(No Model.)

B. W. MARR.

SOLE EDGE TRIMMER.

No. 455,969. Patented July 14, 1891.

Fig 2

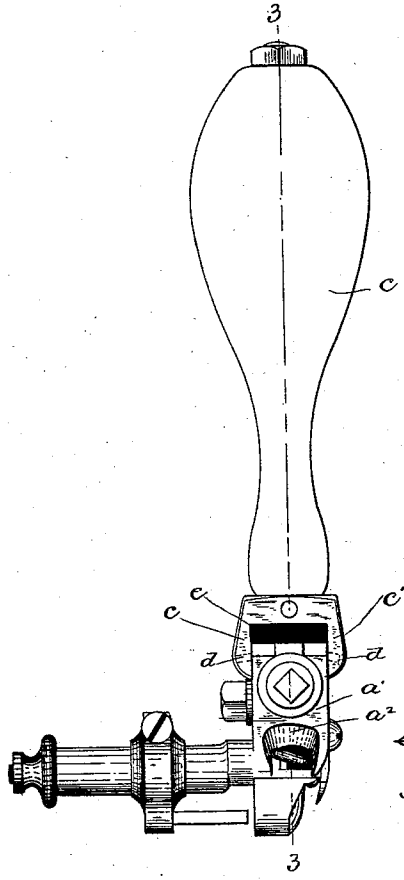


Fig 1

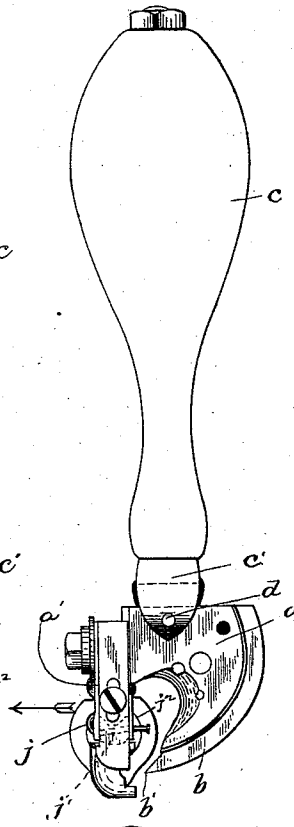


Fig 3

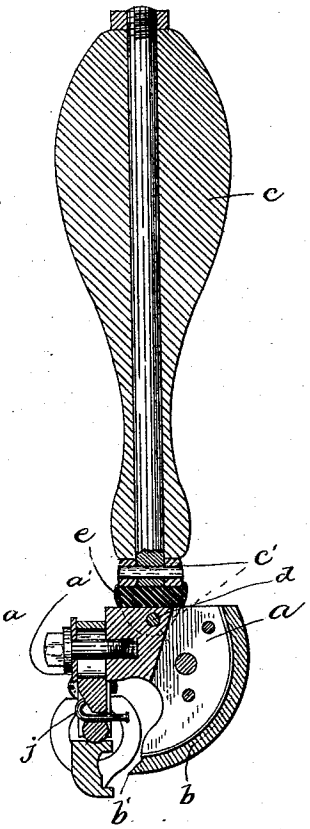
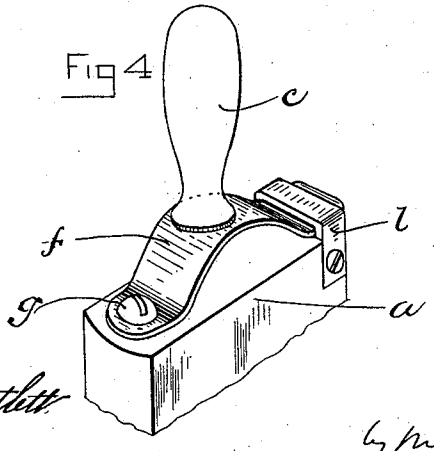


Fig 4



WITNESSES

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UNITED STATES PATENT OFFICE.

BENJAMIN W. MARR, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO C. C. HANSON, OF SAME PLACE.

SOLE-EDGE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 455,969, dated July 14, 1891.

Application filed October 1, 1890. Serial No. 366,727. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN W. MARR, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Edge-Trimming Machines, of which the following is a specification.

This invention relates to the class of sole-edge trimmers which are known as "suspended trimmers," the same being suspended from a flexible support and drawn along over the edge of the sole to be trimmed, the knife turning to vary its inclination and position with the variations in the curvature of the sole. In trimming-machines of this class it is highly important that the trimming-knife be adapted to turn with the utmost freedom and adapt itself to all the varying curvatures of the sole-edge, any cause which operates to prevent the requisite freedom of movement of the knife also operating to cause the knife to cut unevenly or imperfectly, and thus producing undesirable and inferior work. These trimmers are provided with a handle, which is held and guided by the hand of the operator, who turns the handle to cause the knife to conform to the curvature of the sole-edge. Said handle has heretofore been rigidly attached to the stock or shank to which the trimming knife or blade is affixed, so that unless the operator exercises great care and skill in guiding the knife imperfect trimming is liable to result from the failure of the operator to move the handle in strict accordance with all the variations of the curvature of the sole-edge.

My invention has for its object to obviate this difficulty; and to this end it consists, chiefly, in providing a resilient connection or spring-hinge between the handle and the stock or shank to which the trimming-knife is affixed, said connection enabling the knife to conform automatically, to a considerable extent, to the curvatures of the sole-edge, so that in case the operator, through lack of care and skill, fails to properly move the handle his failure will be to a great extent compensated for by the resilient connection.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a suspended trimming-machine embodying my improvement. Fig. 2 represents a front elevation of the same. Fig. 3 represents a section on line 3 3 of Fig. 2. Fig. 4 represents a perspective view of a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the stock or body which is employed to hold a segmental trimming-knife *b* in a suspended trimming-machine—such, for example, as the well-known Dodge trimmer. The construction of said shank or body *a* and of the blade *b* may be the same as in the ordinary Dodge trimmer, the same being well known and requiring no detailed description.

c represents a handle by which the operator guides the trimming-knife during the trimming operation.

In carrying out my invention, instead of attaching the handle *c* rigidly to the knife-carrying stock *a*, as heretofore, I provide a resilient connection between said parts, which will enable the stock to rock or turn to some extent independently of the handle and crosswise thereof, so that the position of the knife may vary in some degree to conform to the curvature of the sole-edge without a corresponding variation in the position of the handle. The said resilient connection is produced in the construction shown in Figs. 1, 2, and 3 in the following manner: The handle is provided with ears *c' c'*, which are pivoted at *d* to the upper portion of the shank or body *a*, so that a forward-and-backward independent rocking motion of the shank or body on the handle crosswise of the latter is permitted. A spring *e*, which may be a block of yielding rubber or of any other suitable construction, is interposed between the handle and the stock or body *a*, between the ears *c' c'*, to prevent the stock from oscillating loosely and hold the same yieldingly in its position with relation to the handle.

In Fig. 4 I have shown the resilient connection as a curved metal spring *f*, attached at one end by a screw *g* or otherwise to the stock or body *a* and having its other end inserted in a socket or guide *i*, in which said end is adapted to slide. The last-described connection gives the shank or body *a* a greater

freedom of movement than the connection shown in Figs. 1, 2, and 3, the spring *f* enabling the shank to yield laterally by torsional movements of the spring, as well as forward and backward.

It is obvious that various contrivances may be adopted to resiliently connect the shank or body *a* to the handle *c*, my invention not being limited to the devices here shown.

Each of the resilient connections above described constitutes a spring-hinge, permitting the shank to tip crosswise of the handle and returning it to its normal position with relation to the handle.

The trimmer is moved while in operation by power applied to an eye *j*, which is secured to an arm *a'*, attached to the shank or body *a* in advance of the knife, said eye receiving a link or chain which connects it to the source of power, the trimmer being thus drawn along in the direction indicated by the arrow in Fig. 1. The eye *j* is provided with a shank *j'*, having on its rear end a head j^2, bearing on the rear portion of the arm *a'*, the shank and eye being adapted to turn freely in the socket in the arm *a'*, through which the shank passes.

To enable the impelling power to be as close to the cutting-edge *b'* of the knife as possible, I form a recess or cavity a^2 in the front side of the arm *a'*, said recess receiving a portion of the eye *j*, so that the projection of the eye from the front of the arm *a'* is reduced to the minimum, and the distance between the eye and the cutting-edge of the blade is less than it would be if the recess a^2 were not employed and the entire eye projected from the front of the arm *a'*. By this construction the operator is enabled to more easily guide the tool and cause it to conform to lateral curvatures in the sole-edge, the force required to overcome the tendency of the knife to move in a straight line when trimming a curved portion being reduced by the recessing of the eye into the arm *a'*.

I claim—

1. A sole-edge trimmer of the class described, having a resilient hinge connection between the knife-carrying shank or body and the handle, whereby the shank is normally held in its proper position relatively to the handle and is permitted to yield or tip crosswise of the handle, as set forth.

2. The combination of the knife-carrying shank or body, a handle having ears connected to said body by a pivot, and a spring or cushion interposed between the handle and shank, as set forth, said ears, pivot, and spring constituting a resilient hinge connection between the handle and shank.

3. The combination of the knife-carrying shank or body having a recess a^2 located in advance of and slightly above the cutting-edge of the knife, and an eye or power connecting device *j*, partially contained in said recess in advance of the cutting-edge of the knife, said recess enabling the distance between the eye and the cutting-edge to be reduced to the minimum, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 22d day of September, A. D. 1890.

BENJAMIN W. MARR.

Witnesses:
FRANCIS C. STICKNEY,
GEORGE J. CARR.