

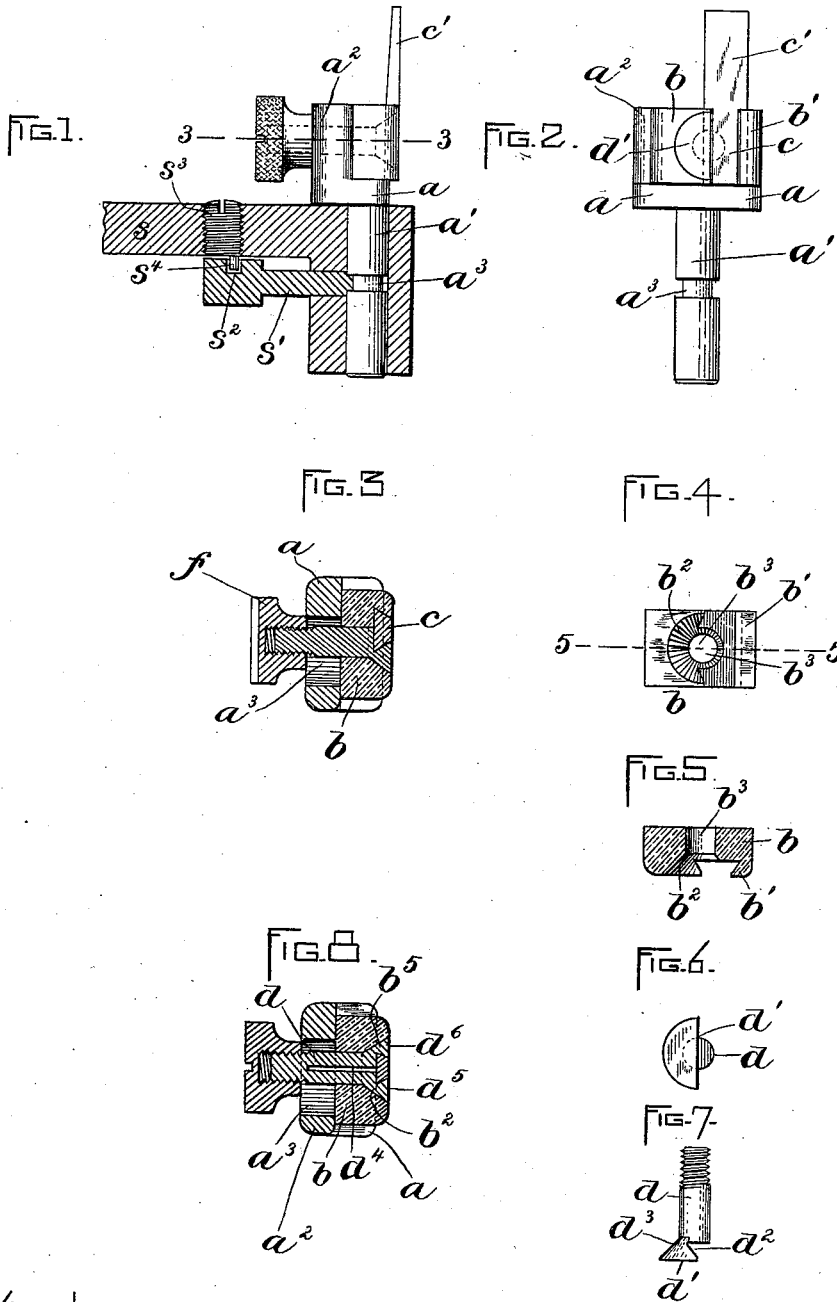
(No Model.)

L. E. ERICSON.

KNIFE HOLDER FOR SOLE ROUNDING MACHINES.

No. 523,162.

Patented July 17, 1894.



WITNESSES:
A. D. Hanson
Rollin Abell

INVENTOR:
L. E. Ericson
by Wright Brown Bradley
Atty.

UNITED STATES PATENT OFFICE.

LEWIS E. ERICSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE FLAGG MANUFACTURING COMPANY, OF SAME PLACE.

KNIFE-HOLDER FOR SOLE-ROUNDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 523,162, dated July 17, 1894.

Application filed April 14, 1894. Serial No. 507,620. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. ERICSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Knife-Holders for Sole-Rounding Machines, of which the following is a specification.

This invention relates to sole-rounding machines which employ a fixed pattern against which the sole to be trimmed or "rounded" is clamped, a carriage which travels around the pattern, and a knife-holder pivotally connected to the carriage and provided with a trimming-knife which is caused, by the movement of the carriages and by the pivotal connection of the holder to the carriage, to trim the sole along the edge of the pattern.

In machines of this class it is very important that the cutting edge of the knife be kept abreast or even with the pivot that connects the knife-holder to the carriage, so that the cutting edge will not be behind said pivot when in operation, it being well known that when the cutting edge is behind the pivot the trimming is imperfect, particularly at the toe of the sole, and more particularly when the sole has pronounced angles at the toe, as in so-called square-toed soles. The wear of the knife naturally causes the cutting edge to gradually recede from its proper position abreast the pivot, and it therefore becomes necessary to adjust the knife from time to time to compensate for wear of its cutting edge.

My invention has for its object to provide improved means for adjusting the knife, so that its cutting edge may be readily kept in the proper relative position without material loss of time in the operation of adjusting.

The invention consists in a knife-holder comprising a block or knife-support having a beveled seat, a knife-clamping device comprising a stud having a head formed to bear on said seat and adapted to be forced against the knife by the seat, and means for exerting inward endwise pressure on the stud.

The invention also consists in a knife-holder comprising a block or knife-support provided with a gib formed to engage the shank of a

trimming knife and with a beveled seat opposite said gib, the stud having a head, one side of which constitutes a gib opposed to the gib on the block while the other side is formed to bear on said beveled seat, and means for exerting inward endwise pressure on the stud and thereby causing the seat to press said head laterally against a knife shank interposed between the gibs.

The invention also consists in a knife-holder comprising a base provided with a slot, a block adjustable on said base and provided with a shank-engaging gib, a beveled seat, and an orifice between said gib and seat, the stud formed to pass through said slot and orifice and provided with a head one side of which constitutes a shank-engaging gib while the other is formed to bear on said seat, and a nut adapted to exert inward endwise pressure on the stud and thereby cause the seat to press said head laterally against a knife shank interposed between the gibs and at the same time bind the block against the base, said slot permitting the lateral adjustment of the block on the base.

The invention also consists in certain details hereinafter described.

Of the accompanying drawings, forming part of this specification,—Figure 1 represents a side view of a knife-holder embodying my invention. Fig. 2 represents a front view of the same. Fig. 3 represents a section on line 3—3 of Fig. 1. Fig. 4 represents a front view of the knife block, removed from the supporting base. Fig. 5 represents a section on line 5—5 of Fig. 4. Fig. 6 represents an end view, and Fig. 7 a top view of the stud. Fig. 8 represents a sectional view of a modification.

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

In the drawings—*a* represents the base portion of the improved knife-holder, the same having a downwardly projecting stud or pivot *a'* formed to turn freely in a socket or bearing formed for its reception in a slide mounted to move back and forth on a carriage which travels around the pattern of a sole-rounding machine, said slide and car-

riage being of any suitable construction, such for example, as that shown in Letters Patent to Austin E. Perry, dated April 24, 1894.

The base has a flange a^2 in which is a longitudinal slot a^3 .

b represents a knife block or support which bears on the base a and flange a^2 and is adjustable thereon. Said block has a gib b' , one side of which is beveled and formed to engage one of the correspondingly beveled edges of the shank c of a trimming knife c' . The block also has a beveled seat b^2 opposite the gib b' , said seat being formed to co-operate, as hereinafter described, with the clamping stud d .

d represents a knife-clamping stud which is formed to pass through an orifice b^3 in the block b , and through the slot a^3 in the flange a^2 . Said stud has at its outer end a head d' , one side of which is beveled to engage one of the edges of the knife shank c , said beveled side constituting a gib d^2 which is opposed to the gib b' and co-operates with the latter in grasping and holding the knife shank. The opposite side of the head d' has a beveled face d^3 , which is formed to bear upon the seat b^2 , the arrangement being such that when inward endwise pressure is exerted upon the stud, the bearing of the face d^3 of the head on the seat b^2 will cause a slight lateral movement of the stud, thus moving the gib d^2 slightly toward the gib b' , and causing the two gibs to co-operate in grasping and securely holding the knife shank c .

Means are provided for exerting the said endwise pressure upon the stud, said means as here shown being a nut f engaged with a screw thread on the inner end of the stud, said nut bearing on the rear side of the flange a' . When the nut is turned up against said flange, it not only exerts the described inward pressure upon the stud, causing the head of the latter to clamp the knife, but also binds the block b firmly against the flange a^2 of the base.

It will be seen that when the nut f is loosened, the knife c' is released and can be readily removed, the block b being also released at the same time, so that it can be adjusted to compensate for wear of the cutting edge of the knife, the slot a^3 permitting said adjustment. The construction is therefore extremely simple and efficient, the knife being securely held and readily adjusted. The head d' is preferably formed by cutting away one side of a circular head originally formed on the stud, leaving the head with a straight side, which is the gib d^2 , and a segmental side, which is the face d^3 that bears against the seat b^2 , said seat being correspondingly formed to closely fit the face d^3 . I do not limit myself, however, to the described form of parts whereby the described clamping action is produced by an endwise pressure on the stud, as said seat and head may be of any

other suitable form adapted to produce the described result.

My invention is not limited to the employment of the nut f , as the means for producing the described endwise movement of the stud and the clamping of the block b to the flange a^2 , as any other suitable device may be used for this purpose.

In Fig. 1 I show a sectional view of a portion of the slide s , in which the stud a' is fitted to rotate, said slide being shown as provided with improved means for engaging and releasing the stud, said means comprising a sliding bolt s' arranged to engage an annular groove a^3 formed in the stud, said bolt having a head containing a slot s^2 and a screw s^3 engaged with a threaded socket in the slide and provided at its lower end with an eccentrically arranged pin s^4 projecting into the slot s^2 . A partial rotation of the screw s^3 in one direction moves the bolt s' forward, and causes it to engage the groove a^3 , while a partial movement of the screw in the other direction retracts the bolt and causes it to release the stud a' , so that it may be readily removed. The screw s^3 being located at the rear of the knife-holder can be conveniently manipulated for the purpose of projecting and retracting the bolt. When the stud is released by the bolt, the knife-holder may be readily removed from the slide. The bolt does not interfere with the rotation of the stud in its socket.

In Fig. 8 I have shown a modification of the means for clamping and releasing the knife shank, in which instead of providing the block b with one of the gibs which hold the knife, both gibs are formed on the stud d . Said stud has a longitudinal slot d^4 extending from its outer partly to its inner end, and has two gibs d^5 d^6 at opposite sides of said slot. When inward endwise pressure is exerted upon the stud, its beveled faces, which are formed at the outer sides of the two gibs, press upon the beveled seats b^2 b^5 , and are pressed inwardly against the edges of the knife shank.

I claim—

1. A knife-holder comprising a base provided with a slot, a block or knife-support adjustable on said base and having a beveled seat and an orifice between said seat and the base, a knife-clamping device comprising a stud formed to pass through said slot and orifice and having a head formed to bear on said seat and adapted to be forced against the knife by the seat, and means for exerting inward endwise pressure on the stud, as set forth.

2. A knife-holder comprising a block or knife-support provided with a gib formed to engage the shank of a trimming knife and with a beveled seat opposite said gib, the stud having a head one side of which constitutes a gib opposed to the gib on the block while the other side is formed to bear on said

beveled seat, and means for exerting inward endwise pressure on the stud and thereby causing the seat to press said head laterally against a knife-shank interposed between the gibs, as set forth.

3. A knife-holder comprising a base provided with a slot, a block adjustable on said base and provided with a shank-engaging gib, a beveled seat, and an orifice between said gib and seat, the stud formed to pass through said slot and orifice and provided with a head one side of which constitutes a shank-engaging gib while the other is formed to bear on said seat, and a nut adapted to exert inward endwise pressure on the stud and thereby cause the seat to press said head laterally against a knife-shank interposed between the gibs and at the same time bind the block against the base, said slot permitting

the lateral adjustment of the block on the base, as set forth.

4. The combination of a slide or carriage, a knife-holder having a stud or pivot fitted to turn in a socket or bearing in said slide, a stud-locking bolt movable in a guide in said slide and provided with a head having a slot, and a screw engaged with the slide and provided with an eccentric pin engaged with the said slot, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of April, A. D. 1894.

LEWIS E. ERICSON.

Witnesses:

A. D. HARRISON,
ROLLIN ABELL.