No. 682,277. Patented Sept. 10, 1901.

J. V. RISK.

SAW CLAMP.

(Application filed Dec. 17, 1900.)

(No Model.)

Fig. 3.

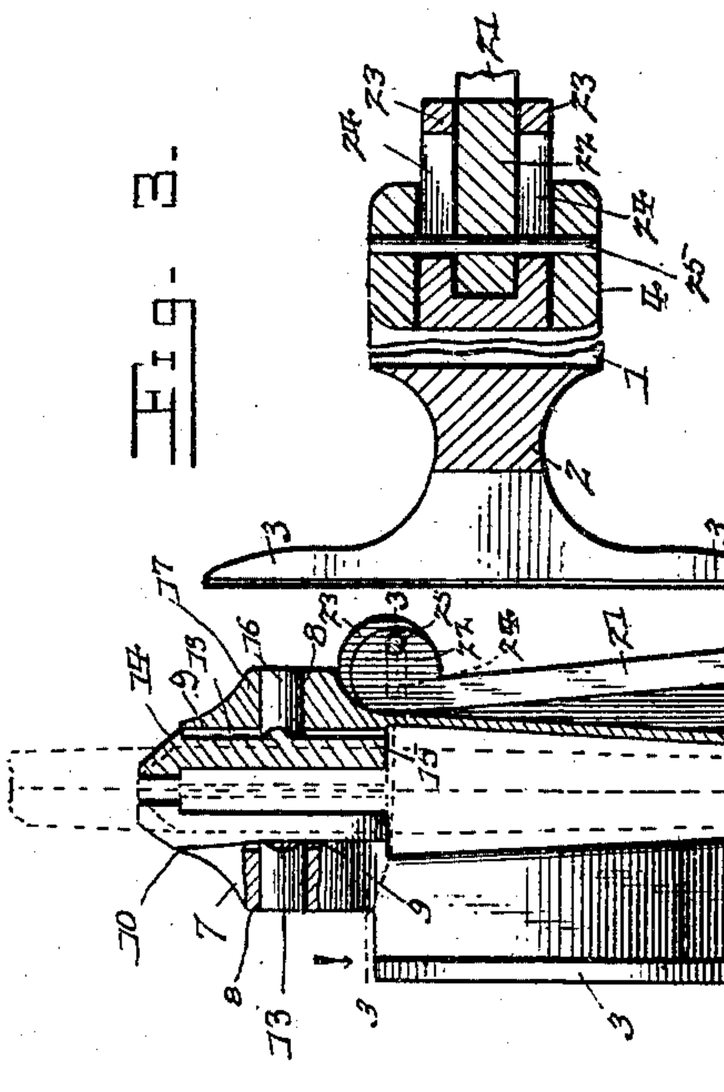


Fig. 4.

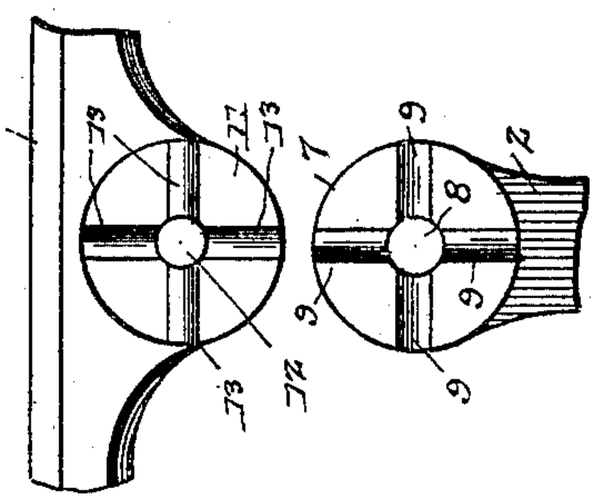
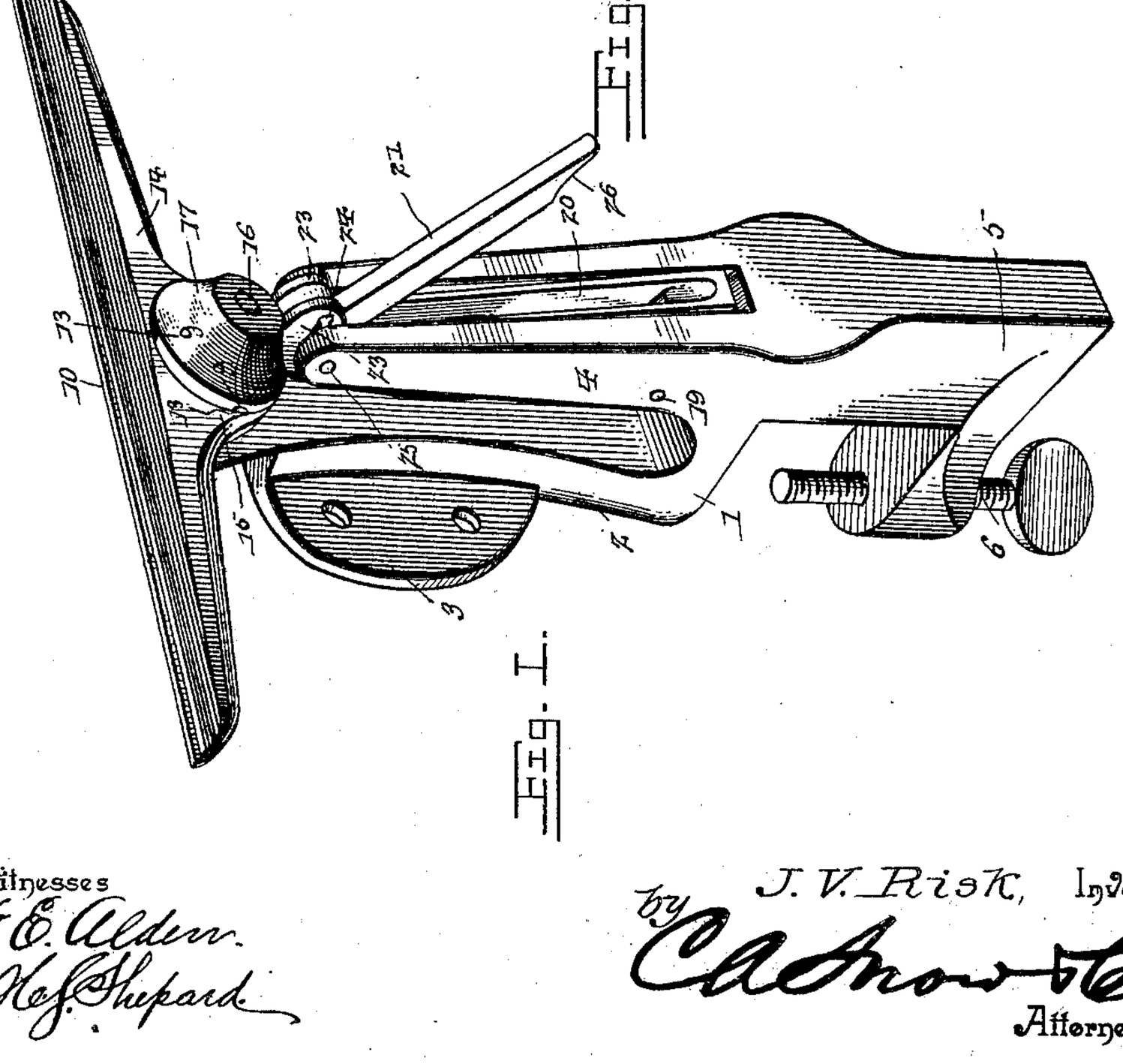


Fig. 2.

Fig. 1.



Witnesses
F. E. Alden.
Ha. J. Shepard.

J. V. Risk, Inventor.
by Church & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JAMES VINTON RISK, OF MONROE, LOUISIANA.

SAW-CLAMP.

SPECIFICATION forming part of Letters Patent No. 682,277, dated September 10, 1901.

Application filed December 17, 1900. Serial No. 40,213. (No model.)

To all whom it may concern:

Be it known that I, JAMES VINTON RISK, a citizen of the United States, residing at Monroe, in the parish of Ouachita and State of Louisiana, have invented a new and useful Saw-Clamp, of which the following is a specification.

This invention relates to clamps or vises, and has for its object to provide an improved device of this character which is especially designed for holding a saw-blade while sharpening or setting the teeth thereof and arranged for conveniently clamping and removing the saw from the device.

It is furthermore designed to secure a firm and rigid clamping action for the jaws, so as to prevent looseness of the saw-blade under the sharpening or setting operation, and to arrange for folding the jaws, so as to reduce the size of the device in order that it may be conveniently packed away in a tool-chest or elsewhere.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a saw-clamp constructed and arranged in accordance with the present invention. Fig. 2 is an elevation thereof, partly in section, to show the mounting of the movable jaw and the means for operating the same. Fig. 3 is a detail enlarged sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a detail elevation of the opposing faces of the jaw and its stem, showing the means for fixedly holding the jaw in its operative and folded positions.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, it will be seen that the device comprises a substantially V-shaped body 1, of which the back member 2 is provided with the opposite laterally-projecting perforate ears 3, which form an attaching-plate for securing the clamp against the side of the leg of a bench or other support. The other member 4 of the body is provided with a longitudinal bifurcation, within which are mounted the means for operating the movable clamping-jaw. A substantially L-shaped fixed clamping-jaw 5 is pendent from the bottom of the body and at the outer side thereof, and a thumb-screw 6 passes through the horizontal or transverse member of the jaw and projects toward the bottom of the body, so as to coöperate with the bottom of the body and form a clamp for engagement with the edge of a bench to support the device in such instances where the attaching-plate 3 cannot be used. The upper end of the inner member 2 is formed into a circular or segmental head 7, as best shown in Fig. 2 of the drawings, and provided with a central circular opening 8, located in the plane of the two members of the body. The inner face of this head is flat and is provided with a plurality of radial grooves or recesses 9. The relatively-fixed jaw 10 is of common form and is provided with a central pendent segmental ear 11, from the center of the outer side of which projects a pivot-pin 12, which is mounted to turn within the corresponding socket or opening 8 in the fixed head of the body, whereby the jaw is mounted to be swung vertically upon an intermediate axis. The outer face of the segmental ear is provided with a plurality of radial ribs or projections 13, corresponding to the grooves in the head and designed to fit snugly therein in the opposite positions of the jaw, whereby the latter is fixed against accidental movement. The movable jaw 14 is a substantial duplicate of the fixed jaw and like the latter is provided with an intermediate pendent segmental ear 15, having a central outwardly-directed pivot-pin 16, which is pivotally received within a corresponding opening or socket in the center of a segmental head 17, carried at the upper end of the stem 18, that is mounted in the bifurcation of the outer member of the body. The opposing faces of the ear 15 and the head 17 are provided with the corresponding ribs and grooves as described for the fixed jaw, whereby both jaws may be fixedly held upon their pivotal sup-

ports in their horizontal operative positions, as shown in Figs. 1 and 2, and in their folded or inoperative positions, as shown by dotted lines in Fig. 2. It will now be noted that the space or bifurcation between the opposite members of the body is equal or slightly longer than one-half of the length of each jaw, so that the latter may be turned downwardly into the bifurcation when not in use, so as to reduce the transverse extent of the device for convenience in storage and transportation. As best shown in Fig. 2 of the drawings, the stem of the movable jaw extends nearly to the bottom of the bifurcation in the body member 4 and is pivotally mounted therein upon a transverse pivot-pin 19, located adjacent to the lower end of the stem, so that the latter is designed to rock back and forth, and thereby move the jaw 14 toward and away from the fixed jaw. In the outer face of this stem, which is accessible through the outer side of the bifurcation in the outer body member, there is formed a longitudinal groove 20, which opens upwardly through the top of the stem and is designed for the reception of a clamping cam-lever 21, that has a cam-head 22 at its upper end, which is mounted eccentrically between opposite outwardly-directed bearing ears or flanges 23, formed at the top of the stem 18. These ears have corresponding slots 24, best shown in Fig. 3 of the drawings, for the reception of the pivot-pin 25, which passes through the opposite sides of the body member 4, and also through the cam-head of the lever to form the pivotal support therefor. Thus the clamping cam-lever is pivotally supported or fulcrumed upon the fixed body, and the inner peripheral edge of the cam-head frictionally engages the back of the groove in the rocking stem 18, so that by throwing the lever downwardly the cam-head will force the rocking stem inwardly upon its pivotal support 19 as a center, thereby carrying the movable jaw 14 toward the fixed jaw to clamp a saw-blade or other object between the two jaws. The upper end of the stem is free to swing to a limited degree through the means of the transverse slots 24, which receive the pivot-pin of the clamping cam-lever. In the closed position of the jaws the clamping-lever is housed flush with the outer edge of the rocking stem, so as to prevent accidental releasing of the jaws and to facilitate the release of the lever. The inner side of its free extremity is beveled, as at 26, so that a pointed instrument or a finger-nail may be inserted through the bottom of the groove in the stem and behind the lever to pry the latter out of the groove, when it may be readily swung upwardly to release the jaws. When the clamping-lever is released, the jaws are free to be turned upon their pivotal supports, and when the lever is in its locked position the jaws are firmly clamped together, and the radial grooves and ribs of the jaws and the heads are registered to hold the jaws against accidental movement upon their pivot-pins.

What is claimed is—

1. A clamp, comprising opposite fixed and movable members, having corresponding heads, each of which has a socket or opening in its inner face and grooves radiating from the socket, opposite jaws, each of which has a laterally-projecting pivot-pin mounted in the socket of the adjacent head, and radial ribs corresponding to the radial grooves, and means for moving the movable member toward the fixed member to clamp the jaws together.

2. A clamp, comprising a body having opposite fixed members, of which one is bifurcated, a fixed jaw carried by the other member, a rocking stem mounted in the bifurcation of the one member, and carrying a jaw coöperating with the fixed jaw, the outer face of the stem having a longitudinal groove, a cam clamping-lever having its cam-head received within the groove of the stem and frictionally bearing against the back of the groove, and a pivot-pin passing transversely through the sides of the bifurcated member the stem and the cam-head, the side walls of the groove in the stem having corresponding transverse slots receiving the pivot-pin, whereby the single pivot-pin forms a guide for the free swinging end of the stem and a pivotal support for the cam clamping-lever.

3. A saw-clamp, comprising a substantially V-shaped body having its outer member bifurcated, a bench-clamp at the lower end of the body, a relatively-fixed jaw rotatably mounted upon the inner body member and constructed to swing down into the space between the two body members, the opposing faces of the jaw and the body having interlocked engagements at the opposite positions of the jaw, a rocking stem pivotally supported at its lower end within the bifurcation of the outer member, and provided in its outer face with a longitudinal groove, the upper end portions of its side walls having corresponding transverse slots, a clamping-lever located within the groove, and having its upper end provided with a cam-head, a pivot-pin passing through the opposite sides of the bifurcated member, the slots of the stem and eccentrically through the cam-head, the latter working against the back of the groove in the stem, and a jaw rotatably mounted upon the upper inner end of the stem, constructed to swing downwardly into the space between the two body members, and having opposite interlocked engagements with the stem.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES VINTON RISK.

Witnesses:

HENRY BENDEM,

H. T. SMOOT.