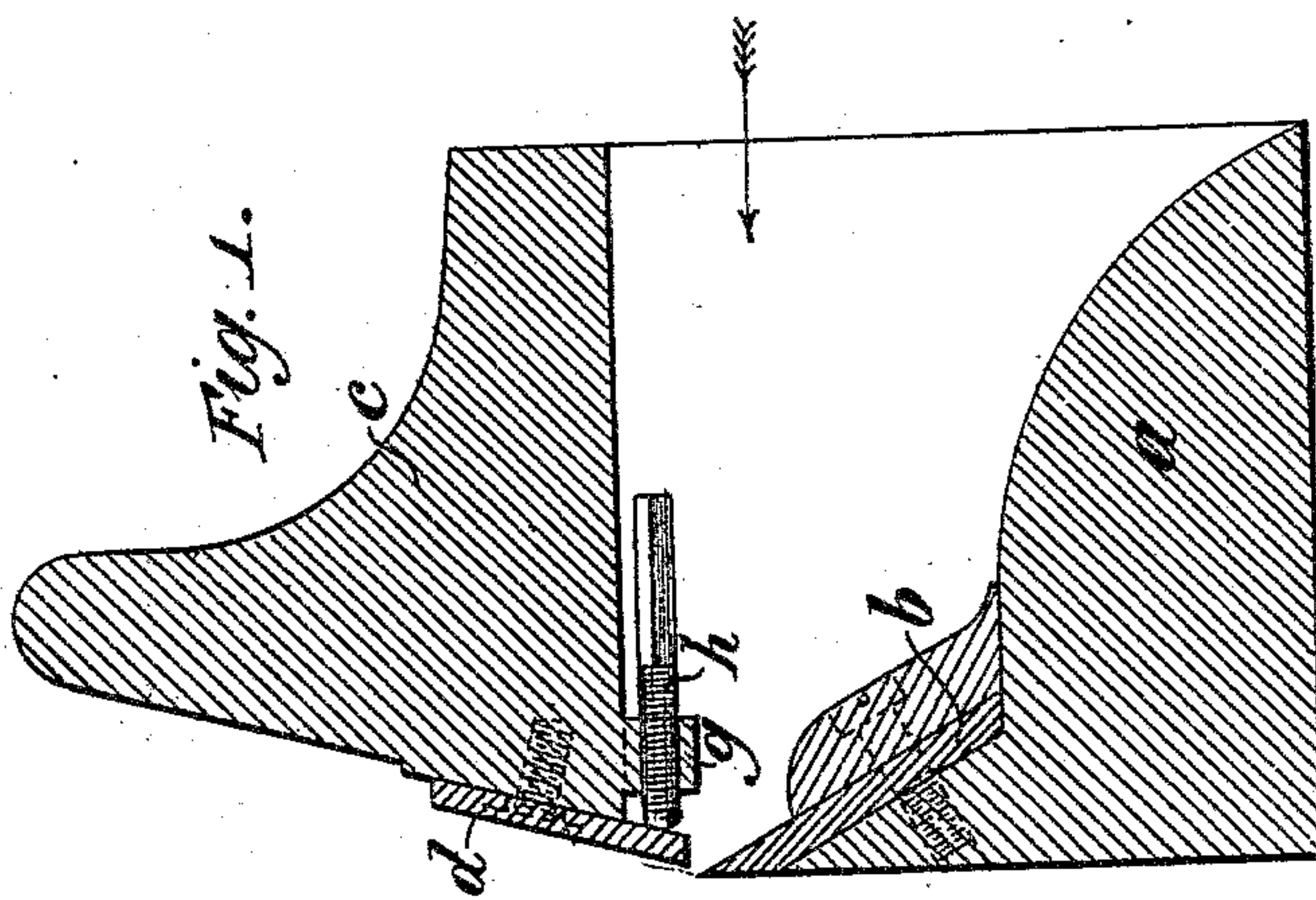
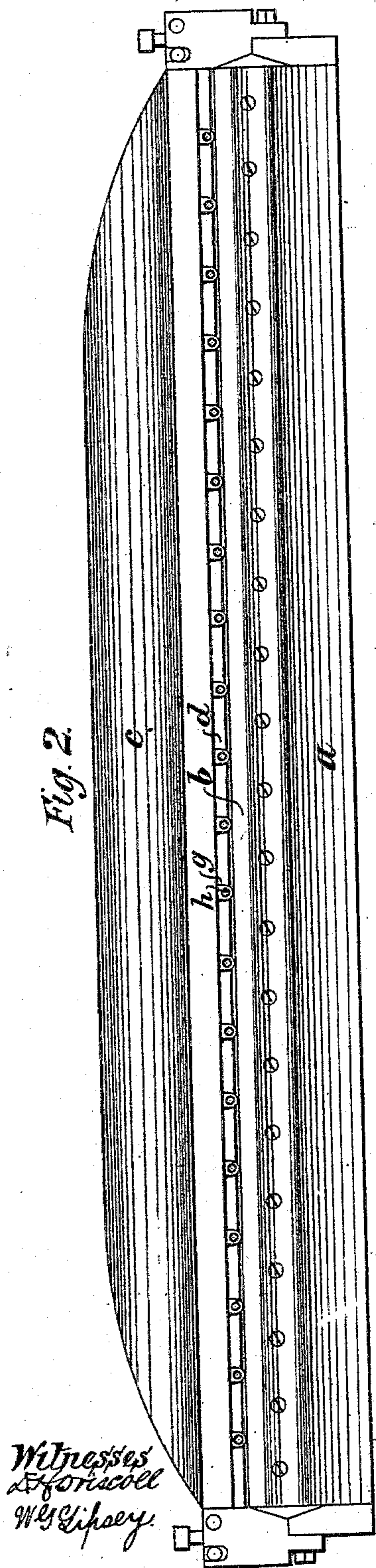


(No Model.)

J. H. COSTELLO.
VENEER CUTTING MACHINE.

No. 301,481.

Patented July 8, 1884.



Inventor
John H. Costello
by Lifford & Brown
Attys.

UNITED STATES PATENT OFFICE.

JOHN H. COSTELLO, OF NEW YORK, N. Y., ASSIGNOR TO F. A. MULGREW,
OF SAME PLACE.

VENEER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 301,481, dated July 8, 1884.

Application filed March 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. COSTELLO, a citizen of the United States, residing at New York, N. Y., have invented a new and useful Improvement in Veneer-Cutting Machines, of which the following is a specification, reference being made to the accompanying drawings.

Figure 1 is a cross-section through the knife, presser-bar, cap, and knife-block of a veneer-cutting machine containing my improvement. Fig. 2 represents a side view of the same parts viewed from the direction of the arrow, Fig. 2.

Heretofore veneer-cutting machines have been constructed and operated with knife-block, knife, cap, and presser-bar. The block of wood to be cut was drawn downward across the knife, which was preceded by the presser-bar pressed firmly against the wood. The horizontally-reciprocating carriage, which carried the knife and presser-bar, was advanced forward previous to each cut a distance equal to the thickness of the slice to be cut. My improvement may be usefully applied to such machines, though it is equally applicable to other forms of veneer-cutting machines, and I do not limit myself to any particular form. In the use of such machines it was found that the veneer would be cut rough and uneven. The roughness was especially noticeable in places where the knife encountered hard places in the wood, or what are called "cat-heads" or "bull-heads," also for several inches upward from the lower edge of the wood. At other places, particularly where the wood was soft, the tendency was to cut too thin and "blister" the veneer. I discovered that uniformity and smoothness of cutting required that the pressure of the presser-bar at various points along its length should not be uniform, as heretofore, but should be variable, so as to be made to conform to the requirements of the particular character of wood subjected to the pressure. Thus I discovered that if at any point along its length the knife was encountering a twist or hard spot in the wood the pressure at that point should be increased, while the pressure at other points remained the same; or, if the spot

encountered should be soft, the pressure should be diminished.

The object of my invention is to provide mechanism by which this discovery can be applied to use; and it consists in the combination, with the presser-bar, of mechanism whereby the intensity of pressure may be regulated at various points along its length independently of other points.

The best form known to me of mechanism for embodying my invention is illustrated in Fig. 1. It will be observed that the knife-block *a*, knife *b*, cap *c*, and presser-bar *d* remain substantially the same as heretofore, excepting that the presser-bar extends slightly (about one inch) below the cap. Upon the lower side of the cap are cast or otherwise secured lugs *g* at intervals about six inches apart. Through each of these lugs pass horizontal set-screws *h*, the forward ends of which abut against the rear side of the presser-bar near its lower edge, as shown. The rear ends of these set-screws have provision to receive a wrench by which they may be conveniently turned.

In an operative machine the knife and presser-bar are set at about the angle shown in Fig. 1. The presser-bar is preferably of steel, and is about ten feet six inches in length, four and a half inches wide, and five-eighths inch thick. The knife is the same length, about nine-sixteenths inch thick, and five and three-fourths inches wide, and the presser-bar projects about one inch below the cap. The presser-bar is secured to the cap by screws, substantially as shown, at such a distance back from its edge as to permit its lower portion to be thrust forward by the pressure of a set-screw at any portion of its length, and being of elastic material, the presser-bar will tend to spring back to its original position whenever released from the pressure of the set-screw.

In the operation of the machine the operator, by tightening and loosening the set-screws, has the pressure at all points along the presser-bar entirely at his command, and may regulate the same to meet the requirements of the wood at any point, while it is regulated differently to meet the requirements of the

wood at other points. He is also enabled to take up the wear of the presser-bar at any point, and to vary it in accordance with its expansion or contraction by heat or cold, so as to always secure the proper pressure upon the wood at each point. He may thus produce veneers which are of uniform thickness and smoothly cut, which require less labor for finishing, and in the end produce a better article. With my improvement, moreover, the most difficult wood can be cut, while without it some of the most handsomely figured wood had to be discarded because of the impossibility of cutting serviceable veneers from it. If the operator notices that the veneers are being cut roughly at any point of the knife, he tightens the set-screw governing the pressure of the presser-bar opposite that point until the knife cuts smoothly. If the operator notices that the knife is "blistering" the veneers at any point, he relieves the pressure opposite that point until the blistering ceases.

I do not limit my claim to the position in which the knife and presser-bar are held, whether vertical or horizontal or rotary, nor the mechanism by which they are secured;

nor do I limit my claim to the mechanism by which the wood is presented to the knife, nor to that by which the relative motions between the knife and the wood are produced; nor do I limit my claim to the particular form and location of the mechanism which I have shown for governing the pressure. All these might be varied and still many of the advantages of my invention be retained.

I claim—

1. In a veneer-cutting machine, the combination, with the knife and the flexible presser-bar, of adjusting mechanism located at intervals along the presser-bar, substantially as described, whereby the pressure of the presser-bar may be varied, substantially as described.

2. In a veneer-cutting machine, the combination, with the knife and the flexible presser-bar, of set-screws located at intervals along the presser-bar, so as to bear upon the rear of the presser-bar at intervals along its length, substantially as specified.

JOHN H. COSTELLO.

Witnesses:

DANIEL H. DRISCOLL,
T. J. KEANE.