UNITED STATES PATENT OFFICE.

JULIUS MANNEBACH, OF NEW YORK, N. Y.

IMPROVEMENT IN MITER-PLANING MACHINES.

Specification forming part of Letters Patent No. **165,600**, dated July 13, 1875; application filed April 23, 1875.

To all whom it may concern:

Be it known that I, JULIUS MANNEBACH, of the city, county, and State of New York, have invented a certain new and useful Improvement in Miter-Planing Machines, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a front view. Fig. 2 is a rear view of the plane detached. Fig. 3 is a horizontal section in the line *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention relates to an improvement upon the machine for which Letters Patent of the United States were granted to me December 3, 1872, No. 133,653.

My present improvement consists in a mitering-plane, carrying two knives, and which works between vertical guides, in combination with a supporting-spring and lazy-tongs, which are not connected to the plane, and a foot-lever, in such a manner that, by the combined action of the spring and the lever, a reciprocating motion may be imparted to the plane, while the power exerted by the spring and by the foot-lever is equally distributed, and the plane preserves its equilibrium at all times.

In the drawing, the letter A designates standards, and B cross-pieces composing the frame-work of my machine. The standards A support vertical guides C C, to which are fitted the vertical edges of the mitering-plane D. To this plane are attached two knives or irons, E E, in the usual manner of attaching plane-irons. The plane is supported by a spring, F, which, in the present example, has an elliptical form, and which rests on the lower cross-piece B. The connection of the plane with the spring is effected through the medium of lazy-tongs G, the latter being pivoted to the upper part of the spring, as shown at *a*, while the lower end of the tongs is pivoted to plates H, secured to the cross-piece B. The upper part of the lazy-tongs immediately supports the plane D, but is disconnected therefrom, so that the plane is capable of a reciprocating movement. The lazy-tongs are auxiliary to the guides C C, and prevent tilting of the plane, which is liable to occur when a greater strain is put on one side thereof by the working of only one of its knives.

Motion is imparted to the plane D in one direction by the spring F, and in the other direction by means of a treadle or foot-lever, I, which has its fulcrum in a rod, J, and is connected to the plane through an intermediate lever, K, and of a link, *b*.

In order to compensate for wear of the plane or of the guides C C, I make the latter adjustable. This purpose I have in the present example effected by means of the standards A—that is to say, I connect the cross-pieces B to the standards in such a way that a space, *c*, is formed between them. Thus, by loosening the cross-pieces, I am enabled to bring the standards, together with the guides C C, nearer together.

The frame-work of my machine supports a platform, M, containing adjustable abutments N, best seen in Fig. 3, the abutments being provided with set-screws O, which traverse slots P formed in the platform, so that by moving the abutments N to the desired position, they can be clamped by means of the screws. With the adjustable abutments N are combined stationary abutments Q, and a miter-board, R.

In some cases it may be found expedient to work my machine by steam-power, and to this end I provide the plane D with a link, S, which is adapted to form a connection with a driving mechanism.

What I claim as new, and desire to secure by Letters Patent, is—

In a miter-planing machine, the combination of the lazy-tongs G, with the foot-lever I, supporting-spring F, plane-guides C C, and plane D, carrying two or more knives, E, all constructed and operating substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 1st day of April, 1875.

JULIUS MANNEBACH. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.

A. MAURER.

Corn-Broom.

No. 165,601. Patented July 13, 1875.

Fig. 1.

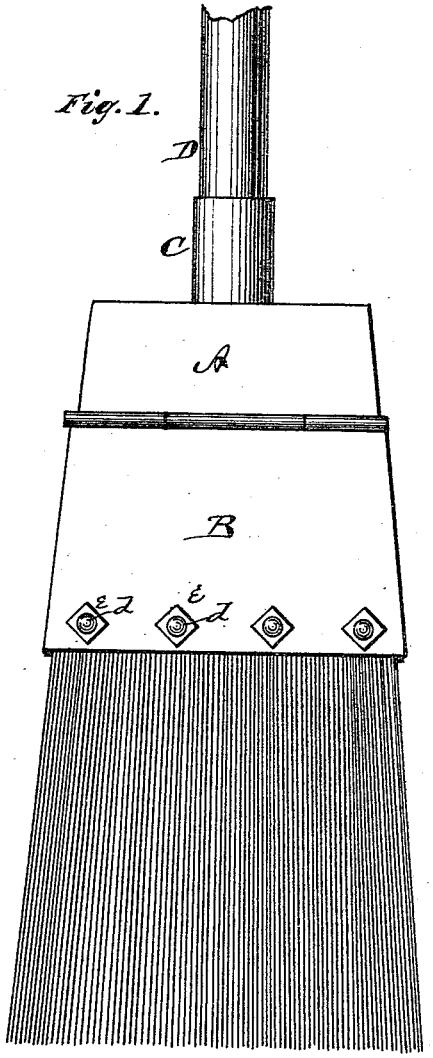

Fig. 2.

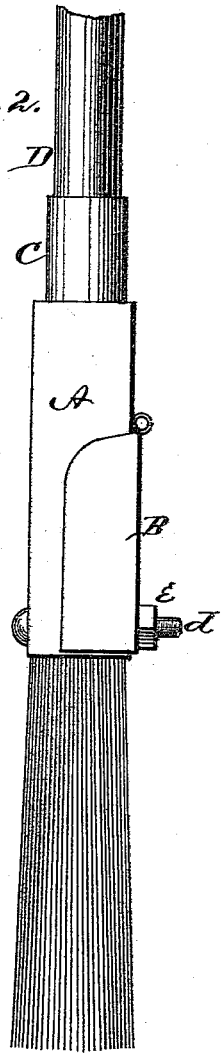

Fig. 3.

WITNESSES:
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