

W. B. KEIGHLEY.
SOLE ROUNDING MACHINE.
APPLICATION FILED OCT. 29, 1909.

964,273.

Patented July 12, 1910.

Fig. 1.

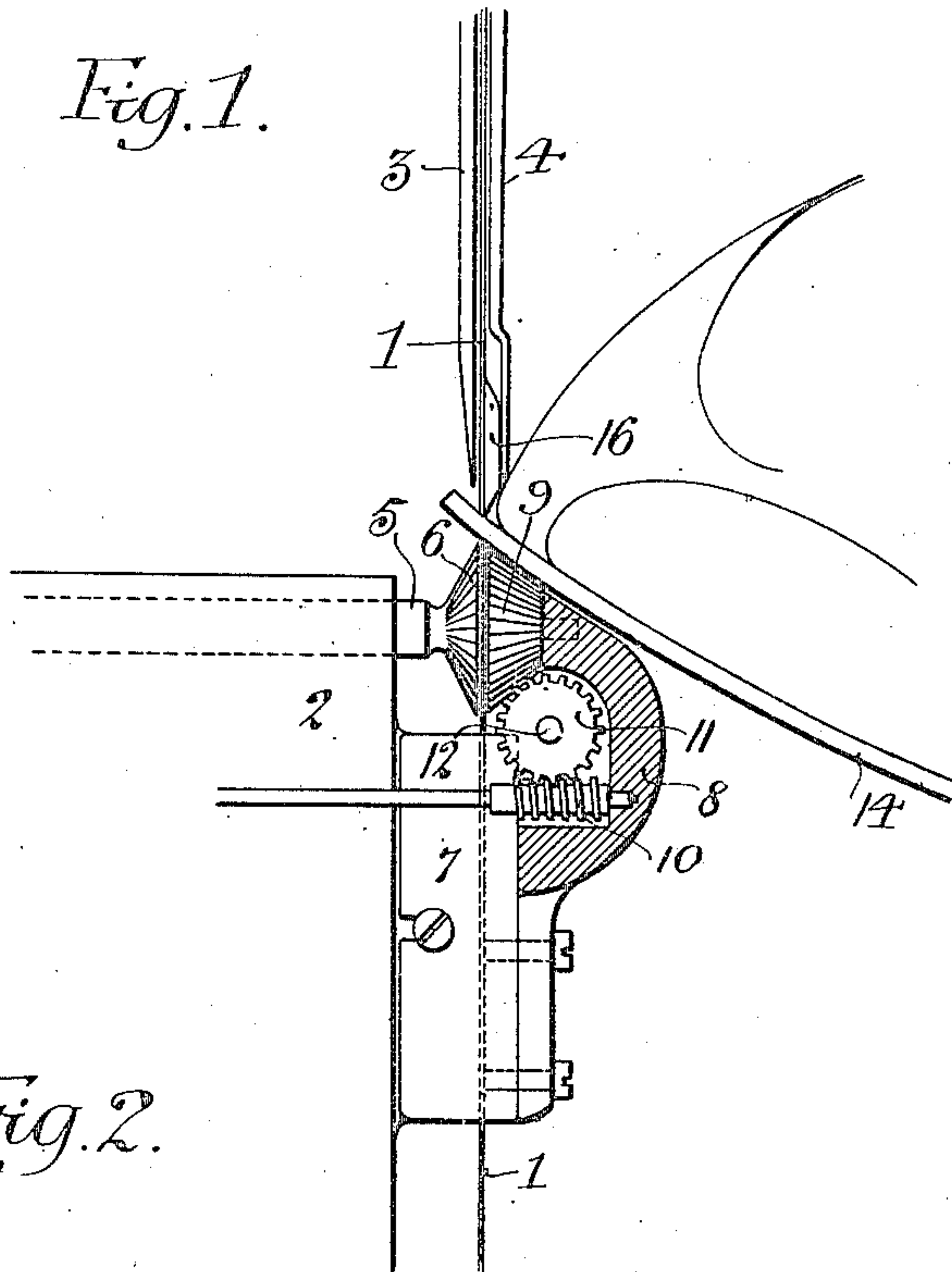


Fig. 2.

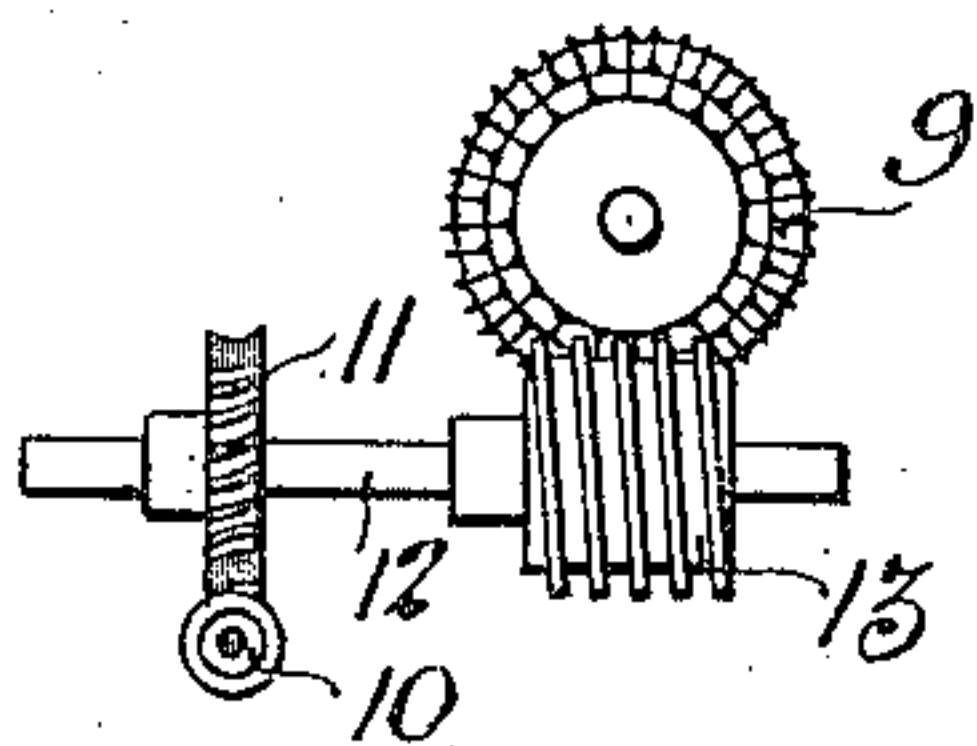
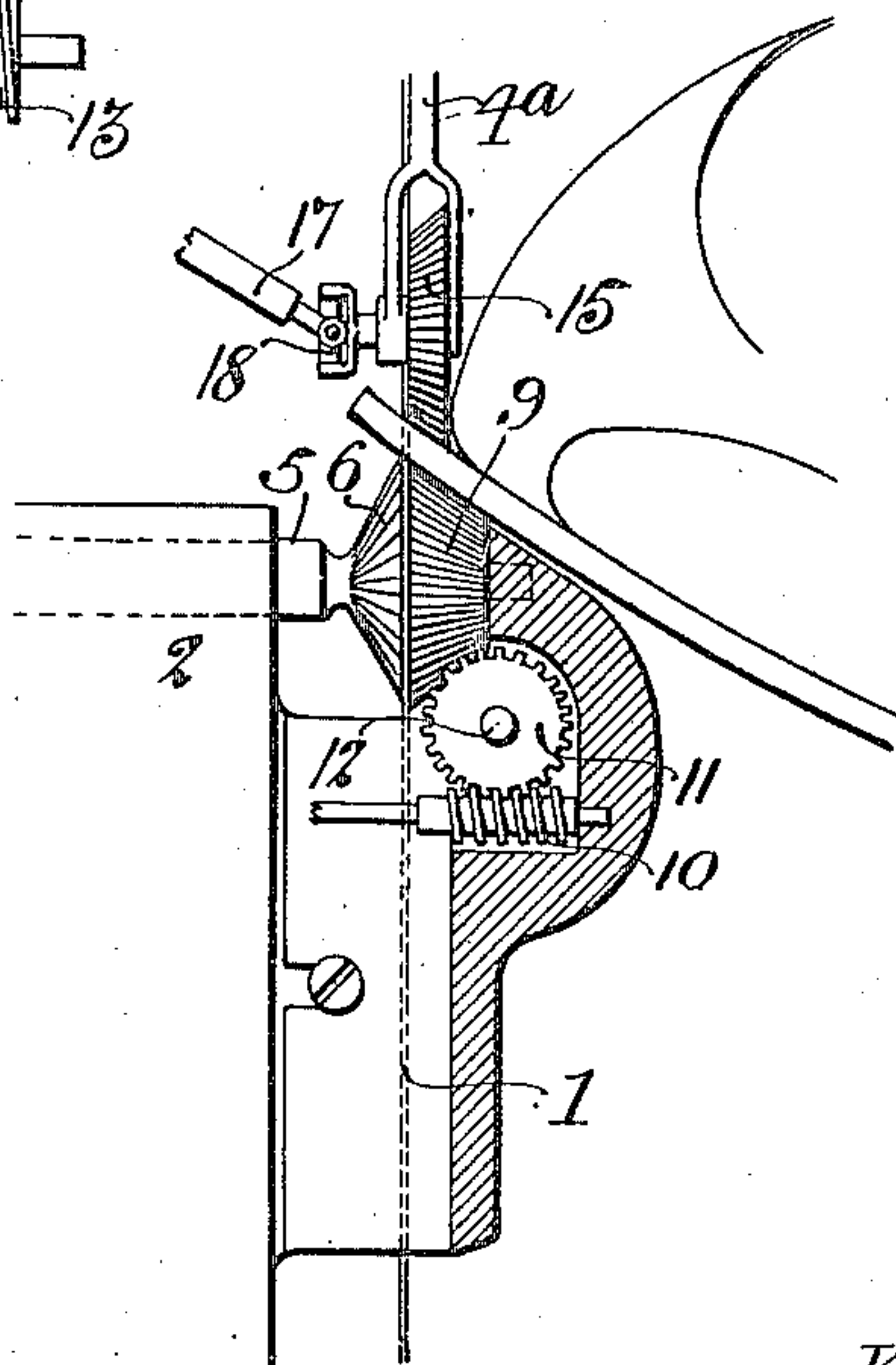


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM BOTTOMLEY KEIGHLEY, OF VINELAND, NEW JERSEY.

SOLE-ROUNDING MACHINE.

964,273.

Specification of Letters Patent.

Patented July 12, 1910.

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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 Sole-Rounding Machines, of which the following is a specification.

My invention relates to that class of machines particularly designed for shaping or rounding a sole after it has been applied to a welted shoe; one object being to provide a machine whereby it shall be possible to more rapidly trim or round the sole of a shoe than has hitherto been possible with machines formerly used for this purpose; it being also desired that the machine shall be capable of making a clean cut and producing a finished article of a high grade. I also desire to provide a sole rounding machine having the above characteristics in which novel means shall be provided for feeding the work to the knife and regulating the cut thereof, as well as for indenting the welt when this shall be desirable. These objects and other advantageous ends I secure as hereinafter noted, reference being had to the accompanying drawings, in which;—

Figure 1, is a side elevation partly in section illustrating my invention; Fig. 2, is a front elevation of the device shown in Fig. 1, and Fig. 3, is a side elevation, to some extent diagrammatic and partly in section, showing another form of rotary feeding and regulating device.

In the above drawings, 1 represents an endless band knife mounted in any suitable manner, usually upon pulley wheels (not shown) which may be driven in the way well known in the art. In the present instance this machine is provided with a work supporting post 2 so placed as to project immediately adjacent to the front run of the band knife. A suitable member projects from the frame of the machine above the post 2 and serves to support two plates 3 and 4 immediately adjacent to and on opposite sides of the upper portions of the band knife so as to constitute rear and front guards whose lower ends extend to within a short distance of the top of said post 2. This post has bearings in its upper portion for the reception of a shaft 5 driven from any suitable source of power and extending rearwardly from the band knife. It carries a conical toothed feed wheel 6 whose base is

immediately adjacent to or in contact with the rear face of said knife, although if desired it may be a short distance in front of the cutting edge of the knife.

A guard plate 7 is mounted on the front of the post 2 a short distance below the shaft 5 and its feed wheel 6, and its construction is such that it extends beyond and in front of the knife 1, being designed to carry a work support which, in the case shown in Figs. 1 and 3, consists of a corrugated or toothed wheel 9 which is preferably of a conical form and carried upon a bracket 8 detachably mounted upon the plate 7. While this wheel may be attached to any source of power, I preferably drive it at the same speed as that of the feed wheel 6 by means of a worm 10, worm wheel 11, shaft 12, and worm wheel 13 which engages directly with this wheel; the worm 10 being driven from any suitable source of power.

Under operating conditions a shoe whose sole 14 is to be trimmed or rounded is presented to the machine in the position shown in Figs. 1 and 3, the cut starting at the heel portion and extending around the shank, ball, toe and back to the heel, around which it may also pass if desired. The front guard 4 is thus interposed between the upper of the shoe and the knife, so that it regulates the amount to be trimmed off of the sole or the depth of the cut. The toothed feed roll 6 is rotated through the shaft 5, and serves to feed the sole to be trimmed at a predetermined rate past the knife. In such case the shoe to be trimmed is fed past the band knife by the combined action of the two feed wheels 6 and 9, which, as shown in Fig. 1, are mounted with their bases respectively adjacent to, or as shown in Fig. 3, immediately in front of the band knife.

In order to properly regulate the cut, I may, as shown in Fig. 3, mount on the lower end of the front guard 4 a conical rotary wheel 15 driven positively or not as desired and which, like a wheel 16 (Fig. 1) will hold the body of the shoe at the proper distance away from the band knife so that the cut thereof is made at the proper points of the sole. If said wheel 15 was power driven, it would serve both as a guard and also as a feed wheel.

In that form of the device shown in Fig. 3, the two wheels 15 and 9 act to more or less strongly press together the welt and sole of a shoe operated on and if either or both

wheels are toothed, the device may act as an indenting machine. The machine thus performs the functions of a sole rounder, a welt and sole compressor, and an indenter.

5 In this case the wheel 15 is positively turned by power from a shaft 17 connected to it through a universal joint 18.

From the above figures, it will be seen that the machine may be operated with a
10 rear, front, or top feed, or with any desired combination thereof; the preferred construction however being one in which one or more toothed feed wheels are mounted immediately adjacent to the cutter, and to one side
15 of its cutting edge, with a suitable guard or feed wheel spaced away from said first wheel or wheels so that the sole and welt may pass between them as shown.

I claim;—

20 1. A sole trimming machine consisting of a band knife; a gage adjacent said knife for limiting the approach of the body of a shoe toward the same; a feed wheel adjacent said knife; both the gage and the feed wheel
25 abutting on the same side of the operative run of said knife, and means for driving said wheel.

2. A sole trimming machine consisting of a band knife; a gage mounted adjacent to
30 said knife; and placed to limit the approach of a shoe thereto; and a feeding device, also adjacent to said knife, but spaced away from said gage so as to permit of the introduction of a sole to be trimmed between
35 itself and the gage; both the feeding device and the gage abutting against a straight run of said band knife.

3. The combination of a band knife; a work support on one side of the knife; a
40 work feeding device; and a gage for limiting the approach of a shoe to the said knife; there being a straight run of the knife extending between said gage and one of the two other devices.

45 4. The combination of a band knife; a work support on one side of the same, a feeding device on the other side of the knife; and a gage also adjacent to the knife but spaced away from the work support and
50 feeding device to permit of the introduction of a sole to be trimmed; the work support, the feeding device, and the gage all abutting upon a straight run of said knife.

55 5. The combination of a band knife, with a rotary work support on one side of the plane of the knife; a rotary feeding device on the other side of said plane; said support and feeding device abutting on a straight run of said knife; and a gage adjacent to the
60 knife; but spaced away from the supporting device and feeding means, to permit of the

passage of a sole; the operating run of the band knife being substantially at right angles to the axes of rotation of the work support and of the feeding device. 65

6. The combination with a band knife, of two rotary wheels on opposite sides of the plane thereof; means for driving one of said wheels; and a rotary gage mounted adjacent to the knife; but spaced away from the
70 other two wheels to permit of the passage of a sole between them.

7. A sole rounding machine consisting of a band knife; with two rotary frusto-conical wheels mounted in substantially the same
75 plane and having their flat faces immediately adjacent to and parallel with the knife, said wheels being arranged to compress between them the sole and welt of a shoe and one of the wheels being placed to serve as a
80 gage to maintain the body of a shoe at a predetermined distance from the knife.

8. A sole rounding machine consisting of a band knife; with two rotary wheels mounted adjacent to said knife and arranged to
85 compress between them the sole and welt of a shoe; one of said wheels being placed to serve as a gage to maintain the body of a shoe at a predetermined distance from the knife and being provided with teeth for in-
90 denting the welt.

9. The combination in a sole rounding machine of a band knife; a rotary wheel on one side of the plane of said knife; and two rotary wheels on the other side of said plane,
95 one of said wheels being spaced apart from the others so as to be capable of compressing the sole and welt of a shoe passing between them.

10. The combination in a sole rounding
100 machine of a band knife; a rotary wheel on one side of the plane of said knife; and two rotary wheels on the other side of said plane; one of said wheels being spaced apart from the others so as to be capable of com-
105 pressing the sole and welt of a shoe passing between them; with means for driving one or more of said wheels.

11. A sole rounding machine consisting of a band knife; with two rotary wheels mount-
110 ed adjacent to said knife so as to abut upon the straight run of the same and spaced to compress between them the sole and welt of a shoe; one of said wheels being provided with teeth for indenting the welt. 115

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

WILLIAM BOTTOMLEY KEIGHLEY.

Witnesses:

WILLIAM E. BRADLEY,
WM. A. BARR.