

E. F. THOREN.
BELT POLISHING MACHINE.
APPLICATION FILED AUG. 4, 1911.

1,039,845.

Patented Oct. 1, 1912.

2 SHEETS—SHEET 1.

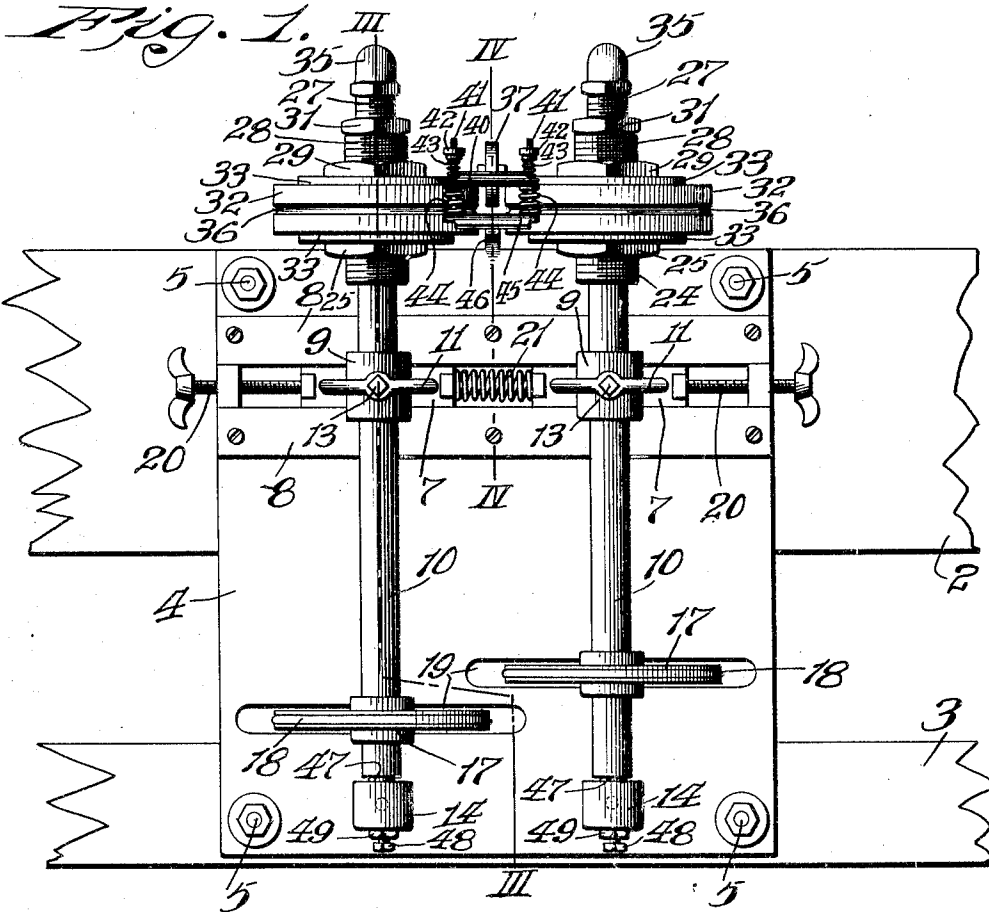
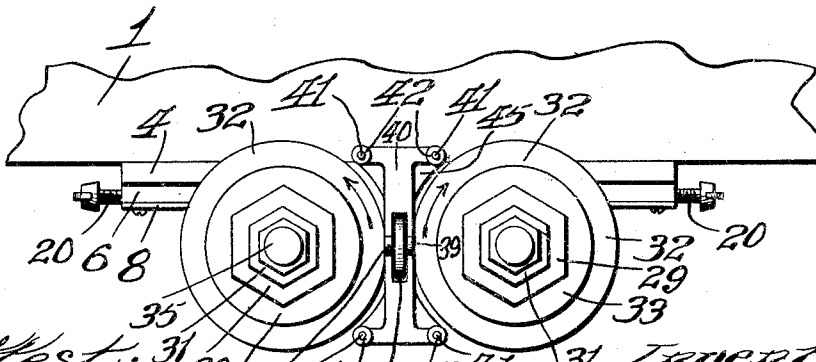


Fig. 2.



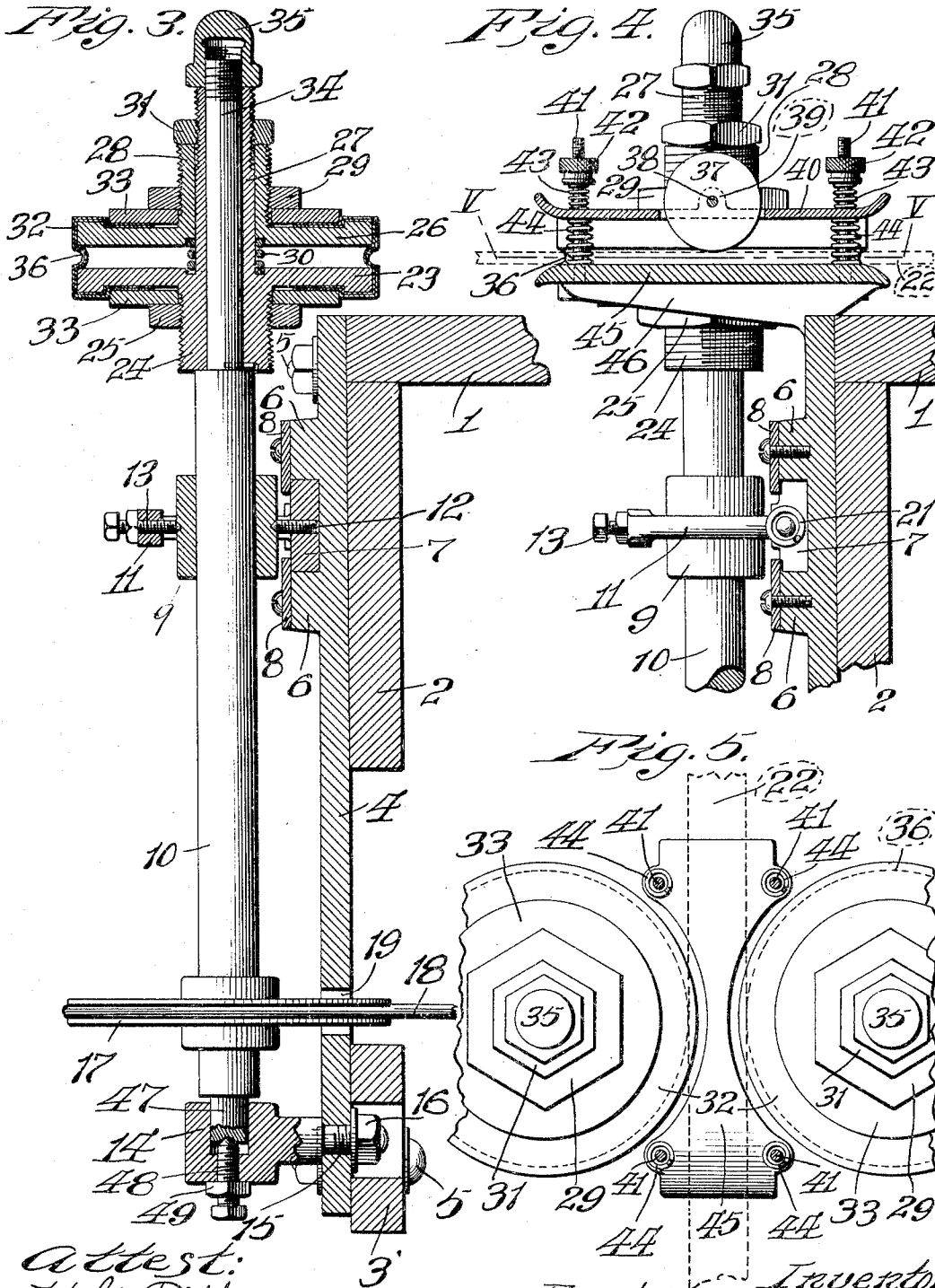
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Attest:
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UNITED STATES PATENT OFFICE.

ERNST FRIDOLF THOREN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO EMIL E. LAUN, OF CLAYTON, MISSOURI.

BELT-POLISHING MACHINE.

1,039,845.

Specification of Letters Patent.

Patented Oct. 1, 1912.

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To all whom it may concern:

Be it known that I, ERNST FRIDOLF THOREN, a subject of the King of Sweden, residing in the city of St. Louis and State of Missouri, have invented a certain new and useful Belt-Polishing Machine, of which the following is a specification.

This invention relates to means for finishing the edges of belts, straps, and the like, and has for its primary object to provide an improved construction, combination and arrangement of parts, whereby such a machine can be simply and economically constructed and be made durable and efficient in service.

One of the objects of the present invention is to provide an improved device of this character which will be adjustable to straps and belts of different widths and thicknesses.

Another object is to provide an improved construction and arrangement of parts in a pair of cooperating buffer heads.

A further object is to provide improved means for mounting said heads.

Other and further objects will appear in the specification and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention, and in which,

Figure 1 is a front elevation of a machine constructed in accordance with the principles of the present invention. Fig. 2 is a top plan view of the same. Fig. 3 is an enlarged section on the line III—III, Fig. 1, parts being shown in elevation. Fig. 4 is an enlarged section on the line IV—IV, Fig. 1, parts being shown in elevation. Fig. 5 is an enlarged fragmentary section on the line V—V, Fig. 4.

Referring more particularly to the drawings and to the embodiment shown therein, the machine is shown connected to an ordinary work-bench comprising a top board 1, an upper side board 2, and a lower side rail 3. Secured to the side boards 2 and 3, is an apron or bed plate 4 which is held in position by bolts 5. Adjacent the upper edge of the bed plate 4, it is provided with a pair of parallel guides 6 on which is slidably mounted a pair of sliding blocks 7, said slides being retained in position by means of a pair of plates 8 which are secured to the guides 6.

In order to provide means for mounting oscillable bearings 9 for a pair of rotary spindles 10, a yoke 11 is secured to each of

the slide blocks 7, and a worm screw 12 in each of the blocks 7 cooperates with a bolt or screw 13 in said yoke 11 in trunnioning the bearings 9. This construction permits each of the shafts to oscillate about the axis of the screws 12 and 13. The lower end of each of these spindles 10 is journaled in a bearing 14, which bearing is provided on its inner end with a bolt 15 which extends through a hole in the bed plate 4 and may be secured in position by a nut 16. On each of the spindles 10, is a rope pulley 17, whereby it may be driven by a rope or cable 18 through any suitable source of power. To enable the spindles 10 to be mounted sufficiently near the base plates 4, the base plate is provided with openings 19 through which the pulleys 17 project. Adjusting screws 20 are provided for adjusting the positions of the slides 7 which are normally thrust apart by means of a spring 21 interposed between said slides and retained in position in any suitable manner.

The buffing means will now be described, comprising buffing heads carried, respectively, by the spindles 10 in suitable positions to cooperate in their actions upon the belt or strap 22, indicated in dotted lines in Figs. 4 and 5. Each of the buffing heads comprises a lower disk 23 provided with a downwardly extending hub 24 threaded exteriorly to receive a nut 25. An upper disk 26, which slides upon a tubular extension 27 of the hub 24, is provided with a threaded sleeve 28 for the reception of a nut 29. In order to resiliently hold apart the disks 23 and 26, a spring 30 is disposed about the sleeved extension 27 between recesses formed with the adjacent surfaces of said disks. An adjusting nut 31 serves to overcome the resistance of the spring 30 in any desired degree corresponding to the size of the article to be operated upon. To complete each buffing element, one or more straps 32 of any suitable material is passed circumferentially around the peripheral edges of the disks 23 and 26, the lateral edges of said straps being laid in annular recesses in the outer surfaces of said disks and clamped therein by clamping rings 33 which are forced home by means of the nuts 25 and 29, respectively. Each of the buffer heads thus described is removably mounted upon the contracted upper end 34 of a spindle 10, being retained in position there-

on by a threaded cap 35. For the purpose of imparting a smooth finish to the lateral edges of the belt, strap, or other similar article, the disks 23 and 26 are set in the manner already indicated the desired distance apart to permit the buffer straps 23 to be displaced inwardly intermediately of said disks to form a buffing groove 36. Referring to Figs. 1, 2 and 4, a device for suitably supporting the belt or strap will now be described. Said device comprises a disk roller 37 journaled on a pin 38 carried by bearing lugs 39 at the center of a presser foot or plate 40. Said plate, as shown in Fig. 2, is slidably mounted on vertical pins 41 which are threaded to receive nuts 42 for adjusting the tension of springs 43 between the nuts 42 and plate 40 and heavier springs 44, upon which the plate 40 is supported above a platen 45, said platen being provided with segmental recesses to receive the peripheries of the buffing heads, as shown in Fig. 5. Said platen 45 is suitably positioned above the top board 1 of the work-bench by being mounted on a web 46 which is integrally formed with the bed plate 4.

In order to provide means for effecting a vertical adjustment of the buffer heads with respect to the platen 45, the journal 47 of each spindle 10 is countersunk in its lower end to receive the conical end of a bearing screw 48 which is threaded within the lower portion of the bar 14, as shown in Fig. 3. A lock nut 49 serves to hold the screw in any position to which it may be adjusted.

What I claim is:

1. In a device of the character described, the combination with a pair of rotary spindles, of a bearing for one end of each of said spindles; said bearings being oscillable

about an axis transverse to the axis of said spindles, a buffer head mounted on the other end of each spindle, and a slidable bearing block for each of said spindles, whereby the distance between said buffer heads may be regulated.

2. In a device of the character described, the combination with a pair of rotary spindles, of a bearing for one end of each of said spindles, said bearings being oscillable about an axis transverse to the axis of said spindles, a buffer head mounted on the other end of each spindle, and a slidable bearing block for each of said spindles whereby the distance between said buffer heads may be regulated; said slidable bearing blocks being resiliently held apart, and means for adjusting said bearing blocks toward and away from each other.

3. In a device of the character described, the combination with a platen, of a plate resiliently mounted above said platen, a presser roller carried by said platen, and a pair of buffing elements with their peripheries grooved in a plane intermediate of said presser roller and platen.

4. In a device of the character described, the combination with a pair of rotary spindles, of a bearing for one end of each of said spindles, said bearings being oscillable about an axis transverse to the axis of said spindles, a buffer head mounted on the other end of each spindle, and a slidable bearing block for each of said spindles, said bearing block being interposed between the oscillable bearing and said buffer head.

ERNST FRIDOLF THOREN.

In the presence of—
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