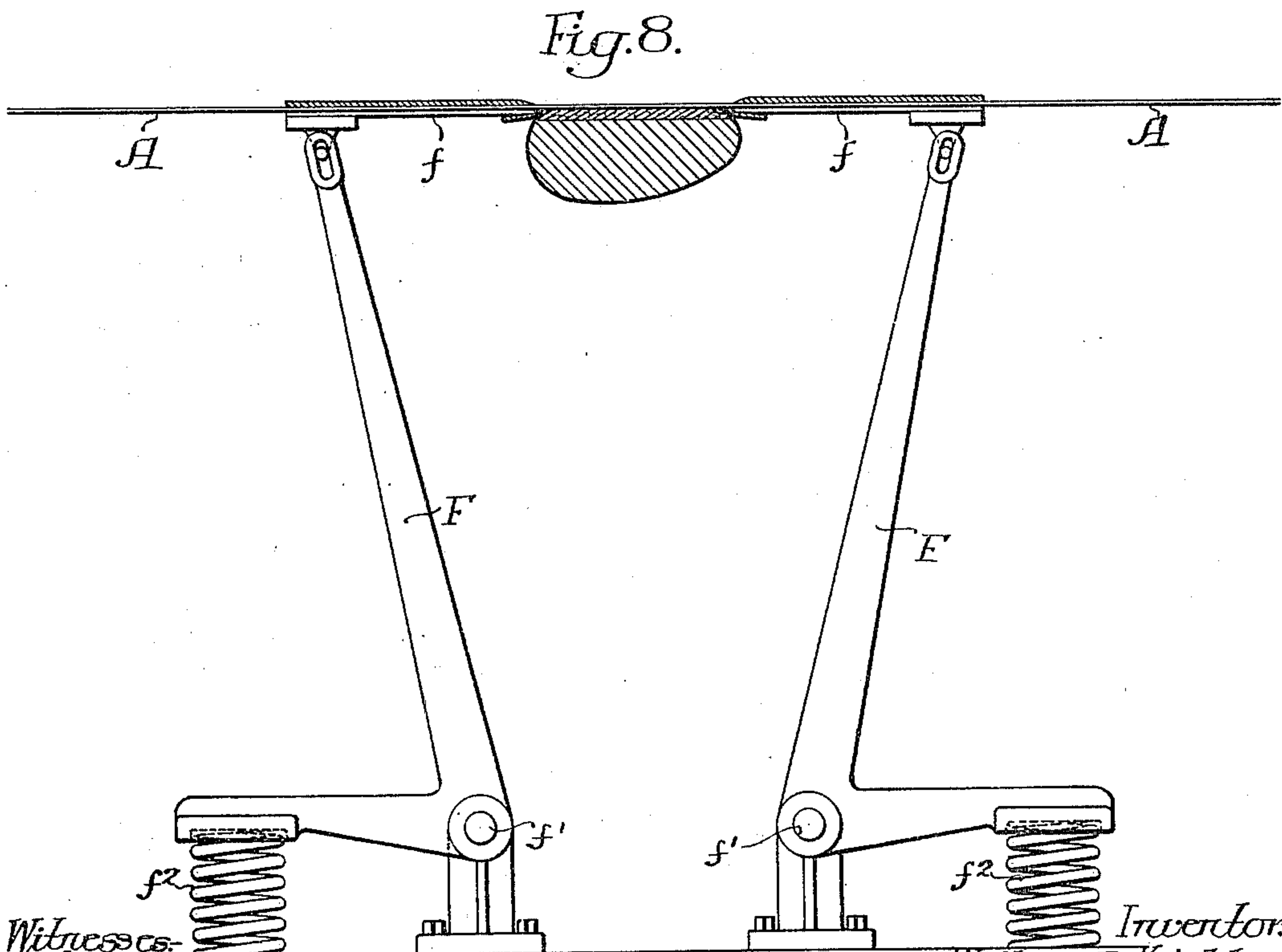
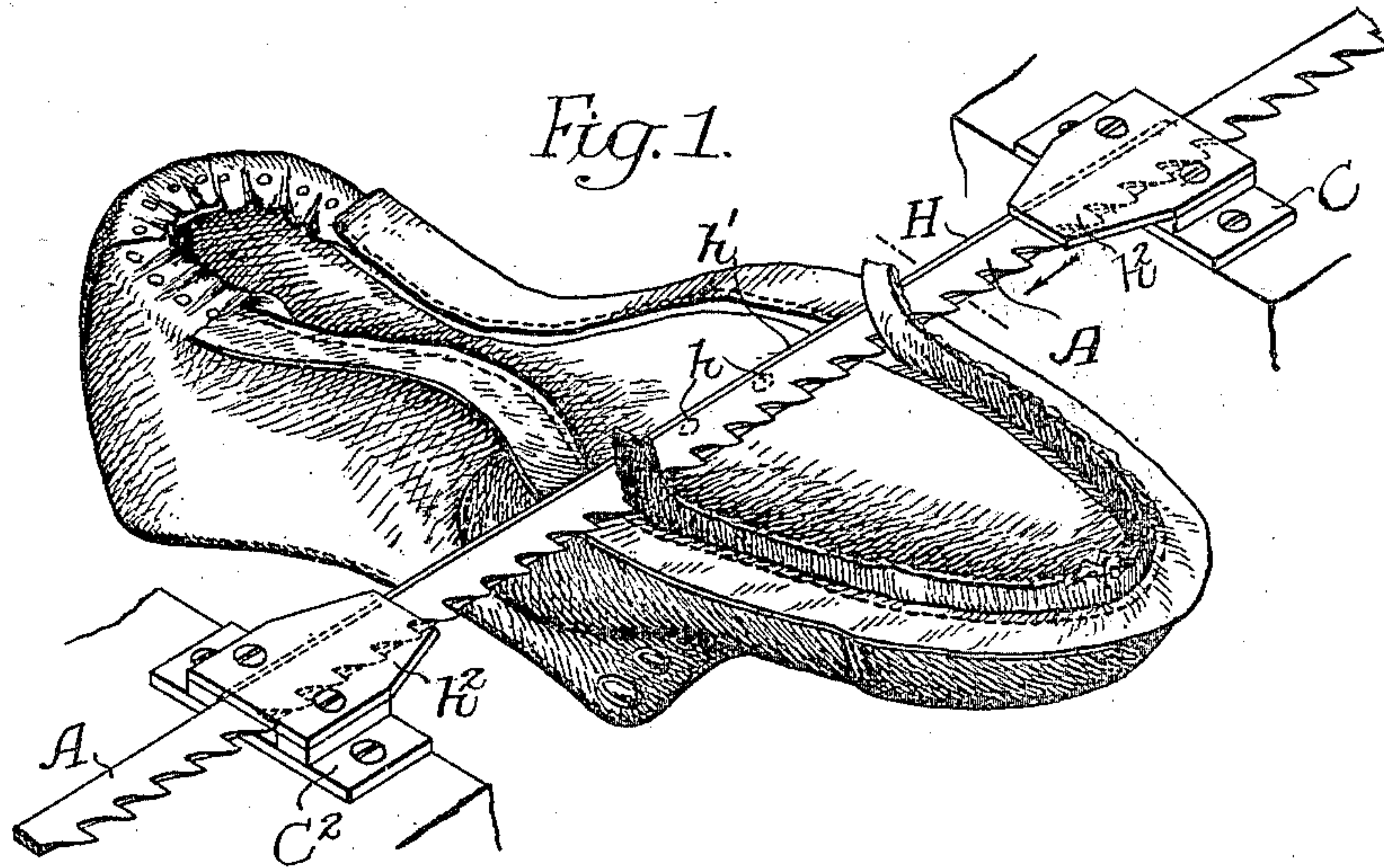


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W. B. KEIGHLEY.  
INSEAM TRIMMING MACHINE.  
APPLICATION FILED FEB. 1, 1909.

Patented June 7, 1910.

2 SHEETS—SHEET 1.



Witnesses:  
Wills A. Burrows.  
Walter A. Pullinger.

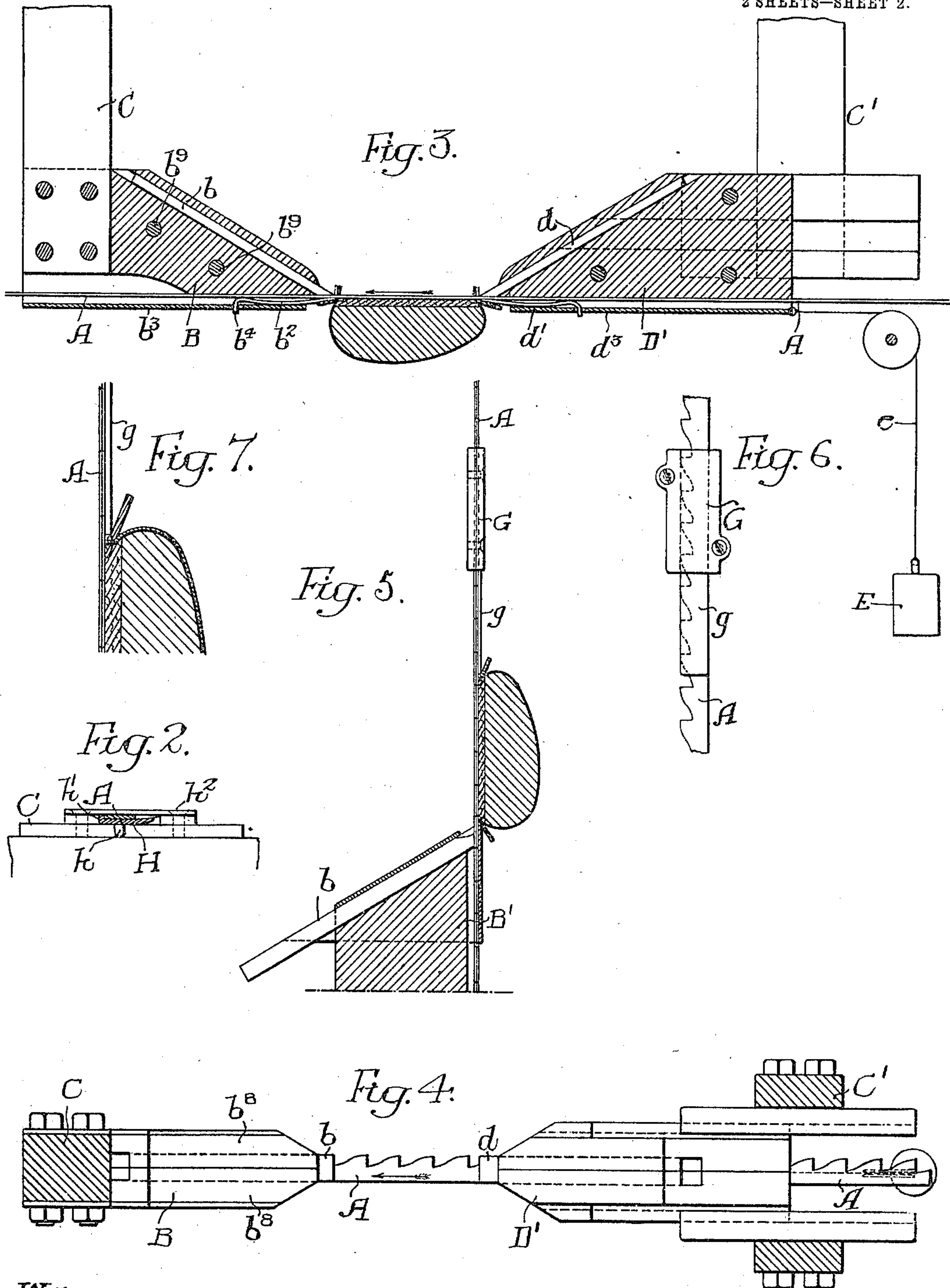
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William B. Keighley.  
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# UNITED STATES PATENT OFFICE.

WILLIAM B. KEIGHLEY, OF VINELAND, NEW JERSEY.

INSEAM-TRIMMING MACHINE.

960,952.

Specification of Letters Patent.

Patented June 7, 1910.

Application filed February 1, 1909. Serial No. 475,425.

*To all whom it may concern:*

Be it known that I, WILLIAM B. KEIGHLEY, a citizen of the United States, residing in Vineland, New Jersey, have invented certain Improvements in Inseam-Trimming Machines, of which the following is a specification.

My invention relates more particularly to certain improvements in that type of shoe trimming machinery in which an endless or band knife is employed, such for example as that illustrated in my application for Patent No. 424,184, filed March 30, 1908, and one object of said invention is to provide means acting in conjunction with the knife whereby it will be possible to more quickly trim a shoe than has hitherto been possible.

It is further desired to provide a band knife trimming machine with a novel form of guide for the shoe whereby it shall be possible to so support this latter that the surplus stock may be trimmed simultaneously from both sides thereof.

I also desire to provide means whereby in a machine of the type above noted the knife shall be prevented from injuring the shoe operated on by reason of its getting beyond the control of the operator or cutting too deeply.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view of a portion of a band knife trimming machine illustrating my invention as applied thereto; Fig. 2, is a transverse vertical section of the apparatus shown in Fig. 1; Fig. 3, is a vertical section of a modified form of my invention; Fig. 4, is a plan of the device shown in Fig. 3; Fig. 5, is a front elevation, partly in section, of another modification; Fig. 6, is a side elevation of part of the device shown in Fig. 5; Fig. 7, is an enlarged fragmentary elevation of one of the guides used in the machine shown in Fig. 5, and Fig. 8, is a front elevation of another modification of my invention.

As understood by those skilled in the art, it is necessary at a certain stage in the manufacture of shoes to remove the surplus stock formed by the projecting edges of the upper, the lining and the welt, as will be seen in Fig. 1, and while the cutting off of this material may be accomplished much more

quickly than hitherto by the use of the machine described and claimed in my above mentioned application for patent, I have found it is possible, by the use of the devices illustrated in the above drawings, to still further reduce the time of operation by reason of the fact that the two sides of the shoe are simultaneously operated on. In order to render this possible it is obvious that the shoe must be supported or guided at two or more points in order to obviate the possibility of the knife cutting too deeply and so doing serious injury.

In illustrating my invention I have not shown the supporting frame or the driving pulleys of the band knife, since it is obvious that these may be of practically the same construction as commonly employed in wood sawing machines either of the horizontal or vertical type, or if desired, may be arranged as illustrated in the above noted application for patent.

In Figs. 1 and 2 of the drawings A represents the band knife which is preferably beveled at its cutting edge and may or may not be provided with saw teeth as desired. Carried on and extending between two parts of the frame of the machine, a portion of which is indicated at C<sup>2</sup>, is a thin blade or plate H usually of steel, and the operating run of the knife A passes over and preferably in engagement with this so that its cutting edge projects beyond said plate. The back edge h' of the plate is preferably turned up to a height equal to or less than the thickness of the knife so as to prevent this moving to the rear under operating conditions. Cover plates h<sup>2</sup> mounted on the parts C<sup>2</sup>, extend toward each other over the knife so as to prevent accidental contact therewith as well as to hold said knife down on the plate H. If desired, the middle of this plate H may be provided on its under surface with two downwardly extending projections or lugs h designed to rest upon the surface of the shoe sole and thereby to some extent regulate the possible depth to which the knife may cut. These projections, however, may be omitted without departing from my invention, since in most cases the plate H is amply sufficient to attain the end desired. Under operating conditions the shoe to be trimmed is approached to the band knife with its sole uppermost and the projecting stock adjacent to its heel



is brought into engagement with the cutting edge of said knife. It is then moved in a line at right angles to the line of the knife which thus simultaneously engages and  
 5 severs the projecting material at both edges of the shoe, the depth of the cut being regulated by the plate H and by the amount of inclination given to the shoe as it is moved under the knife.

10 In that form of my invention shown in Figs. 3 and 4, I have provided a work supporting post B whose general construction is described and claimed in Patent No. 928,133, July 13, 1909, and which will be  
 15 seen from the drawings to consist of a wedge-shaped structure having one of its faces immediately adjacent to and parallel with the knife A. Said structure is formed of two similar parts  $b^s$  held together by  
 20 bolts  $b^9$  and grooved for the reception of a bar  $b$  which is thereby clamped between them. Said bar  $b$  is mounted so as to be substantially parallel with the other face of the post B thus extending at an angle to the  
 25 line of the band knife and into engagement therewith, its end being beveled for this purpose, as shown. It is held in any adjusted position by the above mentioned clamping bolts. A shield or guard  $b^3$  fastened to the  
 30 post B extends around the under side of the knife so as to completely inclose the same and carries near the pointed end of said post a spring plate  $b^2$ . The bar  $b$  projects beyond the end of the post B, and the spring  
 35 plate is so formed and placed as to press against the band knife immediately opposite the end of the said post. This plate preferably consists of a slightly curved piece of spring metal designed to be confined be-  
 40 tween the knife and the guard  $b^3$  so that its ends bear upon the knife and one of said ends has a turned up portion  $b^4$  which extends through a slot in said guard so as to retain said plate in place. On a second por-  
 45 tion C' of the main frame of the machine is another work supporting post D' practically identical in construction with the post B and so mounted upon said part C' as to be movable toward and from this first post.  
 50 Its wedge shaped end projects toward the similarly formed end of said post B and like this latter, it is provided with a bar  $d$  having a beveled end in engagement with one side of the band knife, a spring plate  $d'$  en-  
 55 gaging the knife immediately opposite the beveled end of said bar, and a guard  $d^3$ . Under operating conditions the band knife is driven so that it passes from the post D' toward the post B as indicated by the ar-  
 60 row, and as a consequence the post D' tends to move toward the post B because of the friction between the knife and the members  $d$  and  $d'$ . This tendency is counteracted to any desired extent by means of a weight E  
 65 connected through a cord or chain  $e$  with

the post D', so that under working conditions it is reduced to a relatively small amount. In using this form of my invention each bar  $b$  or  $d$  with its cooperating  
 spring plate  $b^2$  or  $d'$  as the case may be, is  
 70 made to engage the slight depressions on the sides of the shoes in which lie the stitches holding the welt, upper, etc. to the sole, and an operator quickly becomes skilled  
 75 in causing said guiding points to remain in or follow the direction given by these slight depression as the shoe is moved, under the saw. Since the post D' is free to move both toward and from the post B, it is obvious  
 80 that as a shoe is moved through the machine both supporting posts are automatically maintained in engagement with it; the post D' moving away from the post B and then toward the same to accommodate the vary-  
 85 ing width. The projecting edges of stock are thus cleanly removed by the shearing action of the knife, which, it will be understood, is constantly maintained in an exceedingly sharp condition by suitable automatic  
 90 grinding mechanism not forming any part of this invention. If desired, both of the supporting posts may be so arranged as to be movable toward and from the shoe, and they may, if desired, have the construction  
 95 illustrated in Fig. 8, where as before A indicates the band knife. Carried mainly by the knife so as to be slidable thereon are two relatively thin elongated plates  $f$ , each of which is movably mounted upon a lever F  
 100 pivoted or fulcrumed to the frame of the machine at  $f''$ . Said levers are normally pressed toward each other by springs  $f^2$ . In this instance the plates  $f$  act in the same manner as the work supporting posts D' and B to govern the depth of the cut made  
 105 by the band knife as the shoe is being drawn past the same, and also serve as a guiding means whereby the shoe may be kept in the proper position relatively to the knife. They likewise at all times remain in engage-  
 110 ment with the sides of the shoe irrespective of its width and act as guards to prevent accidental injury to the operator from the knife.

In that form of my invention shown in  
 115 Figs. 5, 6 and 7, one of the work supporting posts B' is practically identical with that illustrated in my application for patent above referred to, though it may, if desired, be constructed as illustrated in Fig. 1;  
 120 the operating run of the knife A being vertical. The second guiding means for the shoe is formed by a weighted member forming a slider G loosely mounted upon the knife and consisting preferably of two plates  
 125 held together by screws and having through them a passage for said knife. From the lower end of this slider an extension  $g$  projects immediately adjacent to and parallel with the run of the knife so that it is free  
 130



to engage one side of the shoe, thereby co-operating with the post B' to regulate the depth to which said knife can cut.

As will be noted from the drawings, it is immaterial to my invention whether the operating run of the band knife lies in a horizontal or vertical plane, although under ordinary conditions I prefer that it should be arranged as illustrated in Figs. 1 and 2.

I claim:—

1. The combination in a trimming machine of a band knife capable of operating simultaneously on opposite sides of the shoe; with shoe guiding means constructed to engage a shoe at a plurality of points; and capable of limiting the depth of the cut of the knife; said guiding means including a relatively thin elongated plate extending substantially parallel with and engaging the knife.

2. The combination in a trimming machine of a band knife capable of operating simultaneously on opposite sides of a shoe; and shoe guiding means including an elongated plate mounted adjacent to and extending substantially parallel with said knife in position to lie between the knife and the main portion of a shoe being operated on.

3. The combination with a band knife capable of engaging and operating simultaneously upon opposite sides of a shoe, of a guiding device therefor consisting of a relatively thin elongated plate mounted adjacent to and parallel with said knife so as to lie between the acting portion of the knife and the shoe operated on.

4. The combination of a supporting structure, a band knife mounted to simultaneously operate on opposite sides of a shoe, and an elongated plate carried by the structure with its edge adjacent to the rear of the cutting edge of the knife and lying between the acting portion of the knife and the shoe operated on.

5. The combination of a band knife mounted so as to be free to simultaneously operate on opposite sides of a shoe, two supporting structures, and a thin elongated plate extending between said structures adjacent to and parallel with the knife.

6. The combination of a band knife mounted to simultaneously operate on opposite sides of a shoe, a supporting structure, with an elongated plate carried thereby parallel with the knife and under the acting part thereof, said plate having a projecting portion at its rear edge to limit the rearward movement of said knife.

7. The combination of a supporting structure, a band knife, two covers spaced apart and extending adjacent to the knife on one side thereof, with a relatively thin elongated plate mounted on the supporting structure so as to extend between the covers on the opposite side of said knife.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM B. KEIGHLEY.

Witnesses:

WILLIAM E. BRADLEY,  
JOS. H. KLEIN.