No. 675,236. Patented May 28, 1901.

J. I. NEWBURG.

SAW SET AND GUMMING MACHINE.

(Application filed Nov. 30, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

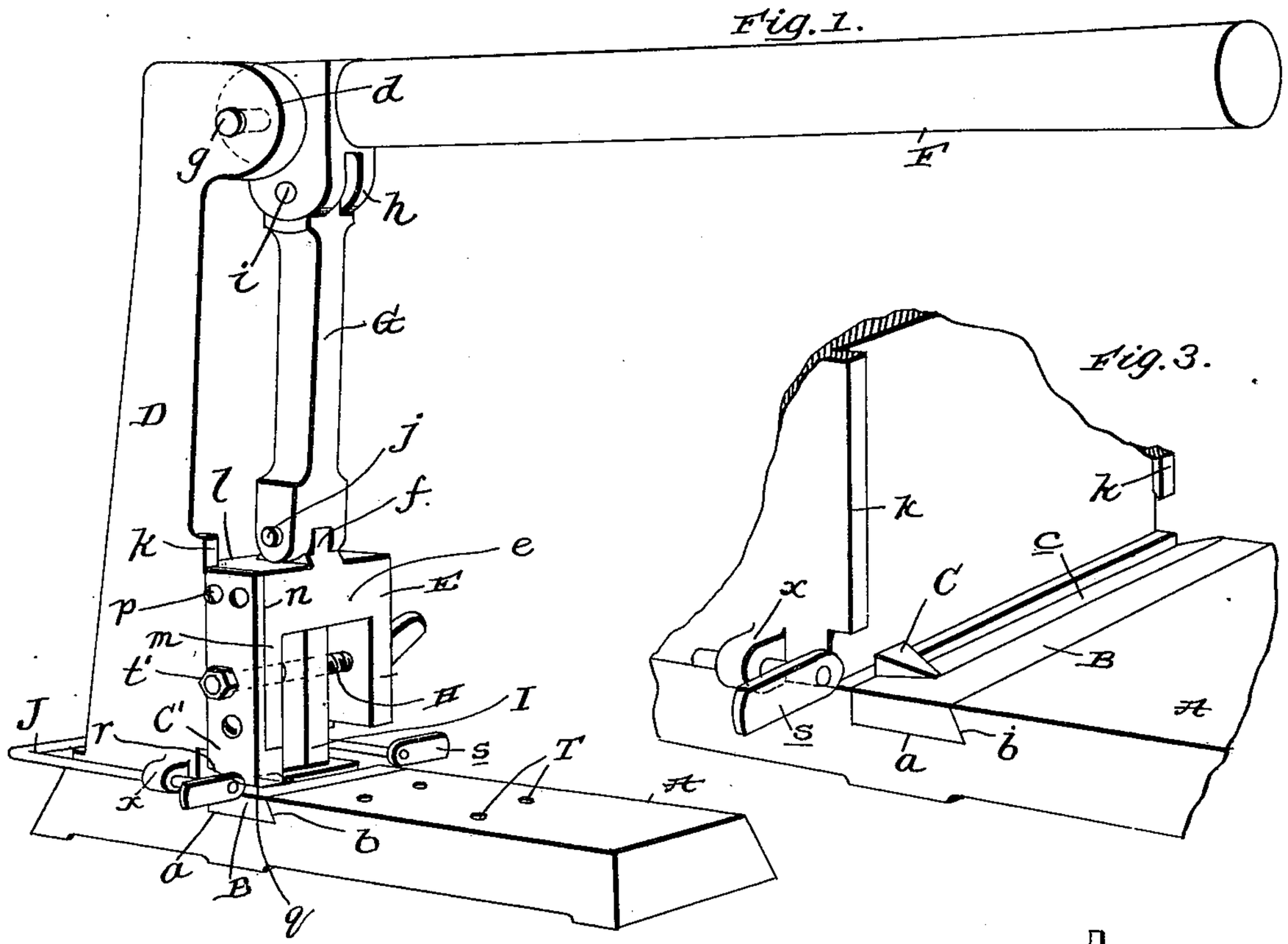


Fig. 3.

Fig. 5.

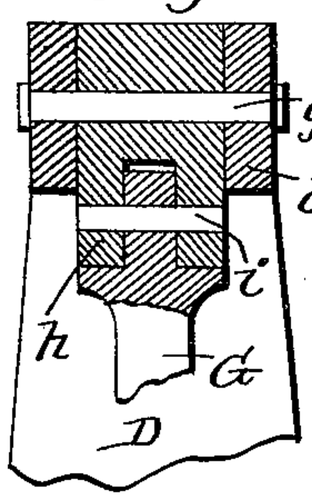
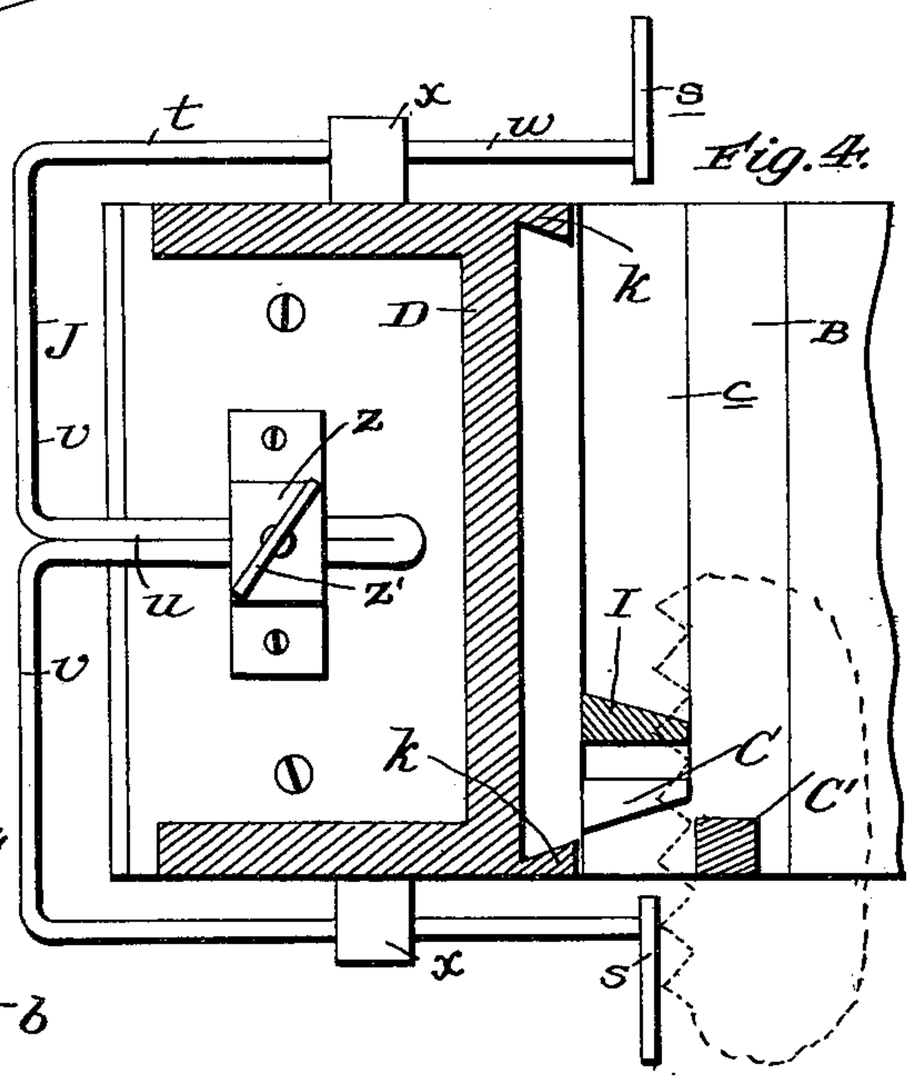


Fig. 2.

Fig. 4.



Witnesses!
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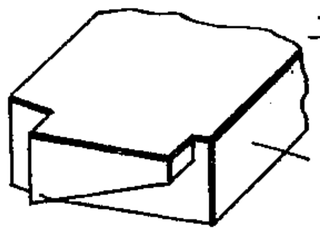
Fig. 6.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 7.

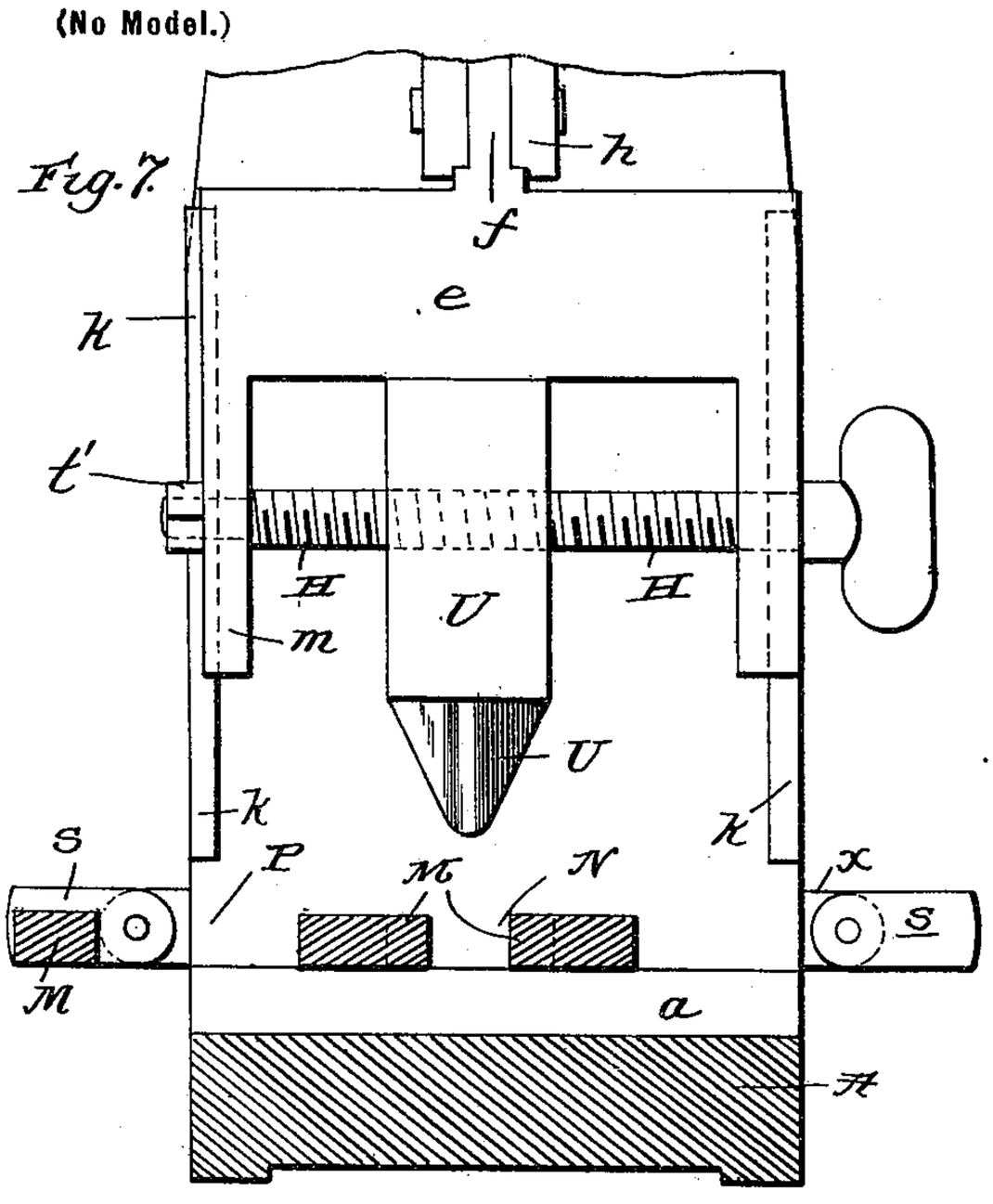


Fig. 10.

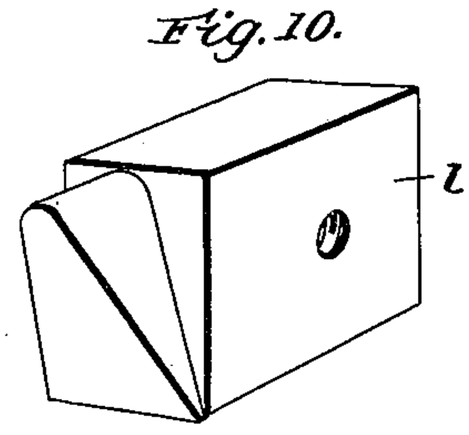


Fig. 8.

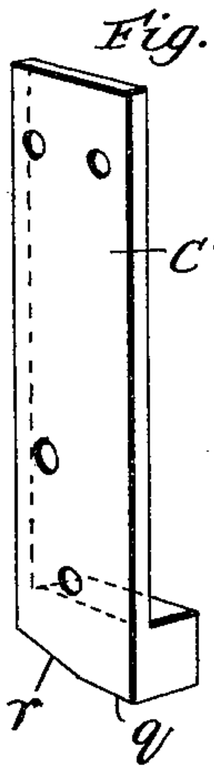


Fig. 9.

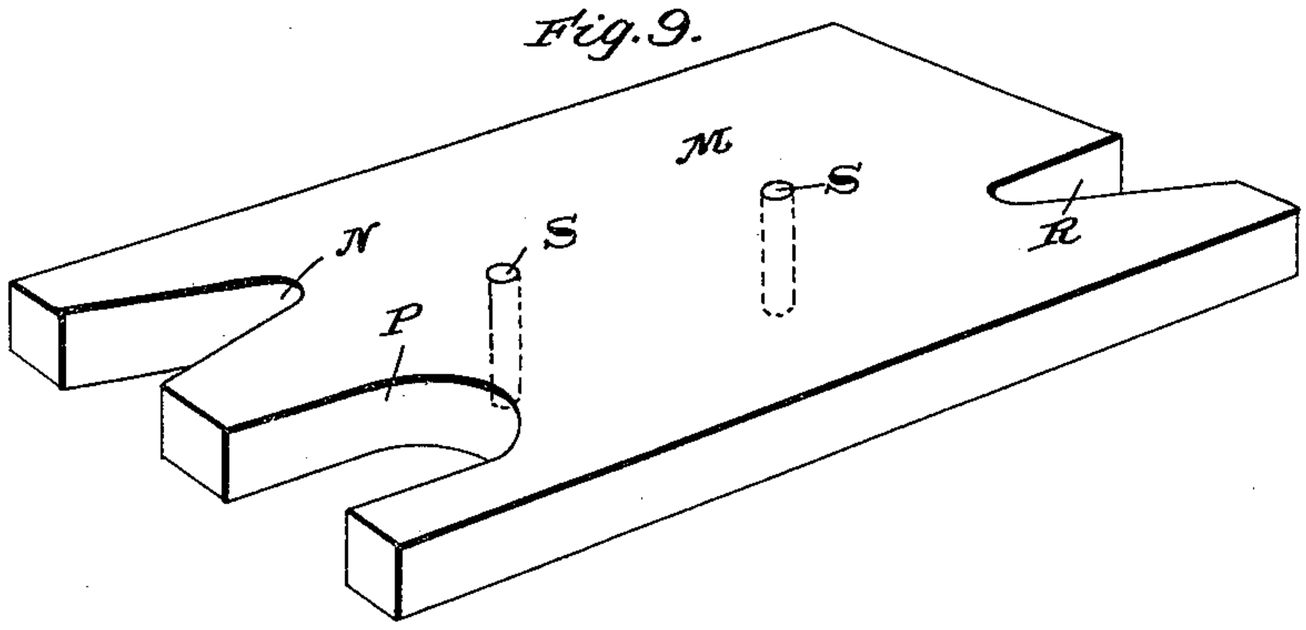


Fig. 11.

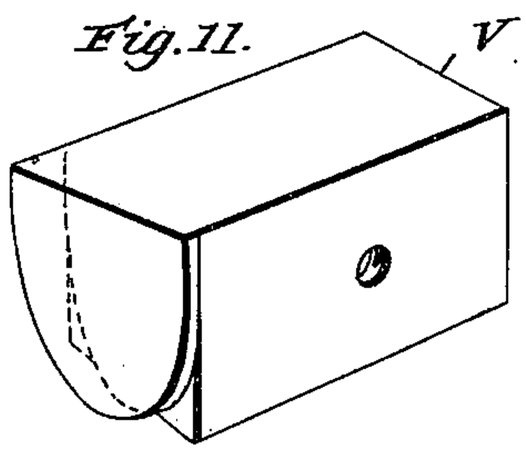
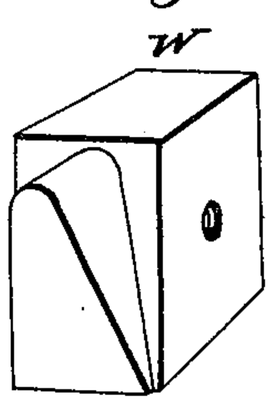


Fig. 12.



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UNITED STATES PATENT OFFICE.

JOHN I. NEWBURG, OF VICKSBURG, MISSISSIPPI.

SAW SET AND GUMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 675,236, dated May 28, 1901.

Application filed November 30, 1900. Serial No. 38,212. (No model.)

To all whom it may concern:

Be it known that I, JOHN I. NEWBURG, a citizen of the United States, residing at Vicksburg, in the county of Warren and State of Mississippi, have invented new and useful Improvements in Saw Set and Gumming Machines, of which the following is a specification.

My invention relates to improvements in saw sets and gummers, and is designed more particularly as a simplification of an improvement on the saw setting and gumming machine forming the subject-matter of my contemporary application, filed August 23, 1900, Serial No. 27,824.

It consists in a certain peculiar construction, the novelty, utility, and advantages of which will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view illustrating my improved machine as equipped with saw-setting appurtenances. Fig. 2 is a detail vertical longitudinal central section of the machine. Fig. 3 is a broken perspective view illustrating a portion of the base and upright frame of the machine, together with the removable portion of the base and one of the wings or lateral portions of the gage. Fig. 4 is a horizontal section taken on the broken line 4 4 of Fig. 2. Fig. 5 is a detail enlarged section illustrating the manner in which the hand-lever is connected to the upright frame and to the depending link. Fig. 6 is a broken perspective view of the saw-setting die removed. Fig. 7 is a detail front elevation illustrating the machine as equipped with saw-gumming appurtenances. Fig. 8 is a perspective view of one of the saw-setting dies removed from the yoke of the plunger. Fig. 9 is a perspective view of the gumming-plate removed. Figs. 10, 11, and 12 are perspective views of different kinds of gumming-dies.

Similar letters of reference designate corresponding parts in all of the several views of the drawings, referring to which—

A is the base of my improved machine. This base is provided with a transverse groove *a*, which has one of its walls undercut, as indicated by *b*, and is designed to receive a portion B, on which is a fixed setting-die C, preferably of the shape shown. At one side of the fixed setting-die C the portion B is provided with an inclined plane *c*, which, as well as the die C, is designed for use when the machine is used for saw-setting purposes.

D is an upright frame which rises from the base A in rear of the groove *a*. Said frame D is disposed transversely of the base A and is reduced in width at its upper end and provided with two vertically-disposed and forwardly-extending ears *d*.

The base A and upright frame D are preferably cast in one piece, this for the sake of cheapness. The portion B of the base is, by preference, of steel or other suitable hard metal for obvious reasons and is preferably removable in order that it may be replaced by another portion when desired.

E is a vertically-movable plunger which rests against the face of the frame D, and comprises a yoke *e* and a short shank *f* on the upper side thereof.

F is a hand-lever fulcrumed on a transverse pin *g* between the ears *d* and having a depending bifurcated portion *h*, and G is a link having its upper end reduced to enter the bifurcation of the lever portion *h*, to which it is pivotally connected by a pin *i*, and its lower end bifurcated to receive the shank *f* of the plunger, to which it is connected in a pivotal manner by a pin *j*. As will be readily appreciated, when the lever F is depressed the plunger E will be moved downwardly with great power, this because of the weight of the long arm of the lever and the leverage which it affords; also, that when the long arm of the lever is raised the plunger E will also be raised.

The frame D is provided on its front side with flanges *k*, the inner sides of which are inclined forwardly and inwardly, as best shown in Fig. 3, to receive the dovetail projection *l* at the rear of the plunger E, whereby it will be seen that the said plunger will be held against lateral or forward and rear movements incident to its vertical rectilinear movements.

The side *m* of the yoke *e*, which rests adjacent to the fixed die C, is recessed, as indicated by *n*, to receive an angular die C′, the said die C′ being detachably connected to the yoke by screws *p* or other suitable means and provided at its lower side with a forward

square portion *q* and a rear inclined portion *r*, the inclination of the latter conforming to the upper side of the fixed die C, as illustrated.

H is a screw arranged transversely of and journaled and held against endwise movement in the yoke of the plunger E, and I is an adjustable setting-die, which has a threaded aperture receiving the screw and is held against turning in the yoke when the screw is turned to adjust it laterally with reference to the die C.

J is a gage. This gage comprises wings or lateral portions *s*, having flat faces, and a bail *t*, which carries said wings *s*. The said bail is formed of a single piece of wire and comprises a stem *u*, which is formed by bending the wire upon itself, and arms *v*, which extend laterally outward from the rear end of said stem and terminate in forwardly-extending parallel portions *w*, which take through guides *x* on opposite sides of the frame D and are connected at their forward ends to the wings *s*. The stem *u* of the gage is received in a post *z*, rising from base A, and is designed to be engaged by a set-screw *z'* after the manner best shown in Figs. 2 and 4.

In using my improved machine to set the teeth of a saw the gage J is adjusted according to the extent to which it is desired to set the teeth and is adjustably fixed in the desired position through the medium of the screw *z'*. The saw is then placed on the base with the points of its teeth bearing against the faces of the gage portions *s*, or, if desired, the gage may be adjusted subsequent to the placing of the saw on the base. In either case the bearing of the points of the saw-teeth against the gage portions *s* will insure the uniform setting of all of the teeth. After the saw is properly placed the setting-die I is adjusted, through the medium of the screw H, to a position over the tooth next to that resting on the fixed die C. With this done the lever F is depressed and the plunger E forced downwardly, when the two teeth mentioned will be properly set. When the plunger is depressed, the forward portion *q* of the angular die C' bears on the saw-blade just over the point of the die C, and thereby effects the setting opposite to that accomplished by the adjustable die. It will be observed that the lower end portion *q* of die C' holds the saw as in a vise and prevents casual movement thereof incident to the setting operation and also that said end *q* is calculated to flatten teeth or restore them to a position in the same plane as the body of the saw-plate when said teeth have previously been set incorrectly. This flattening of the teeth takes place precedent to the setting of the teeth by the die C' in conjunction with die C and the die I in conjunction with the inclined plane *c* of the base portion B, owing to the fact that the die C' extends a considerable distance to the left of the point of die C, as shown.

When it is desired to use my improved machine as a saw-gummer, the nut *t'* on screw H is removed and said screw is drawn out of one of the sides of yoke *e* and turned out of the die I, after which one of the gumming-dies (see Figs. 10, 11, and 12) is placed on the screw and said screw is replaced and secured in the side of the yoke from which it was withdrawn. The die C' is also removed from the yoke *e*, after which a gumming-plate M is placed on the base A, the said plate M having notches N, P, and R in its ends to assist in cutting saws of different kinds and also having dowel-pins S, which latter are designed to be placed in sockets T in the base.

The gumming-die U (shown in Fig. 10) is designed for use on the screw H and, in conjunction with the notch N of the gumming-plate, to cut the smaller spaces of crosscut-saws. The gumming-die V (shown in Fig. 11) is designed for use on the screw H and, in conjunction with the notch P of plate M, to cut the larger spaces of crosscut-saws, while the die W (shown in Fig. 12) is designed for use on the screw H and, in conjunction with the notch R of plate M, to cut the interdental spaces of gang and band saws. As will be readily observed by reference to Figs. 10, 11, and 12, the lower sides of the dies U, V, and W are beveled or inclined downwardly toward their points. This is advantageous, since it enables the dies to cut the metal of or gum a saw with but a minimum amount of effort on the part of the operator.

In using the machine as a gummer the gage J is properly set and the saw-plate to be gummed is placed on the plate M, with the points of its teeth bearing against the gage portions *s* and one of its spaces resting coincident with the suitable notch of the plate M and the groove *a* in the base A, which groove affords a clearance for the displaced metal. The gumming-die employed is also adjusted, through the medium of the screw H, to a position coincident with the suitable notch in the plate M and is then depressed through the medium of the hand-lever, when, in conjunction with the walls of the notch, it will shear or cleanly cut the saw-plate, and thereby deepen and enlarge the interdental space thereof. This operation is repeated with reference to each of the interdental spaces of the saw-plate, the said plate being of course properly adjusted subsequent to each gumming operation.

It will be readily appreciated from the foregoing that my improved machine is readily changeable from a saw-setting machine to a saw-gumming machine, and vice versa, and that when used for either purpose it is easily operated and highly efficient; also, that the present machine is very compact and simple in construction and embodies no parts that are liable to get out of order after a short period of use.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for the purpose described, the combination of a base, a frame rising therefrom, and having vertically-disposed, forwardly-extending ears at its upper end, a plunger movable vertically in guides on the frame, a transverse screw bearing in the plunger, a die mounted and adjustable on the screw, and held against turning, a gage adjustable with respect to the plunger and die, a lever fulcrumed between the ears of the frame and having a depending portion adjacent to its fulcrum-point, and a link interposed between and connecting the depending portion of said lever and the plunger.

2. In a machine for the purpose described, the combination of a base, a frame rising therefrom, a plunger movable vertically in guides of the frame, a hand-lever fulcrumed directly on the frame above the plunger and having a depending portion adjacent to its fulcrum-point, and an upright link interposed between and pivotally connected to the plunger and the depending portion of the hand-lever.

3. In a machine for the purpose described, the combination of a base, having a longitudinal central post extending upwardly therefrom and provided with a horizontal, longitudinally-disposed aperture, a set-screw bearing in said post, a plunger carrying a die, and a gage having a longitudinal central stem extending through the aperture of the post on the base and adapted to be engaged by the set-screw, and also having arms arranged in suitable guides on the base, and provided at their forward ends with transversely-disposed portions.

4. In a machine for the purpose described, the combination of a base having a post provided with an aperture, a set-screw bearing in said post, a plunger carrying a die, and a gage comprising transverse or lateral portions, and a bail formed of a single piece of wire and bent upon itself to form a stem arranged in the aperture of the post, and having portions extending laterally outward from the rear end of the stem and also having arms extending forwardly through guides on the base and connected at their forward ends to the transverse or lateral portions.

5. A combined saw setting and gumming machine comprising a base having a transverse groove, a portion removably arranged in said groove and having a setting-die and an inclined plane, a plunger having a removable portion adapted to operate in conjunction with the removable portion of the base and the setting-die thereon, setting and gumming dies adapted to be interchangeably employed in the plunger, a gumming-plate, and suitable means for detachably securing said plate on the base.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN I. NEWBURG.

Witnesses:
GUSTAV SINA,
GUS ERIKSON.