

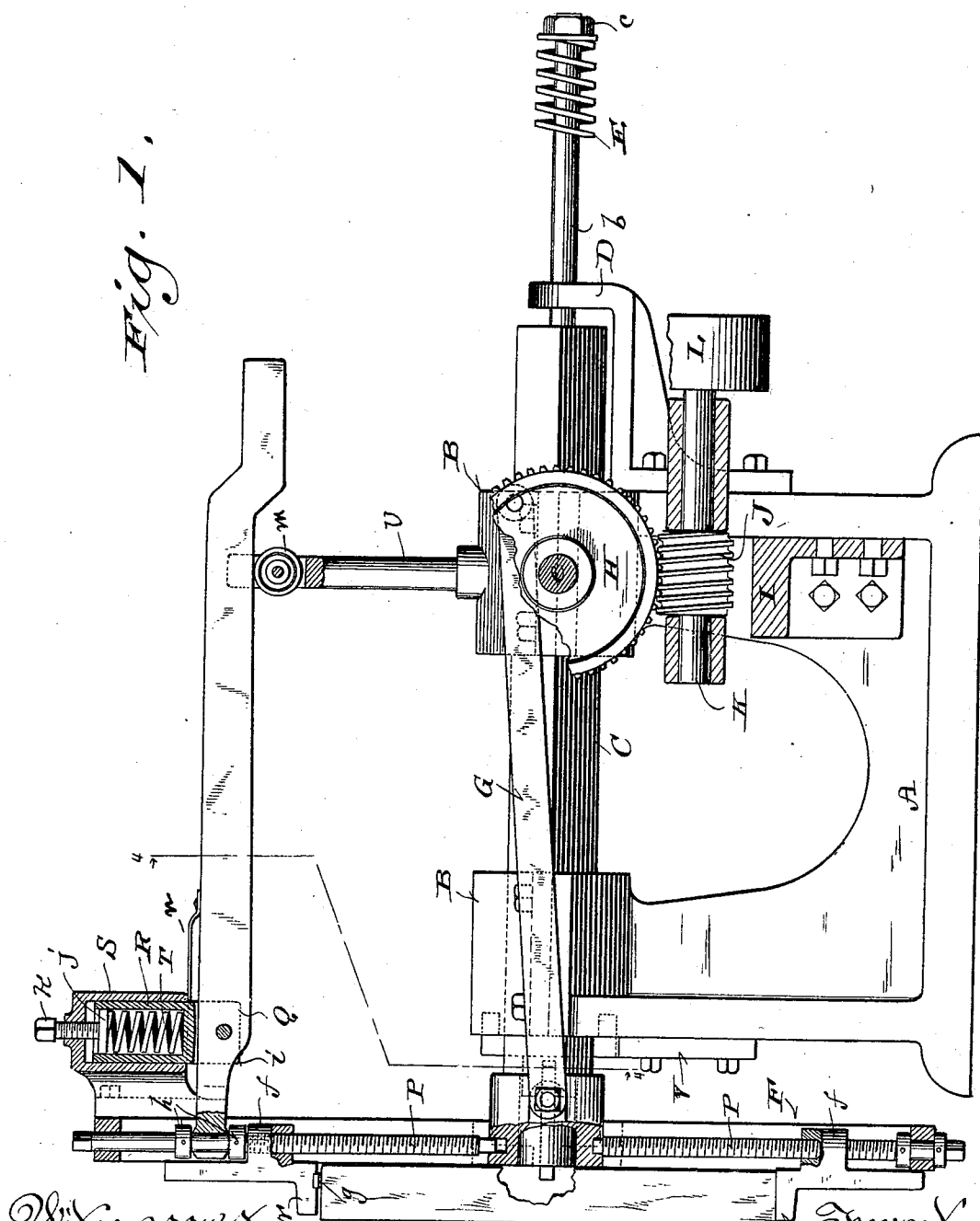
(No Model.)

3 Sheets—Sheet 1.

F. PERKINS.
WOODWORKING MACHINE.

No. 513,056.

Patented Jan. 16, 1894.



Witnesses:
Geo. W. Young,
N. E. Oliphant

Inventor
Frank Perkins

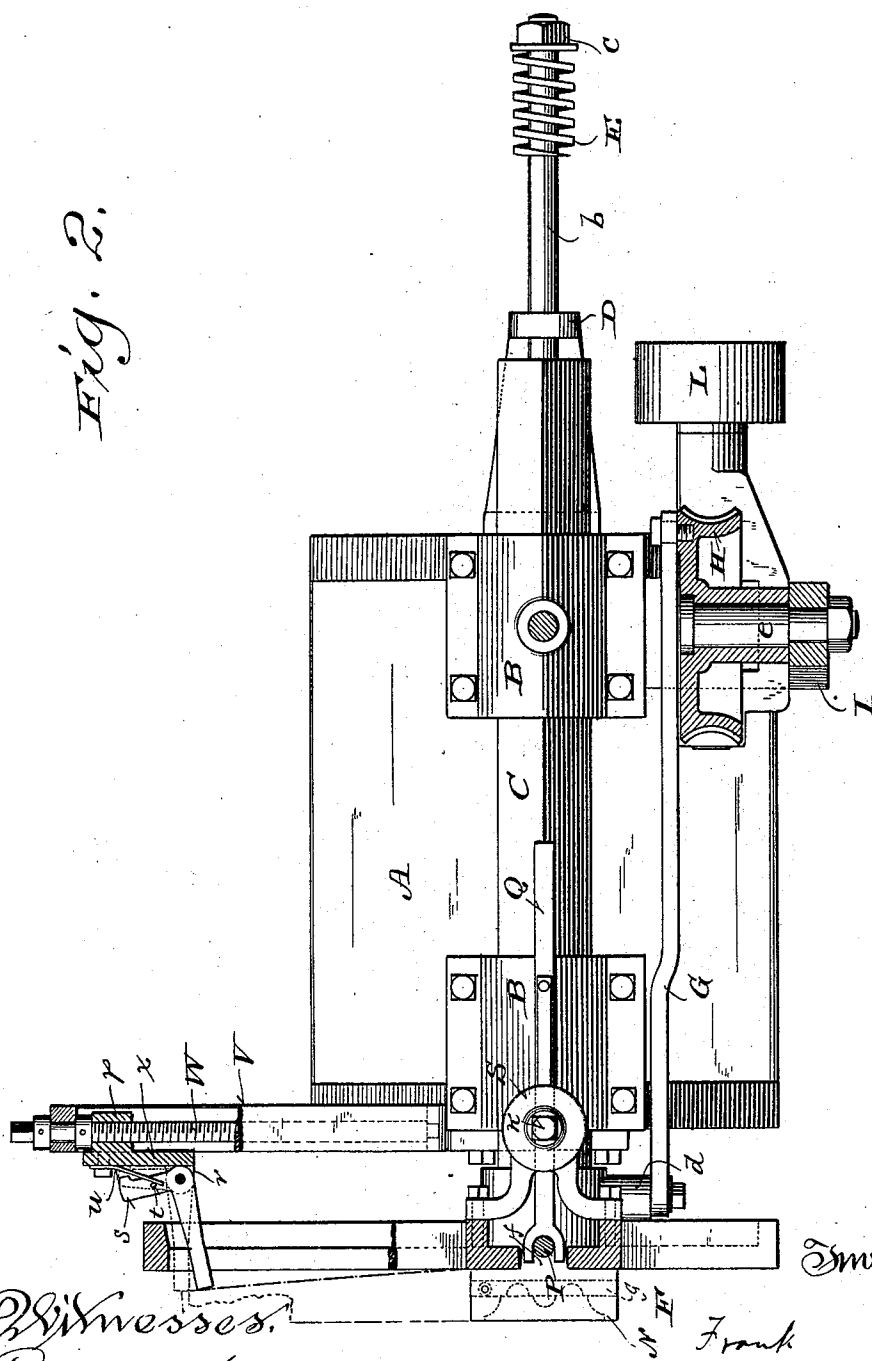
By H. G. Underwood
Attorney

3 Sheets—Sheet 2.

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Fig. 2.

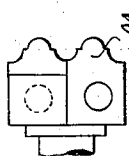


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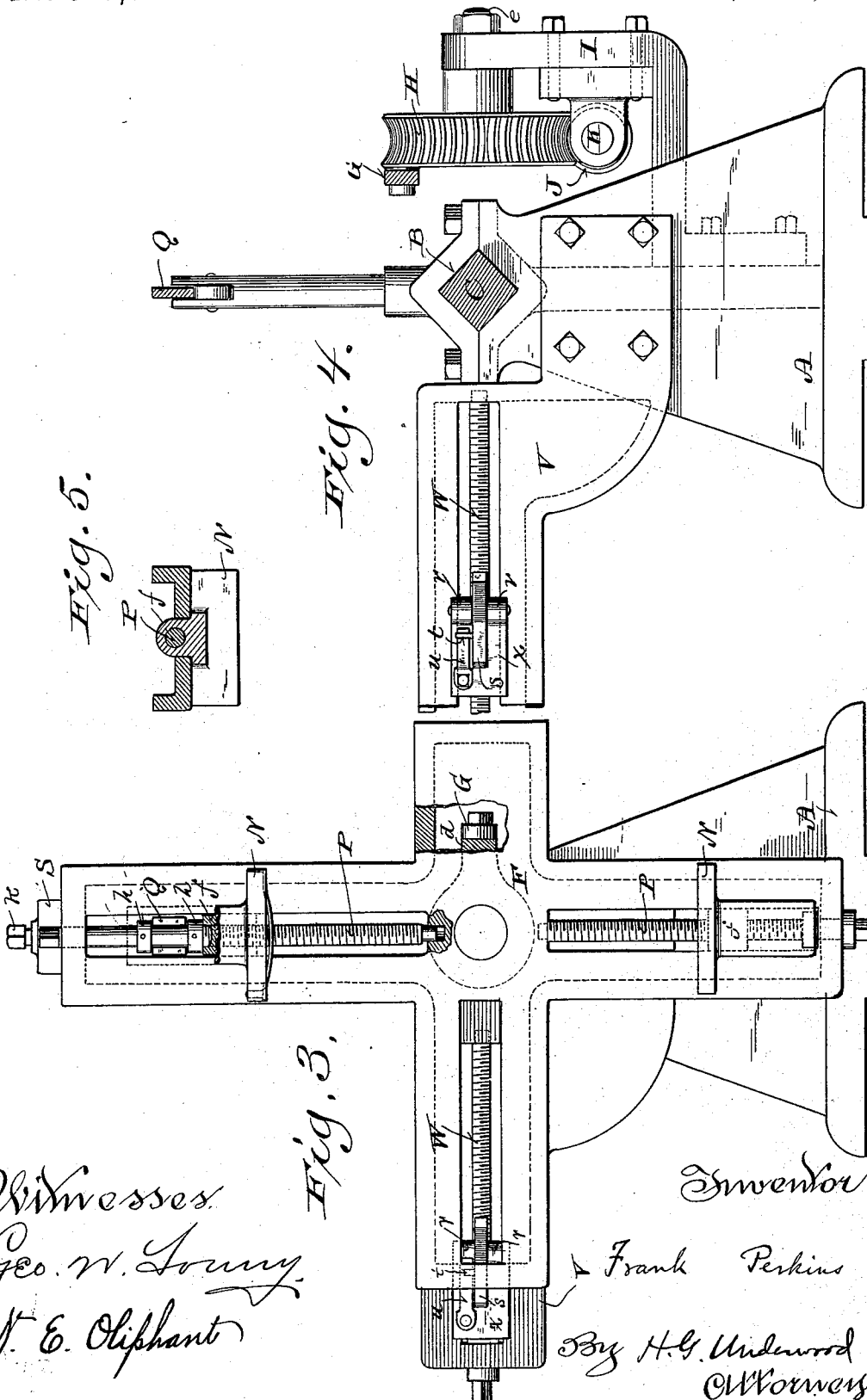
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UNITED STATES PATENT OFFICE.

FRANK PERKINS, OF OSHKOSH, WISCONSIN, ASSIGNOR TO THE PAINE LUMBER COMPANY, LIMITED, OF SAME PLACE.

WOODWORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 513,056, dated January 16, 1894.

Application filed July 31, 1893. Serial No. 481,973. (No model.)

To all whom it may concern:

Be it known that I, FRANK PERKINS, a citizen of the United States, and a resident of Oshkosh, in the county of Winnebago, and in the State of Wisconsin, have invented certain new and useful Improvements in Woodworking-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a simple machine for the automatic clamp, release and discharge of corner-blocks, rosettes, base-blocks, head-blocks, &c., operated upon by cutters, and it consists in certain peculiarities of construction and combination of parts hereinafter specified with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents an elevation of my machine partly in section and partly broken away; Fig. 2, a plan view of the same partly in horizontal section; Fig. 3, a front elevation partly broken away; Fig. 4, an elevation partly in section on line 4—4 of the first figure, and Fig. 5, a detail horizontal section illustrating a clamp-dog, its guide and adjusting screw.

Referring by letter to the drawings, A represents the frame or bed-piece of my machine, provided with guides B for a reciprocative polygonal shaft C, the latter having a rear tang *b*, that loosely engages an opening in a bracket D bolted or otherwise rigidly secured to said frame.

Run on the free end of the shaft tang *b* is a flanged nut *c* opposed to a spiral spring E loose on said tang but of less length than the same, the purpose of the spring being hereinafter set forth.

Fast on the forward end of the shaft C is a face-plate F of any suitable form, the one shown being a four arm casting having a central hub provided with a lateral stud *d*, and pivotally connected to this stud is one extremity of a pitman G, the other extremity of the same being wristed to a worm wheel H, loose on another stud *e* fast to a lateral bracket I of the machine frame. The worm-wheel meshes with a worm J fast on a shaft K that has its bearing on the bracket I and is provided with a pulley L for a drive-belt. By

means of the worm-gear just described, motion is imparted to the pitman G, to reciprocate the face-plate F and its supporting shaft whereby material clamped to said face is brought to and from a cutter-head M, the latter being illustrated in Fig. 2. When the face-plate moves forward, there is a resistance of the spring E against the bracket D, to prevent said material from being drawn onto the knives of the cutter-head as well as to take up any possible lost motion.

The vertical arms of the face-plate are provided with slots loosely engaged by the shanks *f* of upper and lower clamp-dogs N, said shanks being of themselves engaged by adjusting screws P that have their bearings at the rear of said face-plate, as plainly illustrated in Fig. 1. The upper clamp-dog is provided with a spring *g* opposed to material positioned on the face-plate and this spring is of sufficient pressure to maintain the material in place when fed to the machine prior to the operation of an automatic clamping lever hereinafter specified.

The upper portion of the adjusting-screw for the upper clamp-dog is devoid of threads and provided with parallel collars *h* on opposite sides of the forked forward end of a lever Q engaging said screw, this lever being pivotally connected to ears *i* depending from a shell R loose in a box S bolted to the rear of the upper vertical arm of the face-plate, and contained in the shell is a strong spring T opposed by a tension plate *j* under control of a screw *k* engaging the upper end of said box. The spring-controlled shell is the fulcrum for the lever and this fulcrum is made yielding in order to compensate for possible variations in size of material for which the clamping-dogs may be adjusted. The lever Q bears upon an anti-friction roller *m* journaled in a standard U on the rear guide for the face-plate supporting shaft, and the rear end of said lever is offset in order to have a cam action against the roller. By the forward movement of the face-plate and its supporting shaft the offset portion of the lever is brought into contact with the roller, and thus said lever is tilted to thereby lower the upper adjusting screw and relative clamp-dog for the purpose of rigidly securing the mate-

rial in place against the action of the cutter-head, and I prefer to provide said lever with a spring *n*, opposed to the lower edge of the box *S*, in order to insure a return movement of the aforesaid lever to its normal position when the rear movement of said face-plate and shaft takes place.

Bolted or otherwise rigidly secured to the front of the machine frame is a slotted horizontal arm *V* parallel to a like arm of the face-plate, and engaged with an adjusting screw *W* having bearings in the former arm is the shank *p* of a plate *x* having forwardly extended ears *r* that serve as bearings for trunnions on a bell-crank stop-dog, one arm *s* of the latter being provided with a lug *t* opposed to a spring *u* on said plate. By the expansion of the spring *u* the stop-dog is normally tilted so as to assume the position shown by full lines in Fig. 2, and when the face-plate is run back said arm engages with the slotted horizontal arm of said face-plate to come in the path of material fed to the machine between the clamp-dogs above specified.

When a block of material is fed to the machine the stop-dog is forced to the position shown by dotted lines in Fig. 2, and there remains until the face-plate is moved toward the cutter head. The block having been carried away from the stop-dog, the latter is automatically returned to its normal position by the expansion of the spring *u* and when in this position it will push out the block at the completion of the return movement of the face-plate, but be in position to stop a succeeding block fed to the machine, as is apparent by reference to Fig. 2, it being understood that the former block is automatically unclamped in time to permit of its being pushed out of the way.

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

1. The combination of the reciprocative face-plate, adjusting screws having their bearing on the face-plate, clamp-dogs having shanks engaged by the screws, a lever connected to one of the screws, and suitable means for tilting the lever to bring the positively adjusted dog on the latter screw in and out of clamping contact with the material on said face-plate, substantially as set forth.

2. The combination of the reciprocative face-plate, adjusting screws having their bearings on the face-plate, clamping-dogs having shanks engaged by the screws, a lever connected to one of the screws, suitable means for tilting the lever to bring the positively adjusted dog on the latter screw in and out of contact with material on said face-plate, and a spring normally extended from the working face of the lever-controlled dog, substantially as set forth.

3. The combination of the reciprocative face-plate provided with clamp-dogs, one at least of which has an automatic adjustment

coincident with the travel of said face-plate, and a pivotal spring-controlled stop-dog in the path of material fed the said plate between the clamp-dogs, substantially as set forth.

4. The combination of the reciprocative face-plate provided with the clamp-dogs one at least of which has an automatic adjustment coincident with the travel of said face-plate, and a stop-dog in the path of material fed to said face-plate between the clamp-dogs, said stop-dog being in the form of a spring-controlled bell-crank, substantially as set forth.

5. The combination of the machine frame provided with a slotted horizontal arm, an adjusting screw having its bearings on the arm, a plate controlled by the screw, a spring-controlled bell-crank trunnioned on the plate, a reciprocative face-plate provided with clamp-dogs at right angles to the stop-dog and slotted to engage this latter dog, and suitable means for automatically adjusting at least one of said clamp-dogs coincident with the movement of said face-plate, substantially as set forth.

6. The combination of the machine frame provided with a pivotal spring-controlled stop-dog, a reciprocative face-plate provided with clamp-dogs at right angles to the stop-dog and slotted to engage the latter dog when at the limit of its back-throw, a spring-controlled fulcrum on the rear of the face-plate, a lever connected to the fulcrum and arranged to actuate one of the clamp-dogs, and suitable means for operating the lever coincident with the movement of said face-plate, substantially as set forth.

7. The combination of the machine frame provided with a pivotal spring-controlled stop-dog, a reciprocative face-plate provided with clamp-dogs at right angles to the stop-dog and slotted to engage the latter dog when at the limit of its back throw, a box on the rear of the face-plate, a shell loose in the box, a spring in the shell, a lever pivotally connected to said shell, and suitable means for operating the lever coincident with the movement of said face-plate, substantially as set forth.

8. The combination of the machine frame provided with a pivotal spring-controlled stop-dog, a reciprocative face-plate provided with clamp-dogs at right angles to the stop-dog and slotted to engage the latter dog when at the limit of its back-throw, a spring controlled fulcrum on the rear of the face-plate, a lever connected to the fulcrum and arranged to actuate one of the clamp-dogs, suitable means for operating the lever coincident with the movement of said face-plate, and a spring on said lever opposed to the aforesaid box, substantially as set forth.

9. The combination of the machine-frame provided with a pivotal spring-controlled stop-dog, a reciprocative shaft loose in guides on the machine-frame and provided with a tang loosely engaging a bracket on said machine frame, a spiral spring maintained on the shaft-tang in opposition to said bracket, a face-

plate fast on the shaft and provided with a slot for engagement with the stop dog when at the limit of its back-throw, clamp-dogs on the face-plate at right-angles to the stop-dog, a levercontrolling one of the clamp-dogs, and suitable means for operating the lever coincident with the movement of said shaft and face-plate, substantially as set forth.

10. The combination of the machine-frame provided with a pivotspring-controlled stop-dog, a shaft loose in bearings on the machine-frame, a face-plate fast on the shaft, a drive-gear having pitman connection with the face-plate, clamp-dogs on said face-plate at right-

angles to the stop-dog, an offset lever controlling one of the clamp-dogs, an anti-friction roller supported on said machine frame to impinge against the lever, and a spring-resistance to forward travel of the face-plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Oshkosh, in the county of Winnebago and State of Wisconsin, in the presence of two witnesses.

FRANK PERKINS.

Witnesses:

CHAS. NEVITT,
N. S. LEVY.