(No Model.)

L. BULASKY.

HAT TRIMMING MACHINE.

No. 482,541. Patented Sept. 13, 1892.

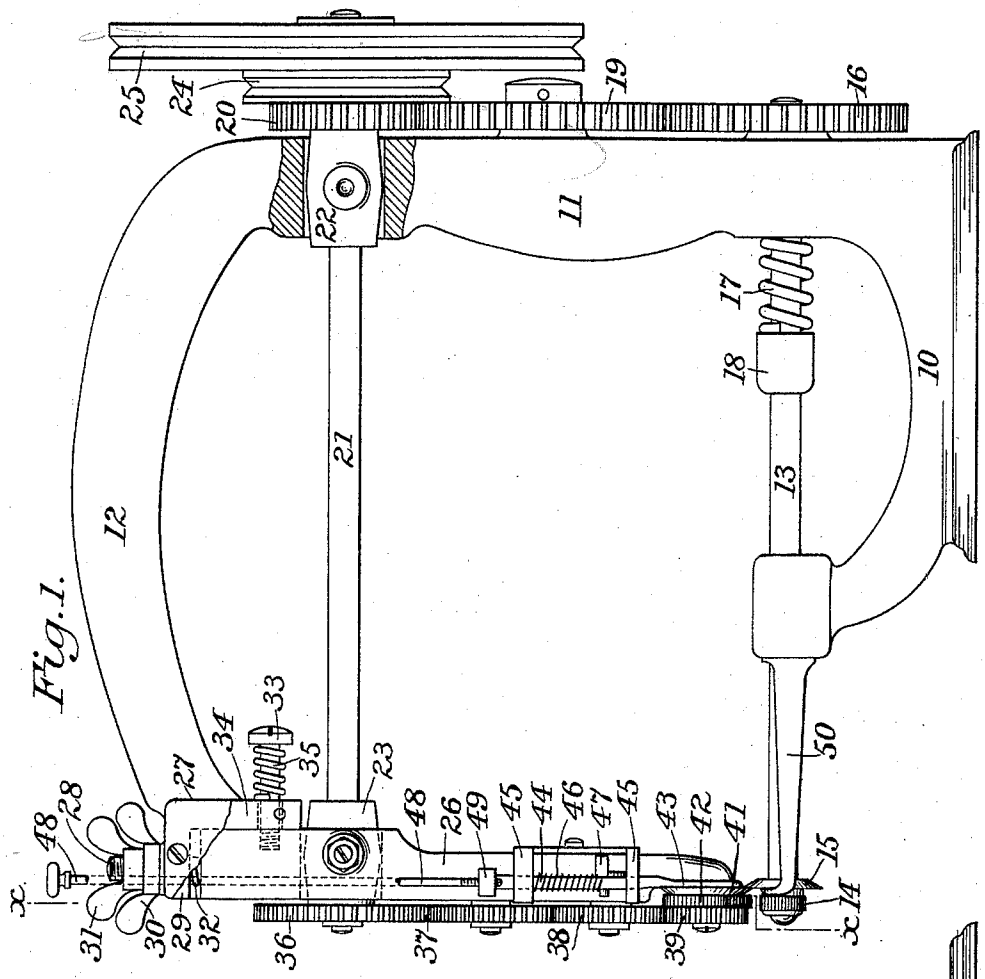

Fig. 1.

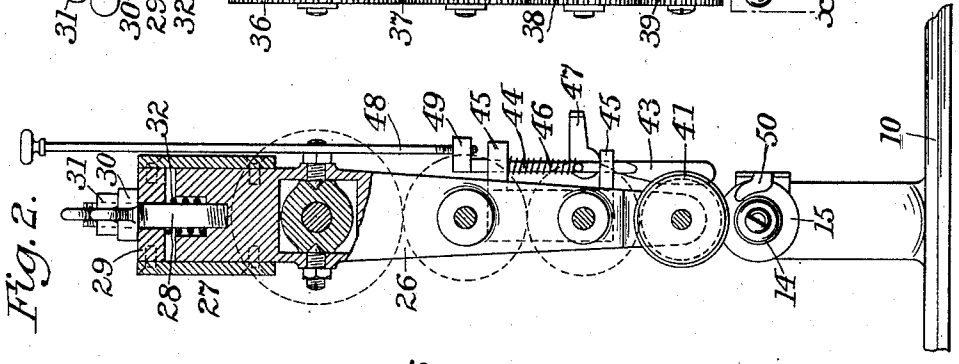

Fig. 2.

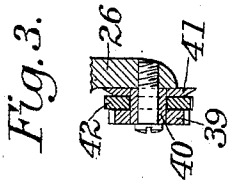

Fig. 3.

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UNITED STATES PATENT OFFICE.

LOUIS BULASKY, OF NEW YORK, N. Y.

HAT-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 482,541, dated September 13, 1892.

Application filed January 8, 1892. Serial No. 417,377. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BULASKY, of New York, in the county and State of New York, have invented certain new and useful Improvements in Hat-Trimming Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the figures of reference marked thereon, making a part of this specification.

My invention relates particularly to machines for trimming off the edges of ladies' felt and buckram hats as they come from the press, and has for its object generally to improve the construction and operation of such machines, and particularly to improve the means for adjusting the feeding devices for different thicknesses of material, to provide for taking up wear between the cutters, and to provide more space than usual between the upper and lower arms of the machine-frame.

To these ends my invention consists in the features of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the improved machine partly broken out. Fig. 2 is a section on the line *x x* of Fig. 1, and Fig. 3 is a sectional detail view to be referred to.

The framework of the machine may consist of a base 10, a vertical arm 11, and an upper horizontal arm 12. In suitable bearings in the lower portion of the frame is supported a shaft 13, which has fixed thereto a feed-wheel 14, a cutter 15, and a gear 16. The shaft is free to move longitudinally in its bearings and is normally pressed toward the left in Fig. 1 by a spring 17, which may be interposed between a collar 18 on the shaft and the supporting-framework. The gear 16 may be driven through an intermediate gear 19 from a gear 20, fixed on a shaft 21, which has its bearings in loose boxes 22 and 23, carried in the upper portion of the supporting-frame. Driving-pulleys 24 and 25 may be fixed to the shaft 21 when the machine is to be driven by power, or if the machine is to be driven by hand a suitable crank may be provided. The loose box 23 is carried by a depending arm 26, whose upper end enters and is guided by a head 27, carried by the arm 12 of the supporting-frame. Fixed in the upper end of the arm 26 is a bolt 28, which passes loosely through an aperture in the top plate 29 of the head 27 and receives above the top plate an adjusting-nut 30 and a lock-nut 31. A spring 32 is interposed between the top plate 29 of the head 27 and the upper end of the arm 26. A horizontal adjusting bolt or screw 33 passes loosely through an aperture in the rear wall 34 of the head 27 and engages a threaded hole in the arm 26, and a spring 35 is interposed between the head of said bolt or screw and the wall 34. A gear 36, fixed upon the shaft 21, drives through intermediate gears 37 38 a pinion 39, the said intermediate gears and pinion being supported on studs carried by the arm 26. The pinion 39 does not rotate directly on its stud, but is fixed to a sleeve 40, (see Fig. 3,) which is loose on said stud and also has fixed thereto a cutter 41. A feed or presser wheel 42 is placed loosely on said sleeve between the pinion and the cutter. A guide-finger 43 is supported in front of and in close proximity to the cutter 41 by a stem 44, which is free to slide vertically in guides 45, carried by the arm 26. A spring 46 may be employed to press the finger down, and a cam-lever 47 may be pivoted to the stem 44 and bear upon the lower guide 45 for convenience in raising the finger when desired. An adjusting-screw 48 may be threaded through a projection 49 to limit the downward movement of the finger 43 by contact with the upper guide 45. A supporting and guiding finger 50 may be fixed to the base of the framework to extend in front of the lower cutter 14.

In the operation of the machine the brim of the hat to be trimmed is presented to the cutters and is pressed forward by hand until the material is seized between the feed-wheels 14 and 42. The lower feed-wheel 14 is the positive-feed wheel, being fitted to rotate with the lower cutter 15. The upper cutter 41 is caused by the train of gears 36, 37, 38, and 39 to rotate much more rapidly than the lower, and consequently the feed-wheel 42 is allowed to rotate independently of the cutter 41 and its pinion 39 in order that it may not feed the material too rapidly nor slip upon its surface. The feed-wheel 42 is pressed down upon the material by the action of the spring 32, and its adjustment, according to the thickness of the material operated upon, is effected

by the rotation of the adjusting-nut 30. In order to permit of this vertical movement of the arm 26 without causing the shaft 21 to bind, the said shaft has its bearings in the loose boxes. The action of the spring 17 upon the shaft 13 and of the spring 35 upon the arm 26 maintains the cutters always in close contact, as indicated in Fig. 1, and takes up all the wear of said cutters. As each hat comes from the press it usually has a groove near the edge of its brim, which is formed by the mold in which the hat is pressed. This groove follows the outline which the brim is to have, and by causing the guide 43 to engage this groove the brim of the hat will be trimmed with very little care on the part of the attendant. The finger 50 serves to support the work close to the edge of the cutter, and therefore to insure a smooth and even cutting of the brim.

In practice the gears carried by the arm 26 will be protected by a suitable casing, which has been omitted from the drawings to avoid confusion.

I claim as my invention—

1. In a trimming-machine, the combination of a supporting-frame having an upper horizontal arm, a fixed head carried by said arm, a depending arm guided in said head, a screw engaging the upper end of said depending arm and passing through the top plate of said head and provided with an adjusting-nut, a rotary cutter carried at the lower end of said depending arm, a driving-shaft having a bearing in the upper end of said arm, and a train of gears supported by said arm to drive said cutter from said shaft, substantially as shown and described.

2. In a trimming-machine, the combination of a frame having an upper horizontal arm, a head carried by said arm, a depending arm guided in said head, a screw or bolt passing through an aperture in a vertical wall of said head and engaging said depending arm, a spring interposed between the head of said screw or bolt and said wall, a rotary cutter carried by the lower end of said arm, a train of gears supported by said arm for driving said cutter, and a second cutter to co-operate with said first-named cutter, substantially as shown and described.

3. In a trimming-machine, the combination of a frame having an upper horizontal arm, a head carried by said arm, a depending arm guided in said head, a screw or bolt passing loosely through the top plate of said head and engaging the upper end of said arm and provided with an adjusting-nut, a screw or bolt engaging said depending arm and passing loosely through a vertical wall of said head, a spring acting upon said screw, a cutter carried by the lower end of said depending arm, means to rotate said cutter, and a second cutter to co-operate with said first-named cutter, substantially as shown and described.

4. In a trimming-machine, the combination of a frame having an upper horizontal arm, a head carried by said arm, a depending arm guided in said head, a screw or bolt passing loosely through the top plate of said head and engaging the upper end of said arm and provided with an adjusting-nut, a spring interposed between the upper end of said arm and said top plate, a screw or bolt engaging said depending arm and passing loosely through a vertical wall of said head, a spring acting upon said screw, a cutter carried by the lower end of said depending arm, means to rotate said cutter, and a second cutter to co-operate with said first-named cutter, substantially as shown and described.

5. In a trimming-machine, the combination of a frame having an upper horizontal arm, a head carried by said arm, a vertical arm depending from said head, means for adjusting said arm, a cutter carried by the lower end of said arm, means to rotate said cutter rapidly, a feed-wheel mounted upon the same axis with said cutter, but to rotate freely thereon and independently of said cutter, and a lower feed-wheel and means to rotate it more slowly than the upper cutter, substantially as shown and described.

6. In a trimming-machine, the combination of a frame having an upper horizontal arm, a head carried by said arm, a vertical arm depending from said head, means for adjusting said arm, a stud carried by the lower end of said arm, a sleeve mounted on said stud, a cutter and a gear fixed to said sleeve, a feed-wheel mounted loosely upon said sleeve between said gear and cutter, means to rotate said gear and cutter rapidly, and a lower feed-wheel and means to rotate it more slowly than the upper cutter, substantially as shown and described.

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

LOUIS BULASKY.

Witnesses:
A. N. JESBERA,
A. WIDDER.