

S. S. Gray.

Wood Plane Attachment.

No. 13,536.

Patented Sep. 4, 1855.

Fig. 1.

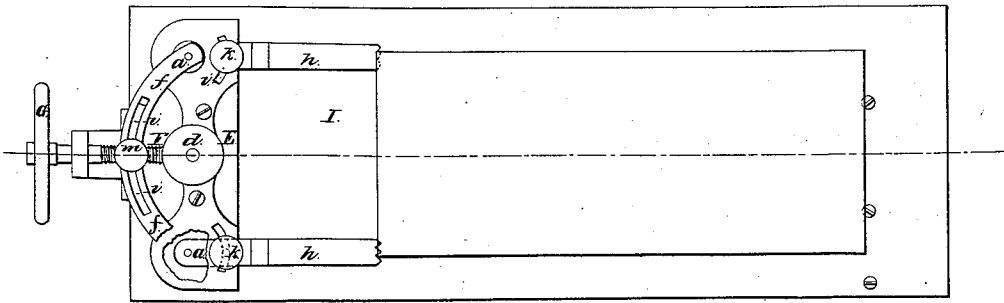


Fig. 2.

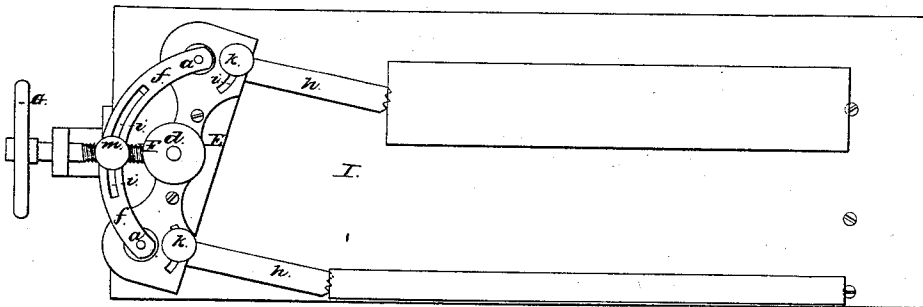
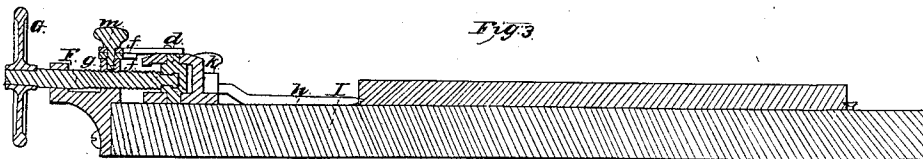


Fig. 3.



# UNITED STATES PATENT OFFICE.

SOLOMON S. GRAY, OF SOUTH BOSTON, MASSACHUSETTS, ASSIGNOR TO S. S. GRAY AND S. A. WOODS.

## UNIVERSAL DOG FOR PLANING-MACHINES.

Specification of Letters Patent No. 13,536, dated September 4, 1855.

*To all whom it may concern:*

Be it known that I, SOLOMON S. GRAY, of South Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Clamps for Planing-Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figures 1 and 2 are plans; Fig. 3, a longitudinal section upon the line A A of Fig. 1.

My present improvements are upon a clamp for which Letters Patent were granted to me in conjunction with S. A. Woods on the 22d day of August, 1854. The clamp as then constructed was pivoted in the center around which it was permitted to vibrate to accommodate itself to different lengths of plank. It is found however when the dogs  $h$  are thrown into the position represented in Fig. 2 that an unequal strain was thrown upon the different sides of the clamp, and this inequality of strain was so increased by the action of the cutter upon the plank as to tend to throw the clamp to one side.

To remedy this inconvenience is the object of my present invention, which consists in the application of a peculiar device to the pivoted clamp, by which it may at any instant be converted into a stationary clamp without in the least limiting its capabilities as a swiveling or pivoted clamp.

To enable others skilled in the art to understand my invention I will proceed to describe the manner in which I have carried it out, and the construction and operation of my clamp.

In the accompanying drawings I is the bed of a "Daniels" or other similar planing machine for planing "out of wind;" E, the body of the clamp pivoted at  $d$  to the end of the screw F, by which it is moved forward and back for the purpose of clamping the stuff to the bed of the machine. This screw works in the nut  $g$  and is operated by the hand wheel G. The dogs  $h$  are pivoted to the body of the clamp at  $a$  and are secured in the desired position by the set screws  $k$ . Where planks of unequal length are to be clamped, the dogs often take the position represented in Fig. 2. In such case an unequal strain is thrown upon the different sides of the clamp as before explained, and when the cutters commence to act upon the plank the pressure upon the dogs is so much increased that the clamp

is liable to be turned upon its center. To hold it steady under such circumstances, and to convert it into a rigid or stationary clamp I have adopted the following device, which forms the subject of the first part of my invention:  $f, f'$ , are circular arms pivoted to the clamp at the points  $a$  and having slots  $i$  through which pass the set screw  $m$  which works in the nut  $g$  or in some other suitable part of the frame work. By tightening the screw  $m$ , the arms  $f, f'$ , and the clamp are held immovably. When this screw is loosened the clamp may be placed in any desired position and may be advanced or drawn back by the screw F. The clamp is thus made rigid for the time, while it enjoys all the capabilities of a pivoted clamp to adapt itself to different lengths of planks.

In machines for planing "out of wind," it is not possible to hold the lumber to the bed by presser rolls or bars as may be done in machines which "thickness." In the former case it is necessary that the lumber be held to the bed by the dogs which sustain it in position.

To accomplish this more perfectly than has heretofore been effected is the object of the second part of my invention, which consists in elevating the screw which forces the dogs against the ends of the planks, above the bed of the machine, and of the dogs which hold the planks, by which means the dogs are forced down upon the bench and the plank is prevented from rising. This device is particularly necessary where rotary cutters are employed, as in such case the cutters tend to raise the plank up from the bed; this arrangement is clearly represented in Fig. 3, where it will be seen that the screw F being raised above the level of the surface of the bench holds the dog  $h$  and the plank firmly down to the bed.

What I claim as my invention and desire to secure by Letters Patent is—

1. The arms  $f, f'$ , in combination with a pivoted clamp, whereby it is rendered rigid when desired, in the manner and for the purpose substantially as herein set forth.
2. I claim placing the screw which forces up the clamp, above the level of the dogs as described, for the purpose set forth.

SOLOMON S. GRAY.

Witnesses:

SAM. COOPER,  
JOHN S. CLOW.