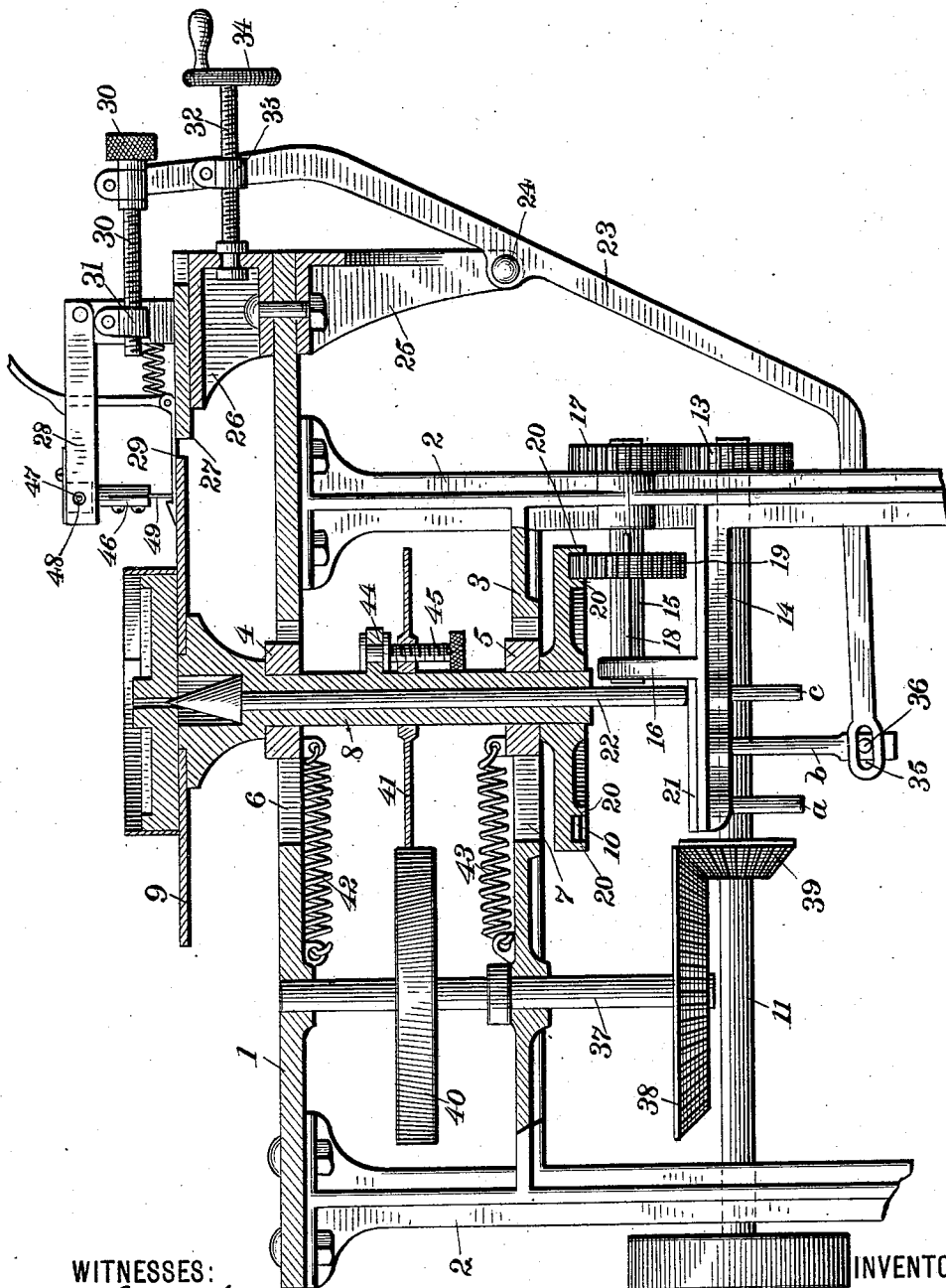


(No Model.)

C. H. REID.
HAT ROUNDING MACHINE.

No. 471,751.

Patented Mar. 29, 1892.



WITNESSES:

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CHARLES H. REID, OF DANBURY, CONNECTICUT.

HAT-ROUNDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,751, dated March 29, 1892.

Application filed June 13, 1891. Serial No. 396,154. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. REID, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Hat-Rounding 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 certain new and useful improvements in hat-rounding machines, and has for its object to preserve a constant horizontal elevation of the hat-rounding table during its rotation, while at the same time said table may have a variable predetermined movement toward and away from the cutting-knife.

The accompanying drawing shows a sectional elevation of a hat-rounding machine constructed in accordance with my improvement.

In my pending application, Serial No. 395,551, I show and describe a hat-rounding table which has a movement toward and away from the knife and which is also capable of being tilted during its revolution in order that the knife may always maintain a position tangential to the oval cut on the brim.

In my present improvement I have done away with the tilting of the rounding-table for several reasons, chief among which are that in rounding the brims of hats, as they generally run, it is immaterial whether the knife is or is not tangential to the periphery of the brim during the cutting, that the shear cut made by a knife that is not tangential to the periphery of the brim is not detrimental to the hat, and that it is a very simple matter to render the knife adjustable, so as to assume automatically the proper position relative to the brim during the operation of cutting.

1 is the bed of the machine, and 2 the supports therefor. 3 is a cross-piece below the bed and extended between said supports.

4 5 are blocks supported, respectively, by the bed 1 and cross-piece 3 and adapted to slide freely in ways 6 7 therein. 8 is a vertical shaft journaled within said blocks and

supporting the hat-rounding table 9. On the lower end of this shaft a crown-gear 10 is secured for the purpose to be presently explained.

11 is the power-shaft, journaled within the supports 2 and having belt-pulley 12 and spur-gear 13 secured on opposite ends thereof.

14 is a bracket secured to the support 2 adjacent to the gear 13, and 15 is a short shaft journaled within said support and a projection 16 of said bracket. On the outer end of this shaft 15 is secured a spur-gear 17, which meshes with gear 13, while mounted on said shaft in such manner as to travel freely on a feather 18 is a spur-gear 19, which meshes with the crown-gear 10 and is confined by flanges 20, depending from the latter. It will thus be seen that the shaft 8 is revolved from the shaft 11 through the medium of the gears 13, 17, 19, and 10.

The hat-clamping devices and the means for operating the same are identical with the similar devices and means shown and described in my aforesaid pending application, and I will not describe them herein.

21 is a plate resting upon the bracket 14 and having pins *a b c* depending and extending loosely through said bracket, whereby the plate is capable of vertical movement, the latter being guided by said pins. The spindle 22, which operates the hat-clamping devices, rests upon this plate 21.

23 is a bell-crank lever pivoted at 24 to the angle-piece 25, bolted to the bed 1.

26 is a platform bolted to the bed, and 27 a sliding carriage on said platform.

The knife-bar 28 and the lift-finger 29 are of ordinary construction and arrangement and are supported in the usual way by the carriage 27, and I will enter into no detail description of these parts.

30 is a thumb-screw swiveled through the upper end of this lever 23 and engaging with a nut 31 on the carriage 27, whereby the normal adjustment of the carriage may be effected, in order that the initial position of the knife may be determined.

32 is a screw swiveled to the platform 26 and engaging with a nut 33, carried by the lever 23, and 34 is a hand-wheel by which said screw is operated to elevate or lower the in-

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ner or lower end of said lever, whereby the plate 21 is raised or lowered to operate the hat-clamping devices. The lower end of this lever has an elongated slot 35 therein, within which extends a stud 36 from the pin 6, so that it will be readily understood that the movement of said lever in a vertical plane will be imparted to the plate 21.

37 is a vertical shaft journaled within the bed 1 and cross-piece 3 and having mounted on its lower end a bevel-gear 38, which meshes with the bevel-gear 39 on the shaft 11.

40 is the form, secured on the shaft 37, and 41 is a disk around the shaft 8 and having constant contact with the form by reason of the action of the coil-springs 42 43, whose ends are secured, respectively, to the bed 1 and cross-piece 3 and the blocks 4 5.

44 is a lug extending laterally from the shaft 8, and 45 is a thumb-screw swiveled to said lug and effectively passed through the disk 41, whereby the latter may be adjusted to have contact with the form 40 in different horizontal planes, in order that the to-and-fro movement of the rounding-table may be varied to enable the knife to cut different sizes of ovals on the brim of the hat.

The operation of my improvement is as follows: Power being communicated to the various shafts from the pulley 12, the disk 41 will be reciprocated to and fro by the combined action of the form 40 and springs 42 43, and the shaft 8 and all the parts carried thereby will accordingly have a like reciprocation, and the gear 19 will be carried to and fro by the crown-gear 10. The to-and-fro movement of the hat-rounding platform will therefore be effected and regulated by the form 40, and the knife will thereby be caused to cut the required oval in the hat-brim.

Of course it will be obvious that the form 40 may be secured around the shaft 8 and the disk 41 secured around the shaft 37 and that

the operation of the machine will be precisely the same with the parts thus interchanged.

The cutter-head 46 is assembled within the end of the cutter-bar 28, so as to be capable of an axial movement, and a pin 47 extends transversely through said head within openings 48 (only one being shown) in the sides of the bar 28, said openings being larger than said pin in cross-diameter, so that the axial movement of the cutter-head will be limited by the abutment of the pin against the walls of the openings, whereby the knife 49, secured within said bar, may be capable of an axial movement which will enable it to automatically assume a position tangential to the edge of the oval of the brim.

I claim—

1. The combination of the shafts 11 37, carrying intermeshing bevel-gears 39 38, the form 40 on the shaft 37, the shaft 8, journaled within sliding bearings and carrying disk 41 and supporting the hat-rounding table and the hat-clamping devices, springs 42 43, whereby said disk and form are kept in constant contact with each other, and means actuated from the shaft 11 for communicating revolution to the shaft 8, substantially as set forth.

2. In a hat-rounding machine, the combination of two vertical rotatory shafts, one of which has a horizontal to-and-fro movement and supporting the hat-rounding table and the hat-clamping devices, a form and a disk carried by said shafts, and springs to maintain constant contact between said form and disk, whereby a to-and-fro movement is imparted to the horizontally-movable shaft, substantially as set forth.

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

CHARLES H. REID.

Witnesses:

GEORGE WAKEMAN,
OLIVER P. MERRITT.