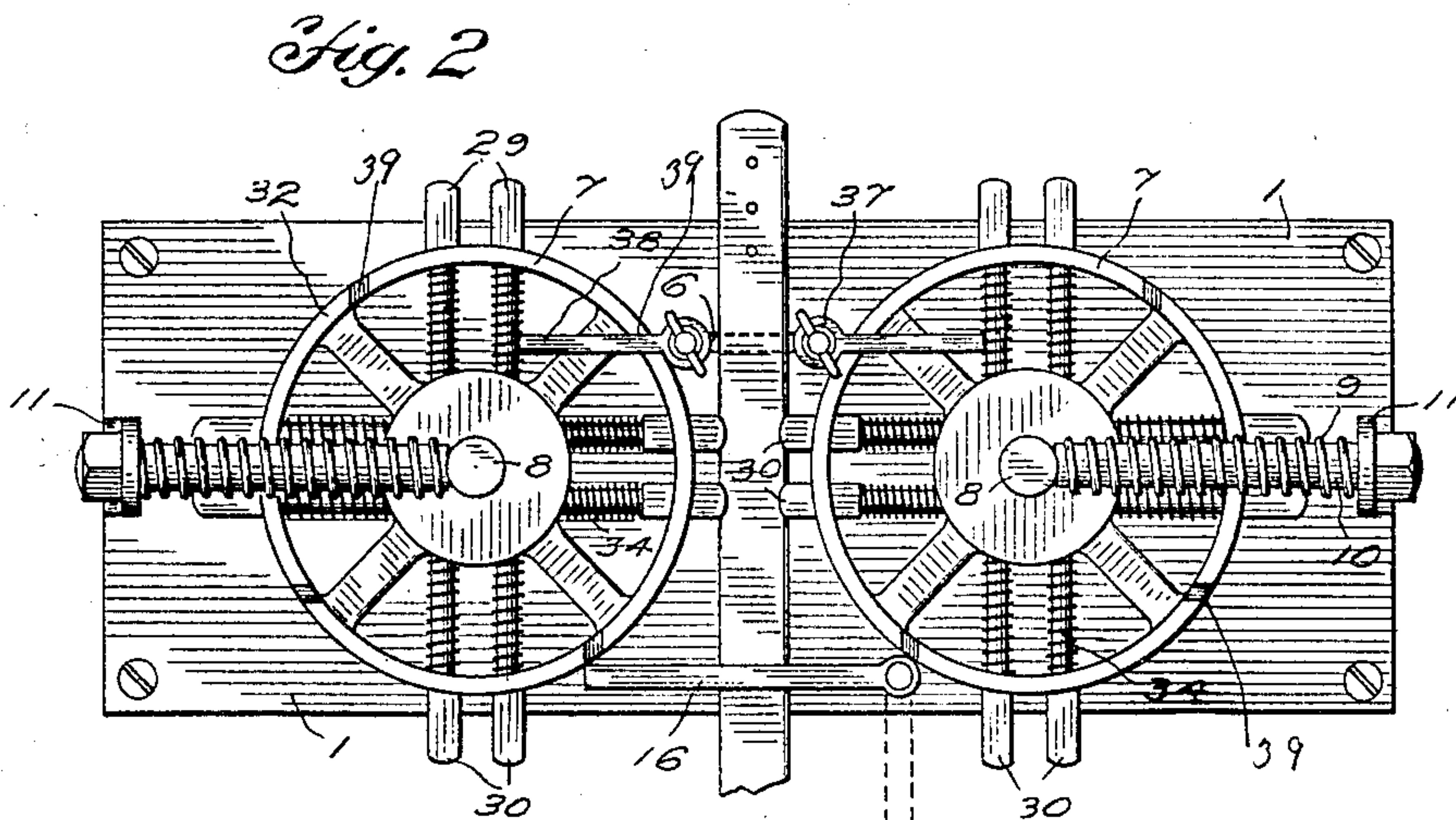
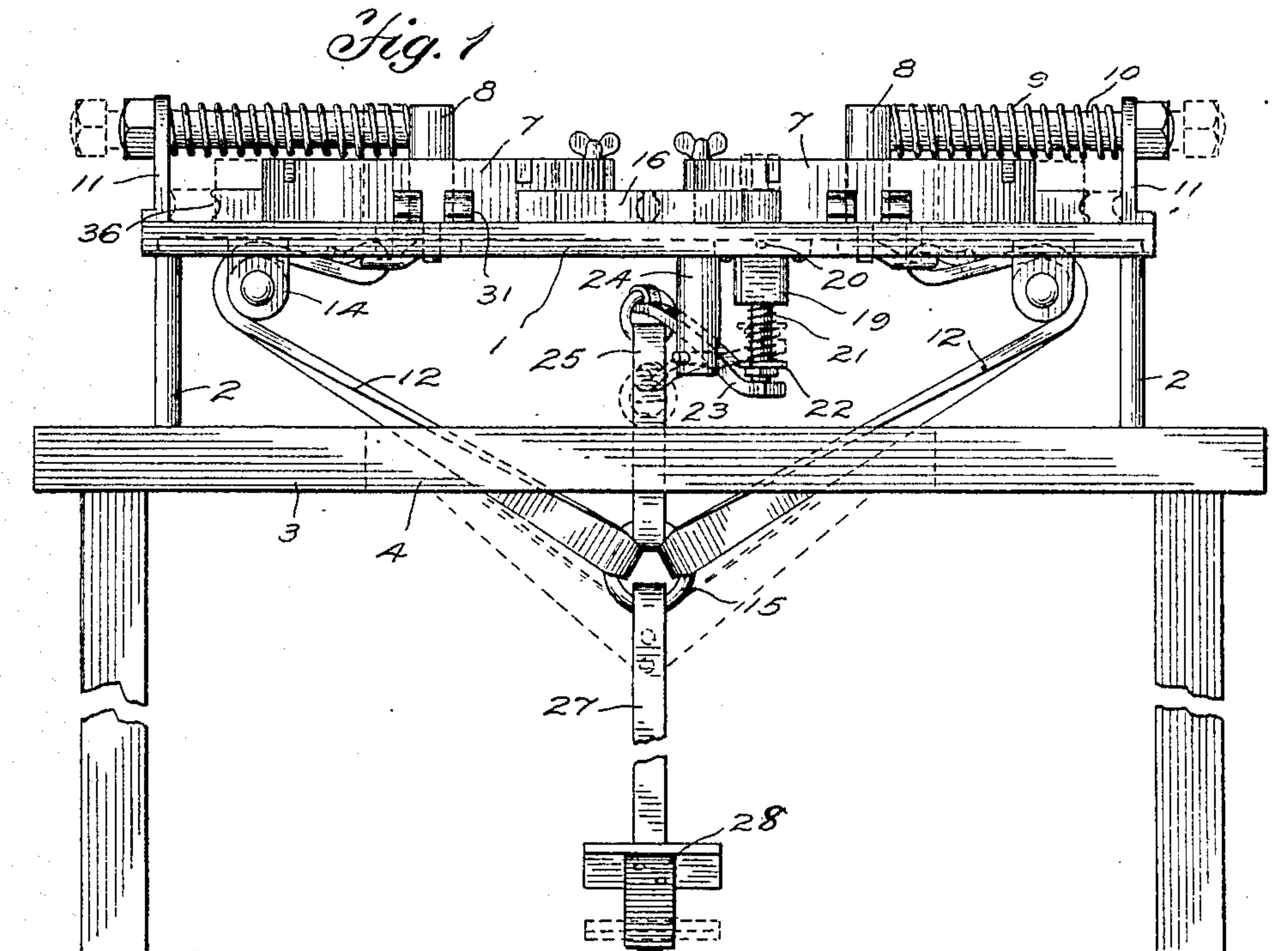


J. Z. ROBERGE,
LEATHER STRAP FINISHING MACHINE.
APPLICATION FILED APR. 20, 1908.

916,600.

Patented Mar. 30, 1909.

3 SHEETS—SHEET 1.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 7

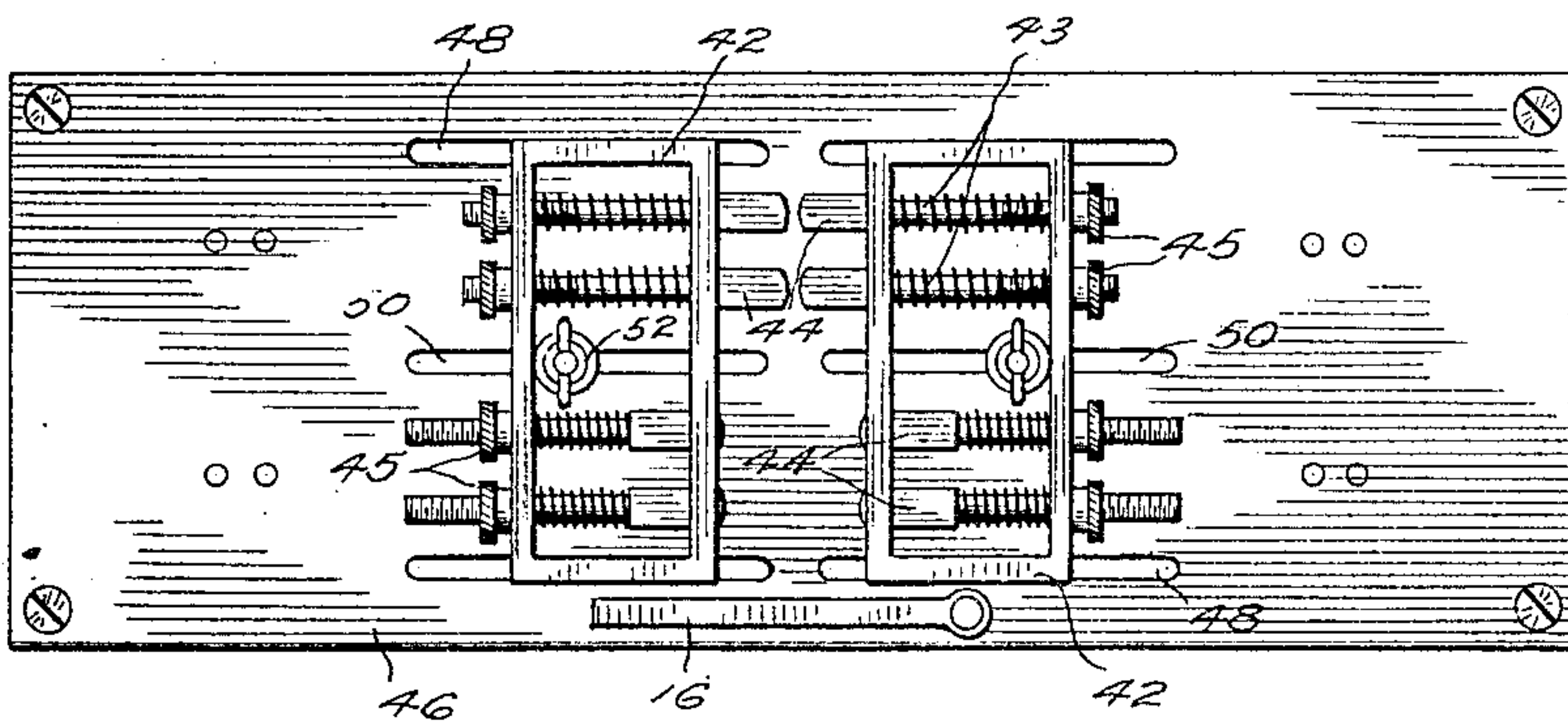
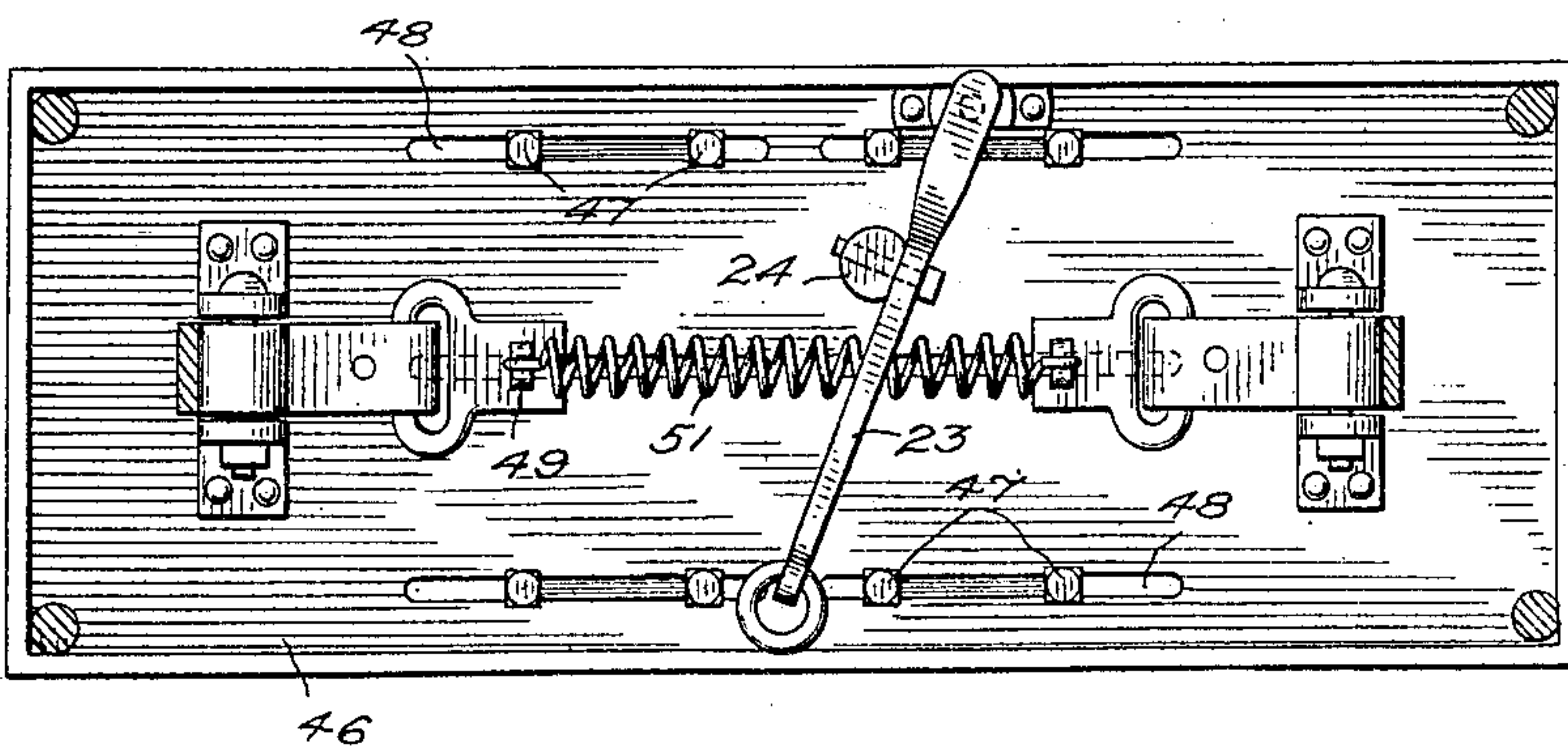


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES Z. ROBERGE, OF DALLAS, TEXAS.

LEATHER-STRAP-FINISHING MACHINE.

No. 916,600.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed April 20, 1908. Serial No. 428,209.

To all whom it may concern:

Be it known that I, JAMES Z. ROBERGE, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Leather-Strap-Finishing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for finishing leather straps for use in making harness, etc.

It has for its object to provide a machine for this purpose which is simple in construction, easy of operation, and is adapted to finish the faces and edges of straps of various widths and thicknesses.

Further objects will become apparent from the following description.

The invention consists essentially in the use of a plurality of interchangeable rub sticks or edge finishers which are adapted to be adjusted in opposing pairs to suit the width and thickness of the strap to be finished.

The invention also consists in providing a spring-pressed slicker or face finisher which may be raised and moved out of the way by the same operation which spreads the opposing rub sticks when the strap is to be placed in the machine.

The invention consists further in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawings, illustrating the preferred embodiments of my invention: Figure 1 is a front elevation of my machine mounted on a suitable support or bench, the positions of the parts when the treadle is depressed being shown in dotted lines. Fig. 2 is a plan view showing a strap to be finished in place. Fig. 3 is an under plan view of the bed plate of the machine on which the operating mechanism is mounted. Fig. 4 is a detail view showing the spiral groove in the pivot shaft of the slicker arm. Fig. 5 is a detail sectional view showing how the rub sticks are mounted on their wheels. Fig. 6 is a detail sectional view through one of the regulating or stop posts, and Figs. 7

and 8 are top and under plan views respectively of a modified construction.

In carrying out my invention I mount the bed plate 1 on legs or supports 2, one of which is preferably arranged at each corner and secured to the bench or table 3. A slot 4 is formed in said table to accommodate the depending straps for operating the machine as will be presently described. The bed plate 1 has formed therein two central slots 5 arranged in alinement with one another and a third slot 6 to one side of the center. Two wheels 7 are mounted horizontally on the upper face of the bed plate and each has its axle 8 arranged in one of the middle slots 5. Said wheels are normally pressed toward one another by springs 9 mounted around rods 10 connected with the upper ends of their axles and extending through eyes or perforations in upstanding brackets 11 at the ends of the bed plate. Said springs 9 bear at their opposite ends upon the axles of the wheels and said brackets while the rods 10 are free to pass through the eyes in said brackets when said springs are compressed by forcing the wheels apart. The lower ends of the axles of said wheels are connected below the bed plate to straps 12 which extend away from each other toward the opposite ends of the machine and are passed over pulleys or guide wheels 13 mounted on brackets 14 secured to the under face of the bed plate. Said straps are connected at their lower ends in any suitable manner as by the ring 15.

The slicker arm or face finisher 16 is pivotally mounted on the bed plate at the opposite side of the center from that in which the slot 6 is formed. The pivot shaft 17 of said slicker arm is grooved spirally as at 18 where it passes through a collar 19 on the bed plate. Said collar carries a pin or lug 20 which engages said groove and causes the pivot shaft and slicker arm to be revolved as the former is raised against the action of the coiled spring 21 mounted around its lower portion and abutting against said collar and the head 22 of said pivot shaft. Said pivot shaft is raised by means of a lever 23 intermediately pivoted to a post 24 depending from the bed plate. One end of said lever is adapted to engage the head of said pivot shaft while the other end is connected by

means of the strap 25 and the ring 15 to the straps 12. Said ring is also connected by a strap 27 to a treadle 28 hinged to the floor and normally arranged with its end raised about six inches. It will be noted that because of the arrangement described, the depression of the treadle will spread the wheels 7 apart and at the same time raise the slicker arm and turn it to one side so that the strap to be finished may be placed in position. Each of the wheels 7 carries a plurality of pairs of rub sticks 29 which are arranged radially with their operating heads 30 projecting through apertures 31 in the rim 32 of said wheel. The inner ends of said rub sticks are guided in apertures 33 in the hub of the wheel. Coiled springs 34 are mounted on the shanks 35 of said rub sticks and bear at their respective ends upon the operating heads of said sticks and upon the hub of the wheel whereby said rub sticks are yieldingly held against the edges of a strap to be finished when the machine is in operation. The strap engaging grooves 36 in the heads of the rub sticks are of different sizes in the different pairs and those in each pair also differ somewhat in shape from one another. Each wheel 7 may be revolved to bring the desired pair of rub sticks carried thereby into operative position. Said wheel is held in place so that any one of its pairs of rub sticks are in operative position by means of an adjustable post 37 slidably mounted in the slot 6 and having an extending lug 38 adapted to engage any one of a series of notches 39 in the rim of the wheel. These notches are so arranged with relation to the several pairs of rub sticks as to hold the desired pair in operative position when engaged by the lug 38 on the post 37. Said post is prevented from turning in the slot 6 by having a squared portion 40 arranged in said slot. A bolt 41 mounted through the center of said post has its head adapted to engage the under face of the bed plate for clamping said post in the slot 6. Said bolt is tightened by means of a thumb nut 41 on the upper end thereof. When said thumb nut is loosened the post 37 may be moved back in the slot 6 so as to disengage its lug 38 from the notch 39 in the rim of the wheel, permitting said wheel to be revolved. Said posts 37 also serve to hold the wheels 7 at the desired distance apart which is determined by the width of the strap to be finished. It will be observed that a slight change in the position of said posts after the rub sticks are engaged with the edges of the strap will regulate the pressure of said rub sticks on said strap by compressing the springs mounted on the shanks of said rub sticks to a greater or less degree. The pairs of rub sticks used are determined by the thickness of the strap to be finished. The object in making the grooves in the heads of

the rub sticks in each pair of different sizes is to allow a greater range of work without change to another pair. This is especially desirable because the straps to be finished vary in thickness from one end to the other.

Before a strap is placed in my machine the sharp corners of its edges are taken off by a machine made for the purpose or by a hand tool which leaves the edges round. The edges are then blackened and any surplus blacking wiped off, after which the workman rubs some tallow or other substance on the edges and flesh side of the strap. The tallow or other substance fills up the small pores in the leather and makes the strap more durable. The strap is then placed in my machine for the purpose of finishing its faces and edges. Before introducing a strap into the machine the treadle should be pressed down with the foot thereby spreading the rub stick carrying wheels apart and raising the slicker arm and turning it to one side where it is out of the way. When the strap has been placed in position between the opposed rub sticks the treadle is released and said wheels and slicker arm are respectively brought into engagement with the edges and upper face of the strap by reason of the action of the springs 9 and 21. Only one operator is required who may pull the strap through the machine as many times as necessary, although the strap is generally finished the first time. When the wheels are to be revolved to bring different pairs of rub sticks into operative position said wheels are spread apart by depressing the treadle after which each post 37, in turn, is loosened and moved along the slot 6 until its lug is disengaged from the notch in the wheel rim. After the wheel is turned to the desired point said post is moved back along its slot until its lug engages another of said notches and said post proper is in position to hold the wheel at the proper distance from the opposing wheel.

In the modified construction illustrated in Figs. 7 and 8, square or angular rub stick carriers 42 are employed in lieu of the wheels 7. Each of said carriers 42 carries two pairs of rub sticks 43 which are constructed similarly to those previously described as being mounted on the wheel 7. The grooved strap engaging heads 44 project through notches in the adjacent faces of said carriers while their other ends are provided with set screws 45 passed through the opposite sides of said carriers whereby those rub sticks not in use may be withdrawn into their carriers where they are out of operative position. Each of the carriers is mounted to slide on the bed plate 46, being guided by lugs 47 arranged in slots 48 near each side of said bed plate. Another lug 49 on each carrier projects through a central slot 50 in the bed plate and said lugs 49 on the respective carriers

are connected below said bed plate by a coiled spring 51. This spring will operate to yieldingly hold the carriers adjacent to one another in the same manner as the springs 9 previously described. Stop posts 52 are adjustably mounted in the central slots 50 for the purpose of regulating the distance between the carriers. Said stop posts are constructed similarly to the posts 37 except that they do not have any lugs corresponding to the lugs 38. The same slicker arm is used in the modification as is employed in the preferred construction, as are also the straps for spreading the carriers and raising the slicker arm. The former straps are secured to the lugs 49 in the same manner as they are fastened to the axles of the wheels 7.

The rub sticks may be made of wood, hard rubber or steel, but wood or rubber is preferable to steel. The friction of the sticks upon the edges of the leather is depended upon entirely to finish said edges. The sticks are not heated as has been done in some machines of this nature because this method has been found to be impractical except for finishing shoe soles.

While I have illustrated herein the preferred embodiments of my invention, I do not limit myself to the details of construction shown herein as they may be changed without departing from the spirit or sacrificing the advantages of my invention.

I claim:

1. In a strap-finishing machine, the combination, with opposing sets of interchangeable rub-sticks arranged in opposing pairs, those comprising each pair having differently shaped strap engaging grooves in their ends, of means to hold the desired rub-sticks of each set in operative position to engage the opposite edges of a strap.

2. In a strap-finishing machine, the combination, with a bed plate, of opposed rub-sticks mounted thereon, a slicker arm, means to normally hold said arm down on said bed plate, and means to raise said arm for the purpose specified.

3. In a strap-finishing machine, the combination, with a bed plate, of opposed rub-sticks mounted thereon, a slicker arm, means to normally hold said arm down on said bed plate, and means to raise said arm and turn it to one side for the purpose specified.

4. In a strap-finishing machine, the combination, with a bed plate, of opposed rub-sticks mounted thereon, a slicker arm mounted on a pivot shaft extending through the table, a spring mounted on said shaft and adapted to normally hold said arm down on the bed plate, and means to raise said arm against the action of said spring for the purpose specified.

5. In a strap-finishing machine, the combination, with a bed plate, of opposed rub-sticks mounted thereon, a slicker arm mount-

ed on a pivot shaft extending through the table, a spring mounted on said shaft and adapted to normally hold said arm down on the bed plate, said shaft having spiral groove and pin connection with said bed plate whereby said arm is turned to one side when raised, and means to raise said arm for the purpose specified.

6. In a machine of the character described, the combination, with a bed plate, of opposed rub-sticks mounted to slide on said bed plate, means to yieldingly hold said rub sticks at the desired positions, means to spread said rub-sticks apart, a slicker arm normally held pressed down upon said bed plate, and means to raise said arm at the same time that said rub-sticks are spread apart for the purpose specified.

7. In a machine of the character described, the combination, with a bed plate, of opposed rub-sticks mounted to slide on said bed plate, means to yieldingly hold said rub-sticks at the desired positions, means to spread said rub-sticks apart, a slicker arm normally held pressed down upon said bed plate, and means to raise said arm and turn it to one side at the same time that said rub-sticks are spread apart for the purpose specified.

8. In a machine of the character described, the combination, with a bed plate, of opposed rub-sticks mounted to slide on said bed plate, means to yieldingly hold said rub-sticks at the desired positions, means to spread said rub-sticks apart comprising straps extending in opposite directions over guide pulleys and connected together at their lower ends, a slicker arm mounted on a spring pressed pivot shaft which normally holds said arm down upon said table, an intermediately pivoted lever one end of which engages said shaft, a strap connected to the other end of said lever and to the straps for spreading the rub-sticks whereby said rub-sticks and slicker arm may be actuated at the same time.

9. In a machine of the character described, the combination, with a bed plate, of a revoluble wheel mounted horizontally thereon, a plurality of rub-sticks mounted on said wheel, and any one of which may be brought into operative position to engage the edge of a strap by rotating said wheel, and means to hold said wheel at each place where one of its rub-sticks is in operative position.

10. In a machine of the character described, the combination, with a bed plate, of a revoluble wheel mounted horizontally thereon, a plurality of rub-sticks mounted radially on said wheel with their strap-engaging heads projecting from its rim and adapted to engage one edge of a strap, and means to hold said wheel at each place where one of said rub-sticks is in operative position.

11. In a machine of the character described, the combination, with a bed plate, of a revoluble wheel mounted horizontally

thereon, a plurality of rub-sticks mounted radially in pairs on said wheel with their strap-engaging heads projecting from its rim, and means to hold said wheel at each place
 5 where one of said rub-sticks is in operative position and adapted to engage the edge of a strap.

12. In a machine of the character described, the combination, with a bed plate,
 10 of a revoluble wheel mounted horizontally thereon, a plurality of rub-sticks mounted radially in pairs on said wheel with their strap-engaging heads projecting from its rim, said heads provided with grooves of different
 15 sizes to fit different thicknesses of straps, the grooves in the two sticks of each pair being also different in size for the purpose specified, and means to hold said wheel at each place where one pair of rub-sticks is in operative
 20 position and adapted to engage the edge of a strap.

13. In a machine of the character described, the combination, with a bed plate, of a revoluble wheel mounted thereon, a plu-
 25 rality of rub-sticks mounted radially on said wheel, each of said sticks having its inner end arranged in an aperture in the hub of the wheel, its strap engaging head projecting through an aperture in the wheel rim, and
 30 means to yieldingly hold said sticks in an extended position.

14. In a machine of the character described, the combination, with a bed plate, of a revoluble wheel mounted thereon, a plu-
 35 rality of rub-sticks mounted radially on said wheel, each of said sticks having its inner end arranged in an aperture in the hub of the wheel, its strap engaging head projecting through an aperture in the wheel rim, and
 40 coiled springs mounted on the shank of said sticks between the rim and hub of said wheel for the purpose specified.

15. In a machine of the character described, the combination, with a bed plate,
 45 of a wheel revolubly mounted on said bed plate, a plurality of rub-sticks mounted radially on said wheel, and an adjustable post having a lug adapted to engage any one of a series of slots in the rim of the wheel for the
 50 purpose specified.

16. In a machine of the character described, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of
 55 rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adjacent to one another, and means to retain each wheel at each place where their rub-sticks are arranged in opposing operative
 60 position.

17. In a machine of the character described, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of
 65 rub-sticks mounted radially on each wheel,

springs mounted on rods connected to the axles of said wheels and passed through apertures in brackets on the bed plate, each of said springs bearing against the axle of one of said wheels and one of said brackets for
 70 the purpose specified, and means to retain each wheel at each place where their rub-sticks are arranged in opposing operative position.

18. In a machine of the character de- 75 scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adjacent
 80 to one another, and posts having lugs adapted to engage series of slots in the rims of said wheels for the purpose specified.

19. In a machine of the character de- 85 scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adjacent to one another, and stop posts adjust-
 90 ably mounted in a slot in the bed plate and adapted to regulate the distance between said wheels.

20. In a machine of the character de- 95 scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adjacent to one another, and stop posts adjustably
 100 mounted in a slot in the bed plate and having lugs adapted to engage series of slots in the rims of said wheels for the purposes specified.

21. In a machine of the character de- 105 scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adjacent to one another, means to retain each wheel
 110 at each place where their rub-sticks are arranged in opposing operative position, and means to spread said wheels apart for introducing a strap to be finished.

22. In a machine of the character de- 115 scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and also adapted to be revolved, a plurality of rub-sticks mounted radially on each wheel, means to yieldingly hold said wheels adja-
 120 cent to one another, means to retain each wheel at each place where their rub-sticks are arranged in opposing operative position, a slicker arm yieldingly held down upon the bed plate, and means to simultaneously
 125 spread said wheels apart and raise said arm for introducing a strap to be finished.

23. In a machine of the character de- scribed, the combination, with a bed plate, of two wheels mounted to slide thereon and 130

also adapted to be revolved, a plurality of
rub-sticks mounted radially on each wheel,
means to yieldingly hold said wheels adja-
cent to one another, means to retain each
5 wheel at each place where their rub-sticks
are arranged in opposing operative position,
a slicker arm yieldingly held down upon the
bed plate, and means to simultaneously
spread said wheels apart, raise said arm and
turn it to one side for introducing a strap to 10
be finished.

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

JAMES Z. ROBERGE.

Witnesses:

L. W. HEELAN,
E. C. DODSON.