

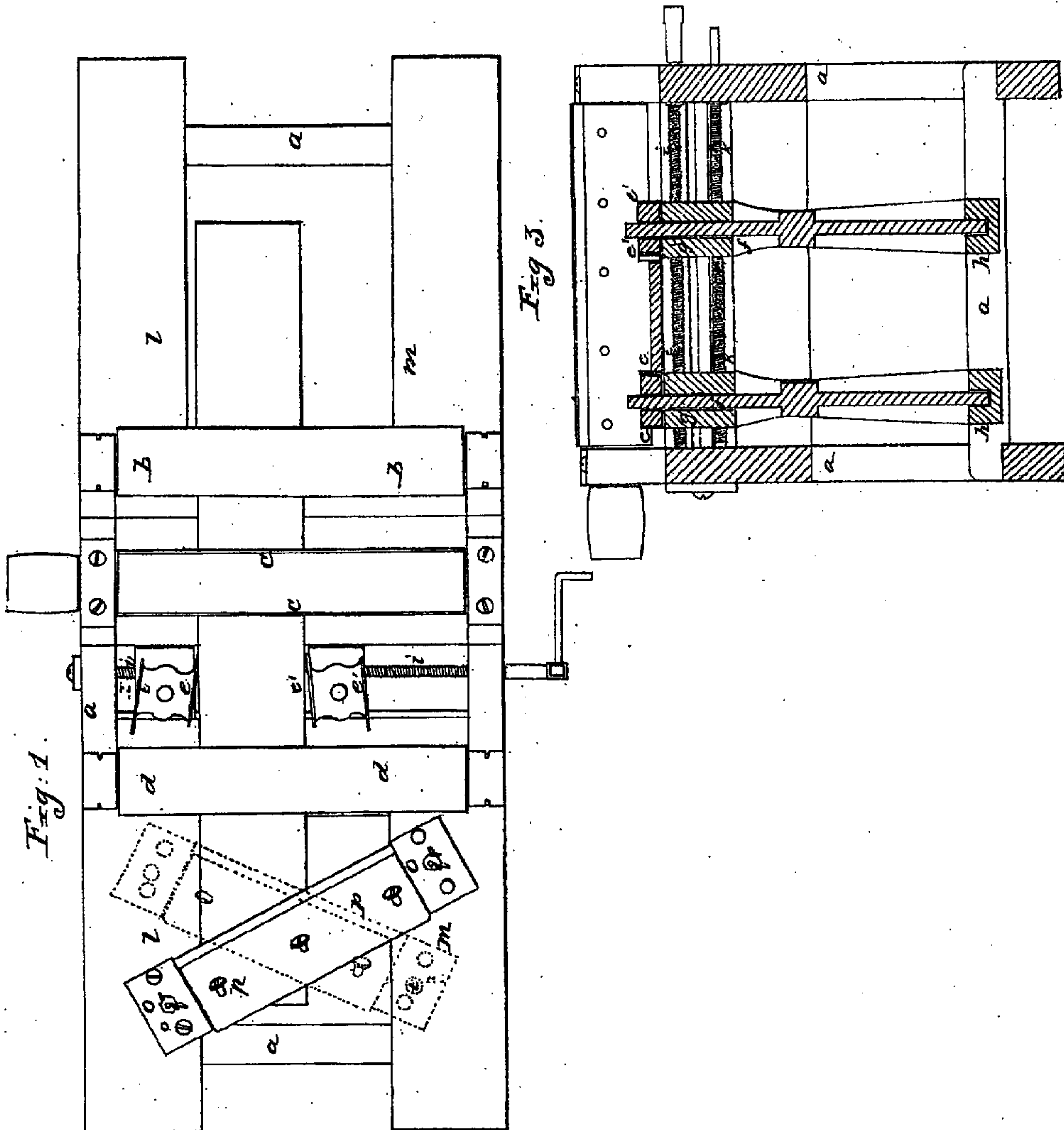
Sheet 1-2, Sheets.

J. A. Woodbury.

Planing Mach.

N<sup>o</sup> 13,808.

Patented Nov. 13, 1855.



Witnesses:

Saml. A. Rye  
John C. Litch

Inventor:

James A. Woodbury.

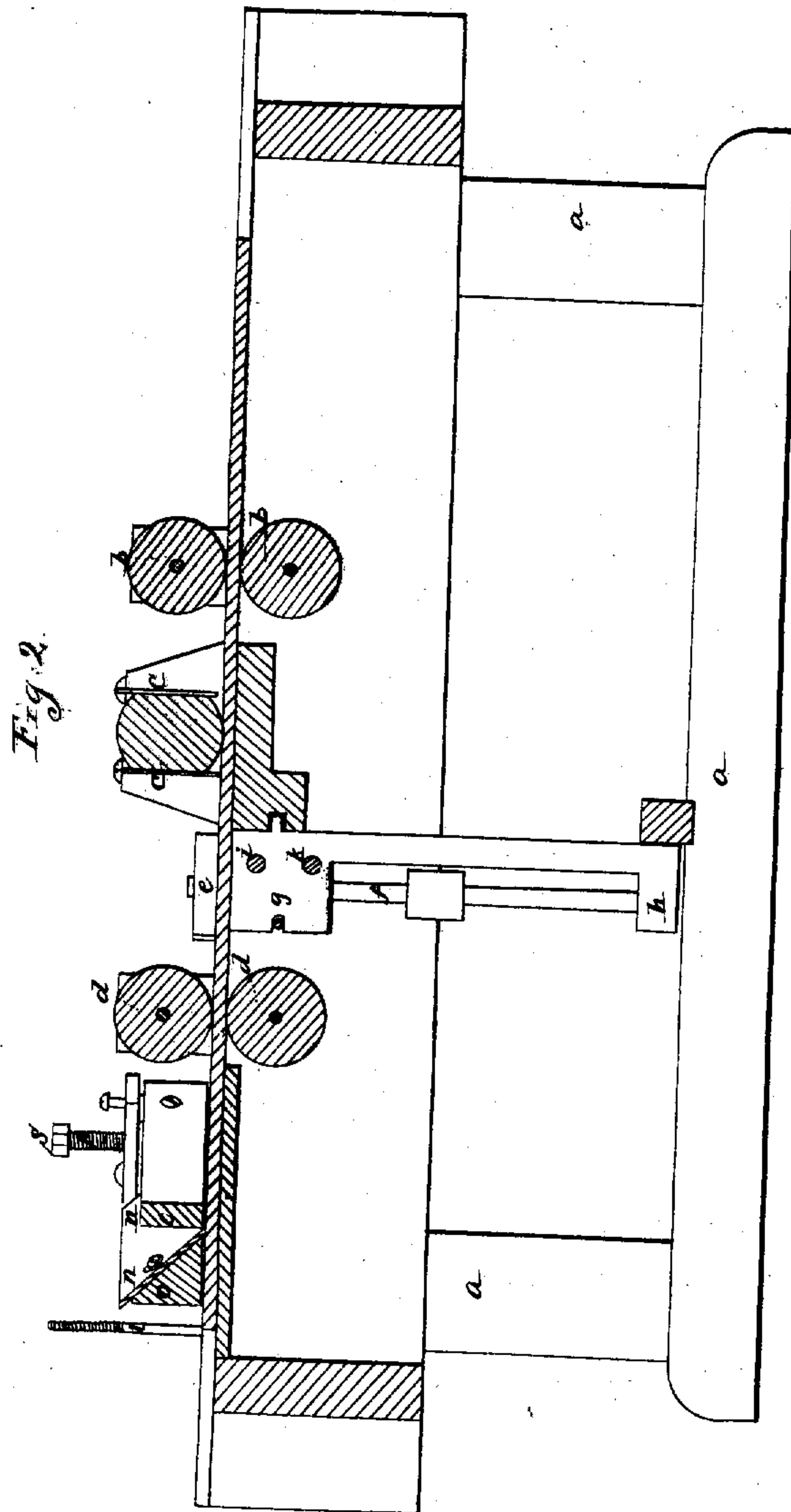
Sheet 2-2, Sheets.

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Witnesses:

*Saml. N. P. P.*  
*John A. Clinch*

Inventor:

*James A. Woodbury*



# UNITED STATES PATENT OFFICE.

JAS. A. WOODBURY, OF WINCHESTER, MASSACHUSETTS.

## PLANING-MACHINE.

Specification of Letters Patent No. 13,808, dated November 13, 1855.

*To all whom it may concern:*

Be it known that I, JAMES A. WOODBURY, of Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Planing-Machines, and the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1, is a plan or top view of my improved machine. Fig. 2 is a longitudinal vertical section taken in the plane of the line A, B, Fig. 1. Fig. 3, is a transverse vertical section taken in the plane of the line C D Fig. 1.

In machines for planing and tonguing and grooving or jointing boards as commonly constructed the material is fed in against a guide upon one side of the machine. As these machines are made of sufficient width for the widest kind of stock, it follows that one side or position only of the cutters is in constant use, as the boards operated upon do not usually much exceed in width one half that of the surface cutters. In these machines one of the edge cutters is fixed, and the other movable in order to adapt it to the various widths of boards.

As a consequence of the arrangement of devices thus stated, the surface cutters become very much worn upon one side, and require frequent sharpening and resetting, while the guides, pressure bars, &c., likewise require readjustment or repairs.

The present invention consists in making both of the edge cutters adjustable and movable, so that the board may be fed in upon either side of the machine, which is provided with double guides, one upon each side, for the purpose. By this arrangement the cutters are subjected to an even wear upon the entire length of their cutting edges, and consequently will perform nearly double the amount of work of the ordinary planing machine, before they require re-sharpening or readjustment. I have also

made a further improvement by combining with the rotary planing cutters, a stationary smoothing cutter placed diagonally upon the board. The effect of this arrangement is to remove the waves or curves formed by the rotary cutters, traveling as they do in a circular path. The diagonal cutter removes these waves or curves by acting obliquely upon the surface of the board cutting across the said waves or curves.

*a a a* in the drawings represent the supporting framework of the machine.

*b b* are the first set of pressure rolls; *c c*, the rotary cutters, and *d d* the second set of pressure rolls.

*e e e' e'* are the edge cutters placed upon the vertical shafts *f f*, which have their journals in the boxes *g g'* and in the projecting shoulders *h h*. These edge cutters can be moved either toward or away from the board, or from one side of the machine to the other by means of the horizontal screw shafts *i i k k*, which pass through the boxes *g g* and engage with a female screw formed in the same, the upper screw shaft *i i* serving to the box *g* with its cutters *e e*, and the lower screw shaft *k k* acting in a similar manner upon the box *g'* and its cutters *e' e'*, *l, l, m, m*, are the guides against which the board bears as it passes through the machine, one guide being provided on each side of the machine.

By the above described mode of arranging the edge cutters and making them both adjustable, the board can be fed in upon either side of the machine, the edge cutters being changed from one side to the other, as may be desired, by applying a winch to the ends of the screw shafts by which they are actuated.

The advantages herein above stated, of a uniform wear upon the rotary cutters, and other parts of the machine, whereby the necessity of frequent sharpening and readjustment of the said cutters are avoided, are thus fully secured.

After the board has been acted upon by the rotary and edge cutters, it is carried to the stationary smoothing cutter *n n*. This cutter is set in a stock *o o* and is placed diagonally upon the board. The effect of this arrangement is to remove the waves or curves formed in the board by the action of the rotary cutters, as it cuts obliquely across the said waves or curves, and thereby effectually accomplishes the desired result. In



order to adapt the diagonal cutter to the purposes of the machine, it is susceptible of being reversed or changed into the position shown by dotted lines in Fig. 1, the cutter stock *o o* being set upon upright screw pins *q q* and held down by the spiral springs *r r* actuated upon by the nuts *s s*. The cutter stock can have its position reversed by removing the nuts *s s* and spiral springs *r r*, and then placing it upon a similar set of screw pins *t t*, the stock being held down by the nuts and springs as aforesaid. This change of position is necessary in order that the diagonal cutter may exert a tendency to press the board against its guide, and prevent its drawing the board away from the same, which result would occur if the position of the diagonal cutter were not susceptible of being changed, according as the board is upon one side or the other of the machine.

I am aware that stationary diagonal cutters have been used for various purposes, but never to my knowledge in the manner and for the design contemplated in the present invention, that is in combination with the rotary cutters, for the purpose of removing the waves or curves formed in the board by the action of the said rotary cutters.

Having thus described my improvements I shall state my claims as follows:

What I claim as my invention and desire to have secured to me by Letters Patent is—

Making both of the edge cutters adjustable in such a manner that the board can be fed in from either side of the machine, double guides being provided for the purpose as specified.

JAMES A. WOODBURY.

Witnesses:

SAML. N. PIPE,

J. MORTON CLINCH.

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*To the Commissioner of Patents:*

Your petitioner, JAMES A. WOODBURY, formerly of Winchester, now of Boston, in the State of Massachusetts, represents that

Letters Patent of the United States were granted to him on the 13th of November, 1855, and numbered 13,808, for Improvement in Planing-Machines; that he has reason to believe that through inadvertence and mistake the specification and claim of said Letters Patent are too broad, including that of which said patentee was not the first inventor. Your petitioner, therefore, hereby enters his disclaimer to that part of the specification which sets forth that he has "also made a further improvement, by combining with the rotary planing cutters a stationary smoothing cutter placed diagonally upon the board," and disclaims any novelty or patentability in such combination, or any broader sense of the word "improvement" than would attach to the word construction, or improvement in the construction of such machine, for the special purpose named, but which he does not claim as original with him. And your petitioner further hereby enters his disclaimer to any other construction of the claim in said Letters Patent which is in the following words, to-wit: "Making both of the edge cutters adjustable, in such manner that the board can be fed in from either side of the machine, double guides being provided for the purpose, as specified," than would limit or restrict that claim to "the edge cutters when both are adjustable so that the board can be fed in from either side of the machine, in combination with double guides at each side and end of the machine, substantially as and for the purpose described," meaning hereby to disclaim "adjustable edge-cutters" *per se*, which disclaimer is to operate to the extent of the interest in said Letters Patent vested in your petitioner, who has paid ten dollars into the Treasury of the United States, agreeably to the requirements of the act of Congress in that case made and provided.

JAMES A. WOODBURY.

Witnesses:

A. B. STOUGHTON,

EDMUND MASSON.