Nov. 21, 1933. E. ZWANZIG 1,935,827

MACHINE FOR OPERATING ON STRAPS

Filed Jan. 14, 1932

Fig. 1

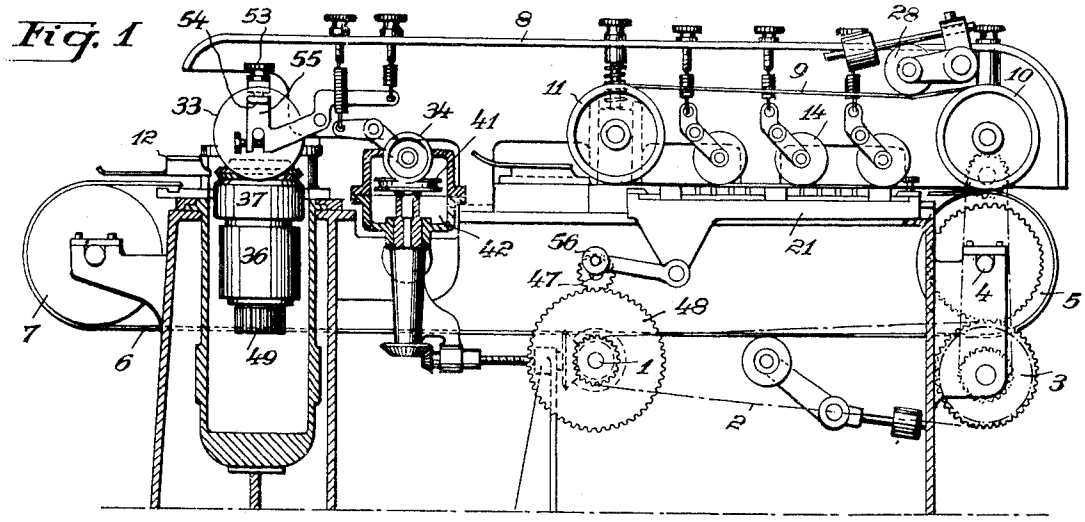


Fig. 2

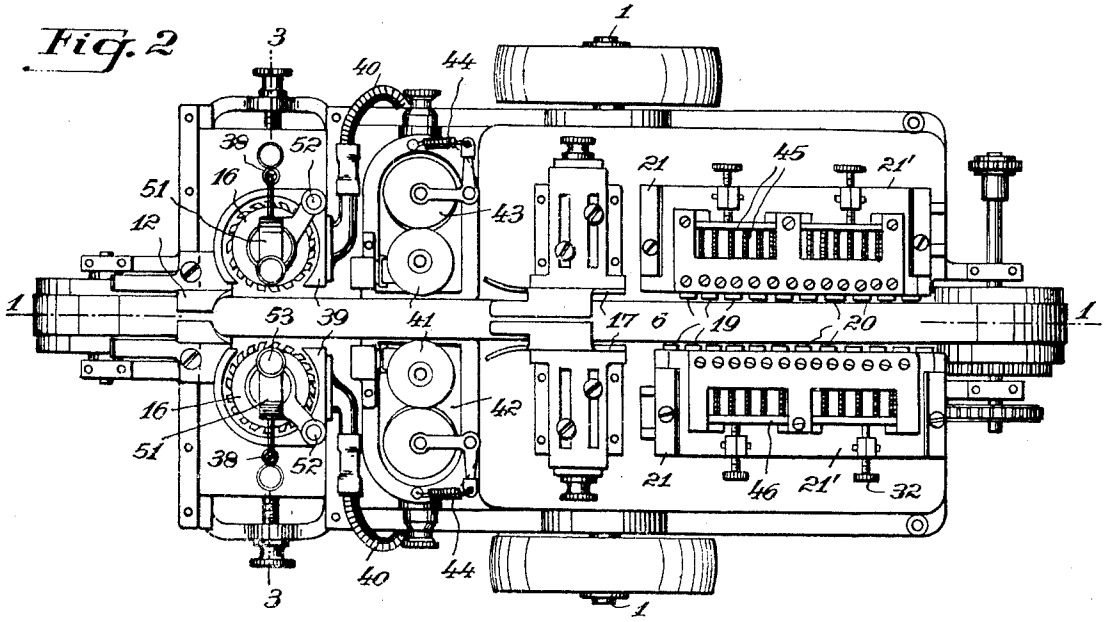
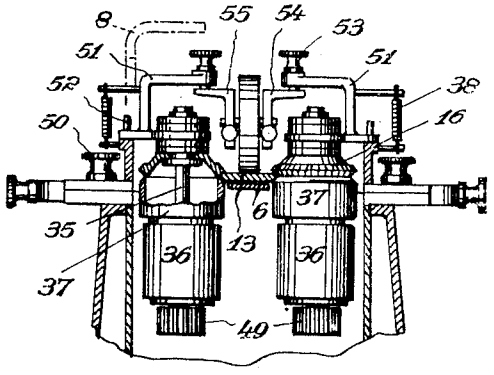


Fig. 3



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MACHINE FOR OPERATING ON STRAPS

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2 Claims. (Cl. 69—17)

The finishing operations upon the edges or margins of belts, straps, and girdles have been hitherto effected by hand. Now I have devised a labor and time saving machine wherein the said articles are automatically fed along means for trimming, colouring, waxing, and polishing their edges.

My invention therefore consists in such a combination of feeding means with means for operating upon the edges of straps or girdles as to perform the finishing work in a continuous automatic manner.

Further features of my invention consisting in special arrangements and combinations of parts will be apparent from the following description and the annexed drawing, in which

Fig. 1 is a vertical section along the line 1—1 of Fig. 2;

Fig. 2 is a plan view of the machine the carrier 8 being removed; and

Fig. 3 is a partial vertical section on the line 3—3 of Fig. 2.

The main shaft 1 drives by means of a chain 2 and an appropriate gear 3 the shaft 4 carrying the drum 5. This drum moves the feeding endless belt 6 and the drum 7 on the entrance side of the machine. The belt 6 cooperates with the belt 9 running around the drums 10, 11 journaled in an upper frame 8. The feeding belt 9 is tensioned by a roll 28 and is yieldingly pressed against belt 6 by rolls 14. The belt 9 is shorter than the belt 6. In front of the belt 9 the rolls 33 and 34 are yieldingly pressed against the feeding belt 6. The strap or girdle to be worked upon is introduced into the adjustable guide 12 whereupon it is taken hold of by the roll 33 and then by the roll 34 and the belt 9 cooperating with belt 6 to feed the said strap through the machine along the operating devices. The rolls 33, 34 and the belts 6, 9 are of a smaller width than the straps treated.

The strap introduced into the machine enters at first between the rotating cutters 16 arranged on the spindles 35 journalled in bearings 36 and driven by means of gears 49 by electromotors accommodated in the machine frame. Underneath the rotating cutters are fastened to the spindles 35 the abrading discs 37. The cutters 16 are pressed by springs 38 down against the fixed discs 37 and are adapted to yield upwardly according to the thickness of the strap 13. To this end the conical cutters 16 are arranged on collars or muffs 50 rotating with but slidable on the spindles 35. These muffs are carried by the brackets 51 guided on the fixed pins 52 and pressed down by the springs 38 already mentioned. The adjusting screws 53 of the brackets 51 abut against the lateral arms 54 of the levers 55 carrying the roller 33. Thus the roller 33 lifts the cutters 16 when the strap worked upon becomes thicker. The cutters 16 operate on the hair side of the leather and the abrading discs on the inner side of the leather strap. The cutters 16 and the discs 37 are as far as possible enclosed in casings 39 leading by pipes 40 to an exhauster underneath the machine table. By these means the chips and the dust of the leather are removed.

To the trimmed edges of the strap is applied a colour-substance by the rollers 41. This substance is stored in the pans 42. Obliquely journaled rollers 43 dip partly in the colouring matter and bring it up to the circumference of the rollers 41. The rollers 43 are pressed by springs 44 against the rollers 41.

The strap with the coloured edges enters between felt blocks 17 adapted to dry these edges. Additional means for drying by electricity or heating gas may be used.

The strap finally enters between the slides 21 which carry waxing felt-blocks 19 and polishing blocks 20. Instead of felt blocks 19 wax-blocks may be used. The blocks 20 are of felt, hardwood or fiber. All the blocks are partly embedded in cross-slides 21' and are adjustable by the screws 32 to suit different widths of the straps. The blocks are pressed by springs 45 against the edges of the passing strap. These springs abut at the inner ends against the blocks and at their outer ends against the bars 46 of the cross-slides. The two slides 21 move in reverse directions for equalizing the strains and shocks. Their movement is derived in an appropriate manner by cranks 56 from a counter shaft 47 driven by the toothed wheel 48 keyed to main shaft 1. The speed of the slides may be different from that of the feed of the straps.

From the above description the operation of the machine will be apparent: The straps or girdles introduced into the machine are successively operated upon by the trimming, colouring, waxing and polishing tools and are ejected from the machine having on either side highly polished edges.

What I claim is:

1. A machine for operating on straps, having a plurality of positively driven rotary means for simultaneously trimming both edges of the straps, and means for automatically feeding the straps past the trimming tools, each means consisting of a rotary cutter and an abrading disc yieldingly pressed toward each other.

2. A machine for operating on straps, having means for finishing simultaneously both edges of the straps, and means for automatically feeding the straps past the finishing means the latter including waxing and polishing means reciprocating in reverse directions along both edges of the fed straps.

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