

No. 846,153.

PATENTED MAR. 5, 1907.

E. G. SOUTHER.

COUNTING DEVICE FOR BLANK CUTTING MACHINES.

APPLICATION FILED JUNE 7, 1906.

2 SHEETS—SHEET 1.

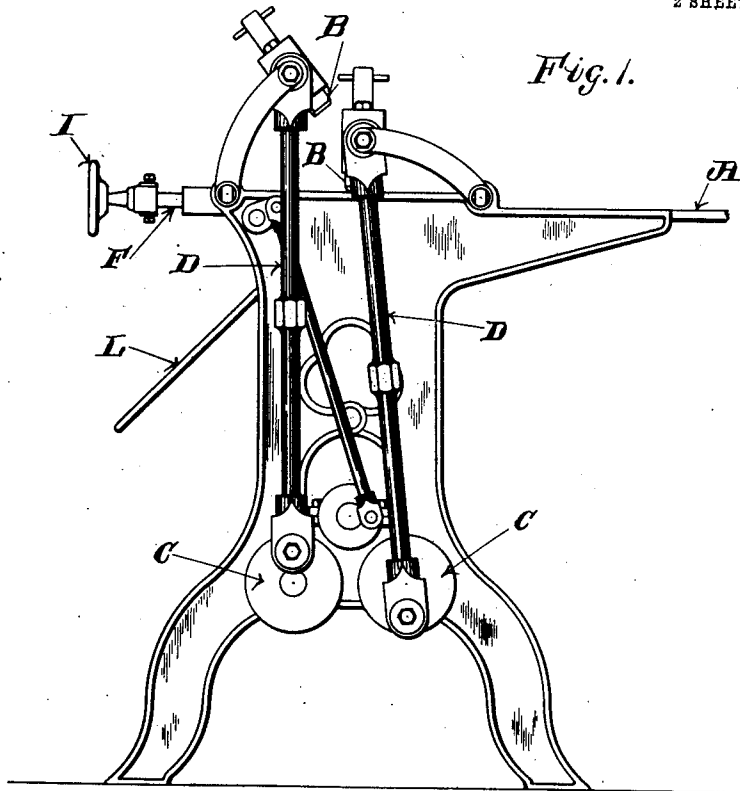
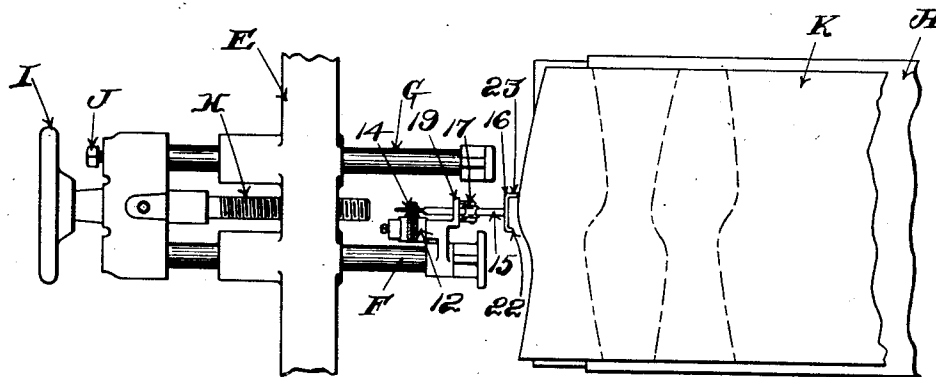


Fig. 2.

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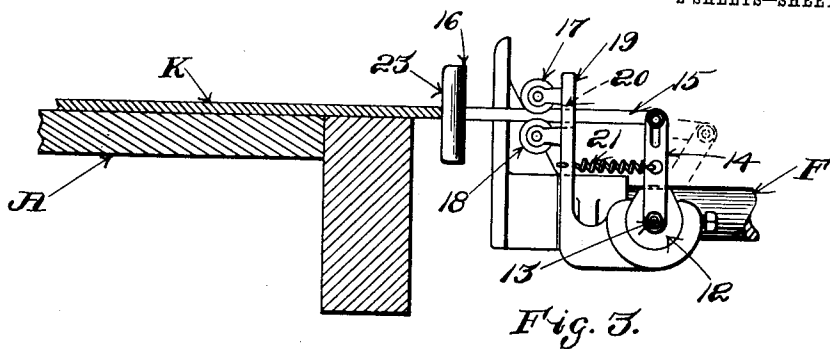
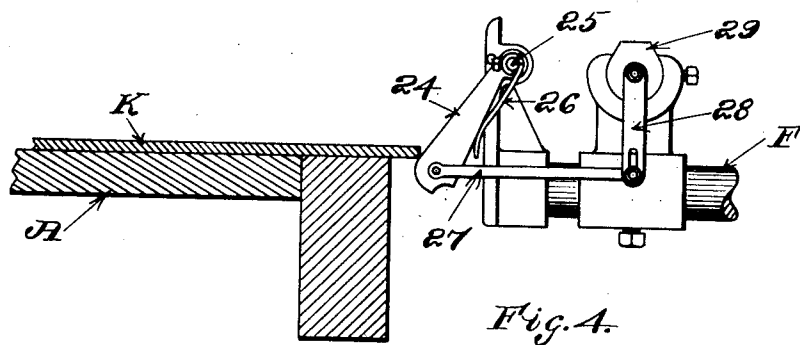
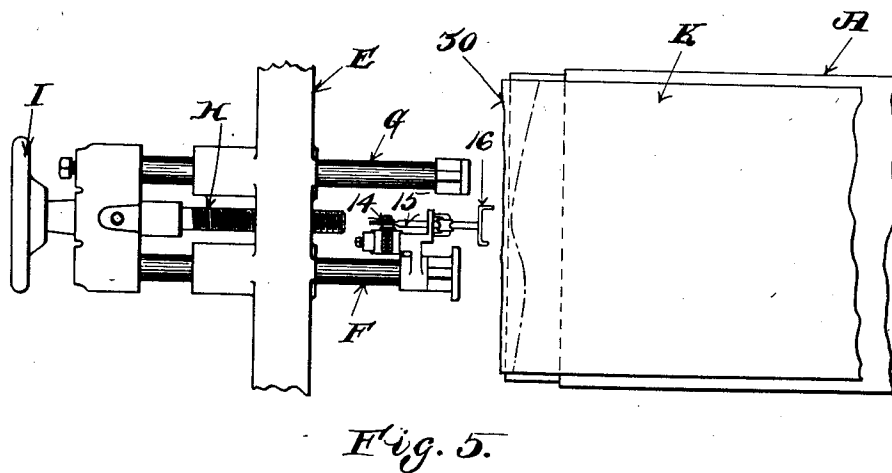
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2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ELBRIDGE G. SOUTHER, OF LYNN, MASSACHUSETTS.

COUNTING DEVICE FOR BLANK-CUTTING MACHINES.

No. 846,153.

Specification of Letters Patent.

Patented March 5, 1907.

Application filed June 7, 1906. Serial No. 320,548.

To all whom it may concern:

Be it known that I, ELBRIDGE G. SOUTHER, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Counting Devices for Blank-Cutting Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

In the manufacture of cut soles and similar articles for boots and shoes it is frequently desirable that the number of such articles produced on the machine which cuts them be known with accuracy.

To this end my invention provides a device whereby a count of soles or similar articles cut upon the machine may be kept automatically, even though the machine is sometimes run without cutting the soles.

My device operates independently of the mechanical operation of the machine, the counting device being acted upon by each sole as it is cut and being unaffected by the operation of the machine to cut the end piece of waste which is left at each end of the strip of leather or other material from which the soles are cut.

The invention will be fully understood from the following description, taken in connection with the accompanying drawings, and the novel features will be pointed out and clearly defined in the claims at the close of the specification.

In the drawings, Figure 1 is an end view of a sole-cutter to which my invention is applicable. Fig. 2 is a view of the adjustable stops which determine the width of the sole, together with the counting device embodying my invention. Fig. 3 is a side elevation of the counting device, the table and leather being shown in section. Fig. 4 is a similar view of a modification. Fig. 5 is a view showing the position of the piece of waste which is cut off from the end of each strip of leather.

Referring to the drawings, the table upon which the strips of leather from which the soles are cut is indicated at A, and the knives are shown at B. The knives are operated by the cranks C and connecting-rods D in the well-known fashion. The machine is provided with a cross-head E, to which are adjustably attached a pair of stops or guides F and G, against which the edge of the strip of leather strikes to determine the width of the sole which is to be cut. As the soles are cut

alternately—i. e., first a left and then a right—the two stops or guides F and G are located at different distances from the edge of the cutting block or table A, and one stop—as, for instance, the stop G—serves to position the leather for one cutting-knife, while the other stop F serves to position the leather for the other cutting-knife B.

The two stops F and G are adjustable with relation to the cross-head E by means of the screw H and hand-wheel I and with relation to each other by means of the cap-screw J. The parts thus far described are of old and well-known construction and form no part of my invention.

My improved counting device is attached to or supported upon some convenient part of the machine, but preferably upon one of the guides or stops F and G. In the drawings I have shown the said counting device as attached to the stop F. When thus supported, it is adjustable with the said stops, and therefore does not require, under ordinary circumstances, an independent adjustment.

The counting device consists of some convenient registering instrument of the well-known type, such as are used in a variety of places and which are provided with dials or with figures on the periphery of parallel wheels mounted upon the axle which record the number of movements given to the axle. In the drawings I have shown such a recording instrument at 12. The axle of the recording instrument is numbered 13. At 14 (see Fig. 3) is shown an arm fast to the said axle and attached at its upper end to the arm 15 of the finger-plate 16, which is adapted to contact with the edge of the strip of leather which has just been cut by the cutting-knife. The arm 15 is supported between two rolls 17 and 18, mounted on the bracket 19, which is attached to the stop or guide F, previously referred to. The said rolls 17 and 18 serve to guide the arm 15 as it is moved backward and forward by contact with the leather. The bracket 19 is slotted, as shown at 20, to permit of vertical movement of the end of the arm 15. A spring 21, attached at one end to the upright portion of the bracket 19 and at the other end to the arm 14, serves to return the parts to the position shown in full lines in Fig. 3 after the cutting of each sole.

The finger-plate 16 is provided with two projections or points 22 and 23, (see Fig. 2,)

conveniently formed by bending the edges of the finger-plate at right angles to the main portion thereof. These projections 22 and 23 are of unequal length and serve to furnish
 5 a point of contact between the finger-plate and the edge of the cut sole no matter what the curve of the sole may be. Two points are convenient, because a single point is not
 10 ordinarily found satisfactory on account of the character of the curves which constitute the two sides of a cut sole.

The device operates in the following manner: The strip of leather K from which the soles are to be cut is placed upon the table A
 15 and advanced to a position such that its edge extends to a point slightly beyond the point at which the cutting-knife B engages the cutting-block A. A piece of waste material 30, called the "shanking," (see Fig. 5,) is thus
 20 cut from the end of the strip. It will be seen that the shanking thus removed is not of sufficient extent to engage the finger-plate of the counting device and that therefore this waste may be cut and removed without causing
 25 the counting device to register. After the shanking has been cut off the leather K is advanced until the edge of the leather engages one of the stops F and G. This forward
 30 movement of the strip of leather pushes back the finger-plate 16 and the attached parts and causes the recording device to act and register the cutting of a sole. The other
 35 blade of the machine then descends, and the sole slides down the slide L, and at the same time the finger-plate is returned to its normal position by means of the spring 21. The operator then pushes the piece of sole-leather into position against the stop F, and the
 40 other knife again descends, cutting a second sole. The forward movement of the strip of leather into proper position again causes the edge to contact with the finger-plate and adds one more to the number recorded on the
 45 registering device.

It will be seen from the foregoing description that the device is operated by contact with the edge of the sole and is not operated when the machine cuts off the piece of waste

at either end of the strip of stock. I consider this arrangement of very great importance, as any other arrangement, I believe, will affect the accuracy of the count. 50

In Fig. 4 there is shown a modification of my device in which a finger-piece 24, pivoted at 25 to the stop F, is shown. A leaf-spring 26 insures the return of the finger-piece to its original position. The finger-piece 24 is connected by a connecting-rod 27 to the arm 28 of the recording instrument 29. This modification of the embodiment of the invention
 60 shown in the other figures may be more convenient for use where the soles to be cut are of such a shape that there is a common contact-point in the curves of the two cutting-knives. 65

What I claim is—

1. The improved counting device for blank-cutting machines comprising a finger located in the line of motion of the strip from which the blanks are cut at a distance from the cut less than the width of a blank and greater than the width of the waste, and a registering device operatively connected with said finger. 70

2. The improved counting device for blank-cutting machines comprising a finger-plate provided with two projections adapted to contact with different curves of successive blanks and be moved by contact therewith, and a registering device operatively connected with the said finger-plate. 80

3. The improved counting device for blank-cutting machines comprising a finger-plate slidably mounted and located in the line of motion of the strip from which the blanks are cut at a distance from the cut less than the width of a blank and greater than the width of the waste, and a registering device operatively connected with said finger-plate. 85

In testimony whereof I affix my signature in presence of two witnesses. 90

ELBRIDGE G. SOUTHER.

Witnesses:

GEORGE P. DIKE,
 JOSEPHINE E. LONG.