cut it out with a single blow from one position.

While the construction of the clamping-screws shown is well adapted for the purpose in view, I would have it understood that the invention is not restricted to any specific means for clamping the plate 22 or to the other details shown and described, but that I reserve the right to make all such variations in the detail features of the device as may fall within the scope of the following claims.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a saw-gummer the combination with a base-plate, of an overhanging arm, a vertically-guided revoluble plunger carrying a punch having a beveled cutting edge, a clamping-plate and an operating-lever.

2. In a saw-gummer the combination with a base-plate, of an overhanging arm, a die, a clamping-plate above the die, a vertically-guided spring-controlled plunger carrying a punch having a beveled cutting edge, and means for depressing and revolving said plunger.

3. In a saw-gummer, the combination with a vertically-guided spring-controlled revoluble plunger, of a lever straddling the plunger, and means for supporting and guiding said lever in its revoluble movement.

4. In a saw-gummer, the combination with a base and an overhanging arm formed with a vertical guideway, of a die, a clamping-plate above the die, screws on opposite sides of said arm for clamping the plate, and a vertically-movable revoluble plunger, and means for revolving said plunger.

5. In a saw-gummer the combination with a base-plate, of an overhanging arm, a die, a clamping-plate above the die, a vertically-guided plunger recessed near its upper end and carrying a punch having a beveled cutting edge, a ring surrounding the plunger and provided with an upwardly-projecting angle-arm and an operating-lever straddling said plunger at said recesses and pivoted to said angle-arm, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. BIRTELS.

Witnesses:
W. T. McKEOWN,
B. H. SCOTT.