

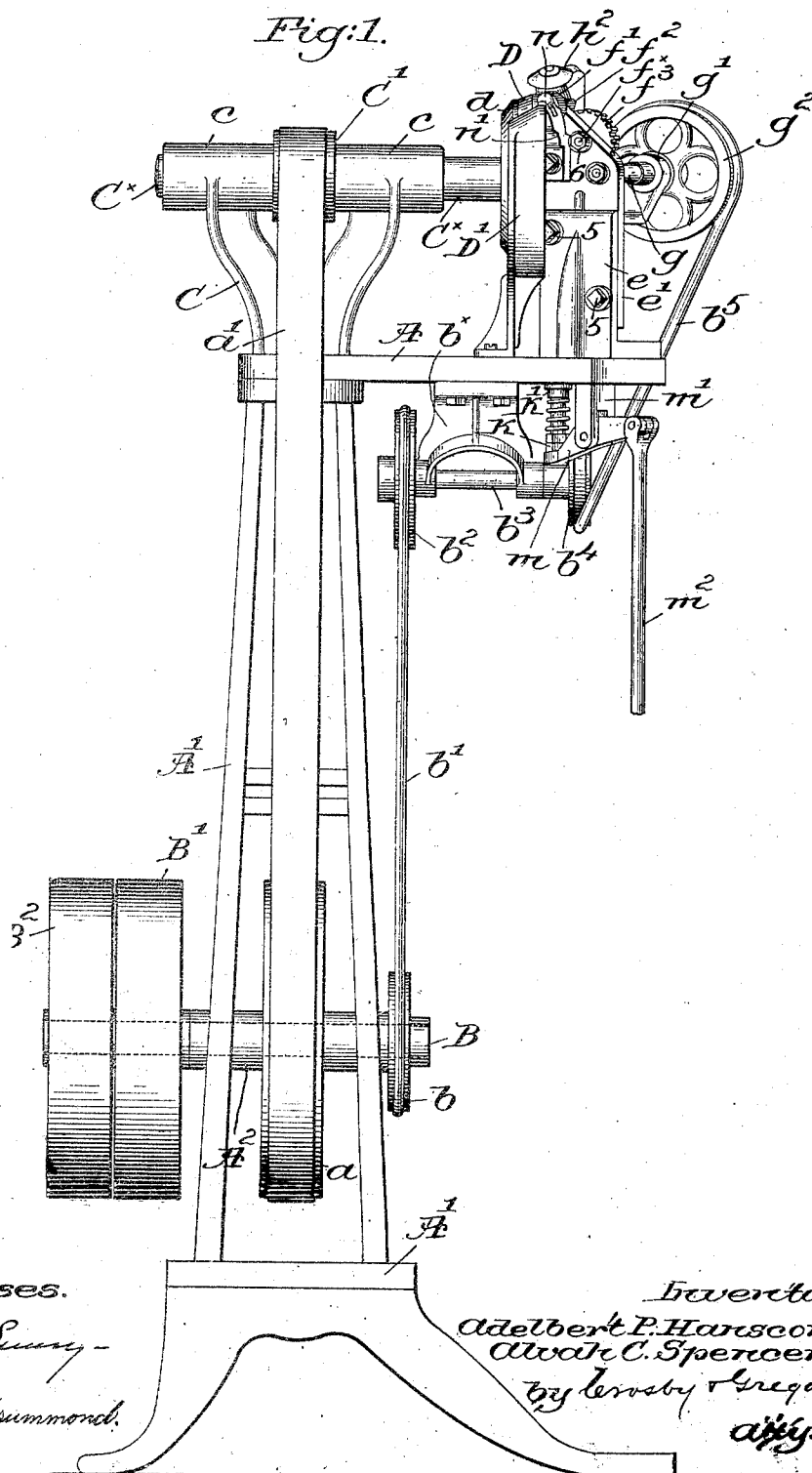
(No Model.)

2 Sheets—Sheet 1.

A. P. HANSCOM & A. C. SPENCER.
INSEAM TRIMMING MACHINE.

No. 520,020.

Patented May 15, 1894.



Wh. vessels.

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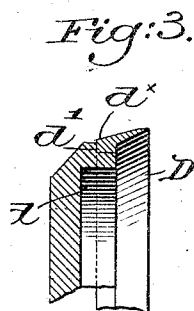
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Witnesses.

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UNITED STATES PATENT OFFICE.

ADELBERT P. HANSCOM, OF WEST MEDFORD, AND ALVAH C. SPENCER,
OF ROSLINDALE, MASSACHUSETTS.

INSEAM-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 520,020, dated May 15, 1894.

Application filed August 30, 1893. Serial No. 484,384. (No model.)

To all whom it may concern:

Be it known that we, ADELBERT P. HANSCOM, of West Medford, Middlesex county, and ALVAH C. SPENCER, of Roslindale, Suffolk county, State of Massachusetts, have invented an Improvement in Inseam-Trimming Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a machine for trimming the inseam of a boot or shoe in a rapid and efficient manner, the material being removed by a continuous clean, sharp shear cut, instead of by a series of cutting edges acting in rapid succession upon the work.

In accordance therewith our invention consists in the combination, with a positively rotated feed wheel, and a yielding presser, to hold the welt thereon, and a support for the shoe, of a rotating hoop knife rotating in a plane at an angle to the feed wheel to trim the inseam with a continuous shear cut, substantially as will be described.

Other features of our invention will be hereinafter described and particularly pointed out in the claims.

Figure 1 in side elevation represents an inseam trimming machine embodying our invention. Fig. 2 is an enlarged front view of the operative parts of the machine, with a portion of a shoe shown in section, the standard being omitted; and Fig. 3 is a sectional detail of the knife-holder and knife.

The operative parts of the machine are mounted upon a table or base A, secured to a suitable standard A', and provided with suitable bearings A² for a shaft B having thereon usual fast and loose pulleys B', B², motion being transmitted from said shaft by belt pulleys a and b, clearly shown in Fig. 1. A bracket or stand C has suitable bearings c for a knife carrying shaft C^x, provided with a belt pulley C' fast thereon and connected by belt a' with the driving pulley a, the shaft C^x having secured thereto a knife carrier d, herein shown as annular in shape and exteriorly shouldered at d', see Fig. 3, to receive the hoop knife D. The butt d² of the knife carrier is secured to the end of the

shaft by a suitable washer w and screw-bolt w', as best shown in Fig. 2, though any other suitable means may be employed.

We have shown the cutting knife D as hoop-shaped, the base d^x thereof fitting tightly around the carrier and resting against the shoulder d' thereof, the inner face of the knife being herein shown as flaring, see Fig. 3.

A guard D' is secured to the table A and partially surrounds the knife, to shield the hands of the operator therefrom.

As will be evident the knife will make a clean, sharp and continuous shear cut, cutting away the surplus material from the boot or shoe instead of grinding it off by a series of distinct cutting edges striking in rapid succession, and by the use of a knife such as we have herein shown and described all the fine leather dust is done away with, so that no hood is necessary.

A stand provided with a vertical arm e is secured to the table at an angle with relation to the plane of the hoop knife D, and a bracket e' is adjustably secured thereto by suitable bolts 5, the brackets being adjusted vertically by an adjusting screw e² extended through an ear e^x on said bracket and bearing against the foot of the stand. A short shaft f having on its front end a suitable feed wheel f' provided with a beveled portion 2, and on its rear end a pinion f², is extended through the upper part of the bracket, see Figs. 1 and 2, said pinion engaging an intermediate gear f³ loose on a stud f^x secured to the bracket by bolts 6, said intermediate gear being engaged and driven by a pinion f⁴, fast on a shaft g, supported in the bracket and a bearing g' forming a part thereof.

We have herein shown a band pulley g² secured to the shaft g, said pulley being connected by a suitable belt b⁵ with a pulley b' fast on a shaft b³, supported in a hanger or bracket b^x, see Fig. 1, a belt b' connecting the driving pulley b with pulley b² fast on the shaft b³ to rotate the same, and through the intermediate mechanism, to actuate the feed wheel f'.

The bracket e' is provided with offset bearings h to receive a vertical rod h', to the upper end of which is pivoted a presser wheel h³, the edge h³ of said presser wheel being

shown as V-shaped in cross section, the lower side at its outer edge being arranged above and to bear against the periphery of the feed wheel f' . The lower end of the rod h' is extended through the base A and herein shown as threaded, to receive therein set nuts k , a spiral spring s surrounding the rod between said nuts and a collar k' loose on the rod normally holding the presser h^2 upon the feed wheel with a yielding pressure. A lever m forked to embrace the rod h' below the set nuts is pivoted to an ear m' , the free end of the lever being connected by a link m^2 to a suitable treadle, not shown, whereby depression of the free end of said lever will raise the rod h' and the presser h^2 from the feed wheel, when it is desired to put the work in place or remove it, movement of the rod h' being limited by pins or projections 7, see dotted lines Fig. 2, abutting against the bearings h . A roll or wheel n , preferably rotatable, is journaled in a stand n' secured to the bracket e' to support the sole of the shoe, as shown in Fig. 2.

In the operation of the machine, rotation of the shaft B from a suitable source of power will rotate the knife carrier d , with the hoop knife D very rapidly in the direction of the arrow Fig. 2, the feed wheel f' being rotated more slowly and toward the knife, by the mechanism described. The boot or shoe, herein shown as on a last E, has its upper E' and welt secured to the channeled lip of the inner sole S by stitches, as usual, and is placed in the machine, the presser h^2 having first been raised to admit the welt between it and the feed wheel f' , as shown in Fig. 2, the pressure of the spring s thereafter keeping the presser against the welt, holding it upon the feed wheel, the edge h^3 of the presser pressing into the rand, while the sole S rests on the support n beyond the edges to be trimmed. The boot or shoe being held firmly and controlled by the operator, the feed roll

f' will feed it along toward and over the hoop knife, and the inseam-edges of the upper, channel lips, and edge of the welt will be cut and trimmed, with a continuous clean shear cut. The amount to be trimmed or cut off is adjusted by the screw e^2 , whereby the feed wheel is raised or lowered with relation to the knife.

Our invention is not restricted to the precise construction and arrangement of parts as herein shown, as the same may be varied or altered without departing from the spirit of our invention.

We claim—

1. The combination, with a positively rotated feed wheel, a yielding presser to hold the welt thereon, and a support for the shoe, combined with a hoop knife rotating in a plane at an angle to the feed wheel, substantially as described.

2. The combination, with a rotating shaft, a knife carrier thereon, and a hoop knife secured thereto having a continuous edge, of a feed wheel positively rotated toward the plane of said knife, a shoe support, and a yielding presser to hold the welt upon the feed wheel, substantially as described.

3. In an inseam trimming machine, a rotatable shaft, an annular externally shouldered knife carrier fast thereon, and a hoop knife secured to said shouldered carrier and having a continuous edge, combined with a feed wheel, a presser to co-operate therewith, and a support for the sole of the shoe, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ADELBERT P. HANSCOM.
ALVAH C. SPENCER.

Witnesses:

FREDERICK L. EMERY,
JOHN C. EDWARDS.