

(No Model.)

C. S. ALGREN.
STAVE PLANING MACHINE.

No. 576,935.

Patented Feb. 9, 1897.

Fig. 1.

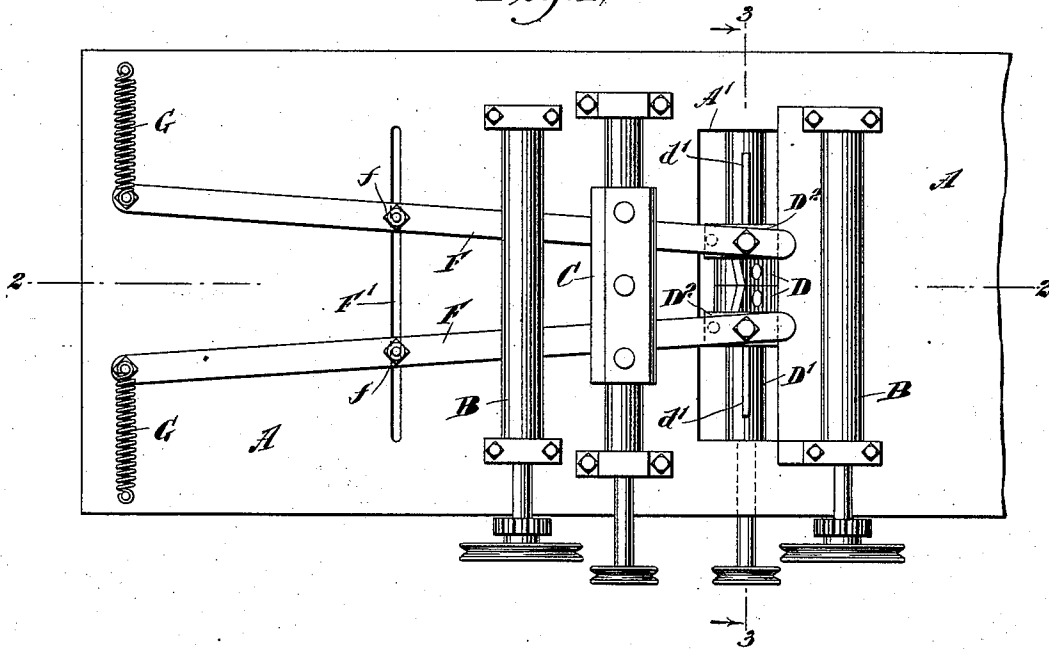


Fig. 2.

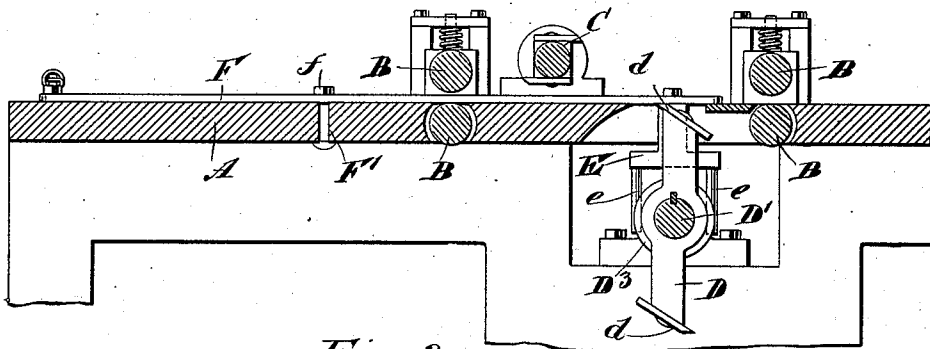
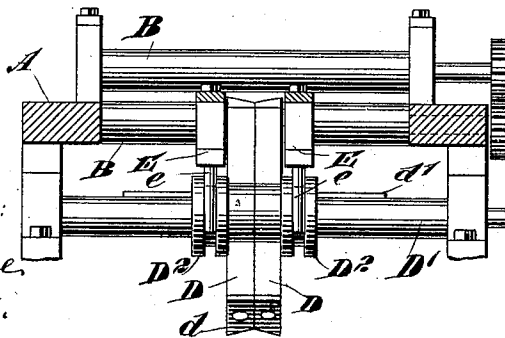


Fig. 3.



WITNESSES:

Edward Thorpe,
H. L. Reynolds.

INVENTOR

C. S. Algren.

By *Thompson*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CARL S. ALGREN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO WILLIAM LICKSTROM, OF SAME PLACE.

STAVE-PLANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 576,335, dated February 9, 1897.

Application filed November 12, 1896. Serial No. 611,837. (No model.)

To all whom it may concern:

Be it known that I, CARL S. ALGREN, of New York, in the county and State of New York, have invented a new and Improved Stave-Planing Machine, of which the following is a full, clear, and exact description.

My invention relates to an improvement in planing-machines adapted especially to dressing the outer and inner surfaces of staves intended for use in building tanks, vats, or similar work.

It consists, essentially, of an ordinary cutter-head intended to dress the inner side of the staves and of two movable cutter-heads intended for dressing the outer surfaces of the staves on a bevel, in order that the hoop or band placed about the tank or vat may have a better bearing-surface. These latter cutter-heads are made movable upon the shaft in order to accommodate them to staves of different widths and to cause the bevel to be started from the outer edge of the staves.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of a planing-machine with my improvement attached thereto. Fig. 2 is a longitudinal section of the same on the line 2 2 in Fig. 1, and Fig. 3 is a cross-section on the line 3 3 of Fig. 1.

In cutting the outer staves for building tanks and vats it is customary to bevel the outer surface of the staves, so that the tank will be more nearly of a circular shape than were the surface left plane. This provides a smoother and a more even bearing for the hoops placed about the tank or vat. These staves are not always dressed of an even width, and it is therefore necessary that the beveling-cutters should be adjustable, so that the bevel in all cases starts from the outer edge of the stave.

In my invention, as shown in the drawings, A represents the table, and B B the ordinary feeding-rollers. The cutter C, which dresses the upper surface of the stave, is formed similarly to the ordinary cutter-head. If desired, cutter-knives may be placed upon this cutter-head, which will give a concave surface to the inner surface of the staves. The cutter-heads

D, placed below the table and which dress the outer surface of the staves, are made different from the ordinary cutter-heads. The shaft D', upon which these cutter-heads are mounted, has a long feather fastened thereon, by means of which the cutter-heads are revolved and at the same time are capable of sliding upon the shaft. These cutter-heads may be made of any suitable size. I have shown herein cutter-heads D of considerable diameter, having two blades *d*. The blades upon these cutter-heads are made with their cutting edge at an angle, so as to bevel the under surface of the stave. The bevel of these blades has been somewhat exaggerated in Fig. 3 in order to distinctly bring out this feature. The cutter-heads D are adapted to be slid upon their shaft, so as to bring the inner edges of the heads in contact, as shown in Figs. 1 and 3.

At the outside of each cutter-head is fixed a hub D², which is curved and adapted to receive the fingers *e* of a yoke E, pivoted to one end of each of the levers F, which are themselves pivoted upon the surface of the bed by bolts *f*, passing through the slots F'. The front ends of these levers, or the ends toward the operator, are provided with springs G, adapted to spread said ends, and consequently force the opposite ends, or those attached to the cutters, toward each other. These springs, if unrestrained, will force the cutters toward each other until they are in contact. The pivots *f* are placed far enough apart to permit the widest stave which is to be operated upon to pass between them. The levers F form guides for the stave being operated upon. When the stave is a narrow one, the springs will throw the rear ends of the levers and their attached cutter-heads together, in consequence of which the beveling will be done from the edge of the stave toward the center. When a wider stave is inserted, the stave in its advance will force the ends of the levers apart, thus moving the cutter-heads outward. This adjustment of the cutter-heads is entirely automatic, being accomplished by the action of the edges of the staves against the guide levers or bars F. By this means the dressing of the surfaces of the staves and their beveling is accomplished by

a single operation instead of numerous handlings, as required by the ordinary machinery. It therefore results in a considerable saving of labor, as well as increased production. If
5 desired, cutter-heads for dressing the edges of the staves may be inserted in the manner common for such purposes.

Having thus described my invention, I claim as new and desire to secure by Letters
10 Patent—

1. In a planing-machine for dressing the outer surfaces of staves, the combination of a rotating shaft, two cutters mounted to rotate therewith and slide thereon, said cutters
15 being disposed so as to plane surfaces dipping from the horizontal toward each other, movable guides upon the planer-table adapted to engage the edges of the staves, and connections therefrom to the cutter-heads where-
20 by the heads are automatically moved by said guides to correspond to the width of the staves and the beveling is made to extend a uniform

distance from the edges inward, substantially as shown and described.

2. In a planing-machine for dressing the 25 outer surfaces of staves, the combination of a rotating shaft, two cutters mounted to rotate therewith and slide thereon, said cutters being disposed so as to plane surfaces dipping from the horizontal toward each other, 30 guide-bars pivoted upon the table, adjustable pivots therefor, a grooved collar attached to each cutter-head, yokes attached to the guide-bars and engaging said collars, whereby the cutter-heads are automatically moved by said 35 guides to correspond to the width of the staves and the beveling is made to extend a uniform distance from the edges inward, substantially as shown and described.

CARL S. ALGREN.

Witnesses:

JOHN MATTSO,
HENRY HEIGOLD.