

H. M. GREIST & E. J. BOYLER.
SEWING MACHINE RUFFLER.
APPLICATION FILED JAN. 22, 1912.

1,044,645.

Patented Nov. 19, 1912.

Fig. 1.

Fig. 2.

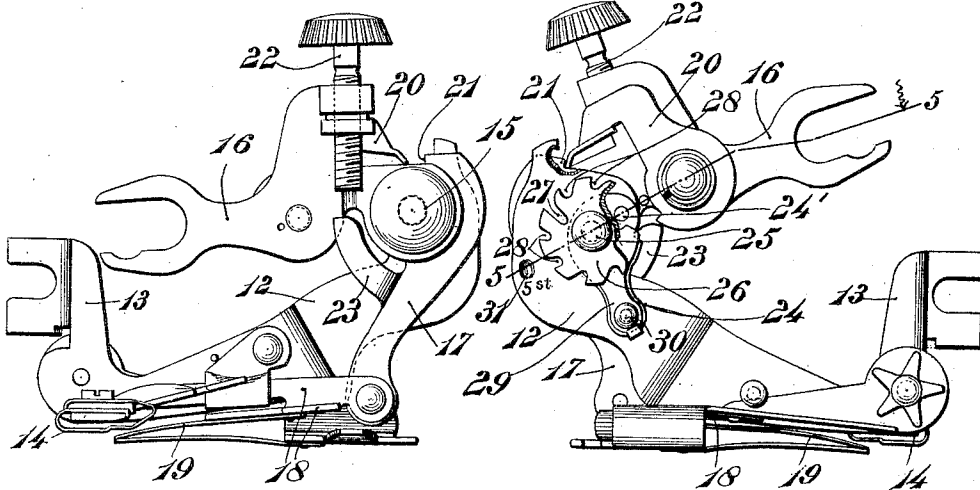


Fig. 3.

Fig. 4.

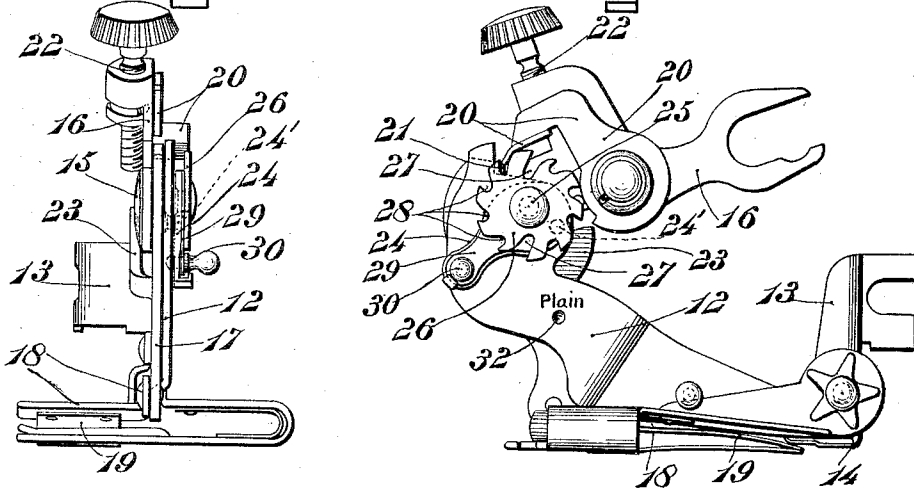
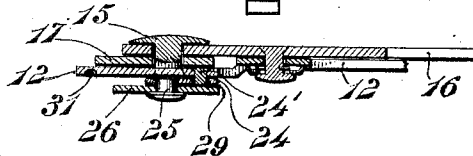


Fig. 5.



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UNITED STATES PATENT OFFICE.

HUBERT M. GREIST AND EMANUEL J. BOYLER, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO THE GREIST MANUFACTURING COMPANY, A CORPORATION OF CONNECTICUT.

SEWING-MACHINE RUFFLER.

1,044,645.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed January 22, 1912. Serial No. 672,671.

To all whom it may concern:

Be it known that we, HUBERT M. GREIST, a citizen of the United States, and EMANUEL J. BOYLER, a citizen of Canada, and both residing at New Haven, in the county of New Haven and State of Connecticut, have invented or discovered certain new and useful Improvements in Sewing-Machine Rufflers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in that class of sewing machine rufflers shown and described in U. S. Patents Nos. 629,736, 983,048 and 1,011,907, and adapted to make a plait or gather at each stitch; or, if it be desired to make more widely spaced plaits, to make only a single plait while several stitches are being made. This class of rufflers is commercially known as "five-stitch" rufflers, in that they are usually so constructed that when the more widely spaced plaits are being made they make one gather or plait for each five stitches of the sewing machine.

The present invention has for its object to simplify the construction of rufflers of the class referred to, so that they may be made at less expense, in that fewer parts are required, and also in that, in this improved construction, lighter stock or thinner metal for some of the parts may be used without detracting from the efficiency and durability of the rufflers. Also in the improved construction the adjustment of the rufflers from one class of work to another may be effected without requiring the use of a screw-driver, as in the constructions of the patents above referred to, and which is not always conveniently accessible.

In the accompanying drawings Figures 1 and 2 are opposite side views of the improved ruffler. Fig. 3 is an end view thereof, and Fig. 4 is a view similar to Fig. 2, but showing the ratchet-wheel in a different position of adjustment. Fig. 5 is a sectional view on line 5—5, of Fig. 2.

Referring to the drawings, 12 denotes a standard which is a part of the frame of the ruffler, and which frame is preferably provided with an integral attaching portion or shank 13 by which the attachment may be secured to the presser-bar of the sewing machine in substitution of an ordinary presser-

foot, the attachment including, as is usual, a presser-foot portion 14. Pivotaly mounted on a pin or rivet 15, passing through the upper part of the standard 12, is an operating lever 16 which is forked at its forward or free end for engagement with a roller-stud or pin to be carried by the needle-bar of the sewing machine; and also mounted on the said stud or rivet 15 is a pendulous lever 17 to the lower end of which is jointed a carrier 18 for the ruffling blade 19.

The operating lever 16 carries a spring-pressed pawl 20 which is arranged to engage a shoulder 21 on the pendulous lever 17, when, in the upward movement of the operating lever 16, the ruffling blade is to be thrown forward for a ruffling stroke. The spring acting on this pawl is, or may be, substantially like the torsional spring 38 acting on the similar pawl 34 of the ruffler of Patent No. 984,048 above referred to, this spring being shown in section in Fig. 5 of the drawing of the present case. Also mounted on the operating lever 16 is an adjustable contact screw 22 the lower end of which is arranged to engage the upper end of a contact finger 23 on the pendulous lever 17, for the purpose of moving the said lever backward to retract the ruffling blade. The throw of the ruffling blade may be regulated by adjustment of the said screw 22 which provides for more or less lost motion between the operating lever and the pendulous lever. By this construction, by which the adjusting screw is arranged to effect a direct contact with a part on or formed integral with the pendulous lever, the intermediate oscillating plate or dog heretofore employed in this class of rufflers, for communicating the movements of the operating lever to the pendulous lever, is dispensed with, thus simplifying the construction.

Pivotaly attached to the standard or frame portion 12 of the ruffler, is a lever 24 on which is mounted, by means of a pin or rivet 24', arranged eccentric to the fulcrum or pivotal point 25 of the said lever, a ratchet-wheel 26 having two deep notches 27, and a series of four shallower notches 28 between said deep notches. By virtue of this construction a ruffling stroke may be imparted to the ruffling blade at each reciprocation of the operating lever 16, for the purpose of forming plain ruffling consisting

of short or closely spaced rufflers or gathers; or a ruffling stroke may be imparted to the said ruffling blade only at each five oscillations of the operating lever, for the purpose of forming "five-stitch" ruffling, consisting of relatively widely spaced plaits or gathers. Thus when the lever 24 is in the position shown in Fig. 4 the ratchet-wheel 26 will be so located that the pawl 20, when it rests in the shallower notches 28 of the said ratchet wheel, will be held above or out of contact with the shoulder 21 on the pendulous lever 17 when the operating lever rises, and can only engage said shoulder when the said pawl falls into one of the deeper notches 27 of the said ratchet wheel. When, however, the lever 24 is in the position shown in Fig. 2 the ratchet wheel 26 will be so lowered that it will be out of operative engagement with the pawl 20, so that the said pawl will be free to engage the shoulder 21 on the pendulous lever 17 at each upward movement of the operating lever 16, thereby imparting a ruffling stroke to the ruffling blade at each vibration of the said operating lever.

Attached to and movable with the lever 24 is a spring 29 which carries a locking pin 30 extending through the lower end of the said lever 24, and which is thus adapted to be forced by the said spring into locking engagement with either of the recesses 31 and 32 formed on the frame or standard 12, so that the said lever 24 and the ratchet wheel carried thereby may be securely retained in the different positions denoted in Figs. 2 and 4. When it is desired to change the said lever and the ratchet wheel from one position to the other the locking pin 30 is pulled outward from a locking recess against the stress of the spring 29, thus leaving the lever 24 free to be swung to its other position, and the said spring will then force the said pin into locking engagement with the other of the said recesses.

It will be observed that in the present improved ruffler the operating and pendulous levers 16 and 17 are arranged on one side of the supporting standard 12, while the ratchet wheel 26 is on the other side of said standard. This construction permits the use of a plain pivot pin or rivet 15 instead of the more expensive shouldered pin or rivet heretofore employed in similar rufflers, and on which the ratchet-wheel was also mounted.

From the foregoing it will be understood that this improved ruffler, while dispensing with some parts heretofore used in this class of rufflers, and simplifying the construction of other parts, provides a ruffler which is more convenient of adjustment than similar rufflers heretofore made; while the construction of the parts is such that the ruffler may be manufactured at less expense, in that

lighter and more easily worked stock than has heretofore been required may be used for some of the parts.

The invention is not to be understood as being limited to all of the details herein shown and described, as the adjustable ratchet-wheel might be movably mounted in a different manner than that herein set forth, and other changes, within the province of mechanical skill, might be made without departing from the spirit of the invention, the construction and arrangement of the parts herein set forth being, however, preferred.

Having thus described our invention we claim and desire to secure by Letters Patent:

1. In a sewing machine ruffler, the combination with a ruffling blade and its operating parts, comprising a spring-pressed pawl, of a ratchet-wheel which is adjustably mounted so that it may be moved into or out of operative engagement with the said pawl, and which ratchet-wheel is provided with deep and shallow notches.

2. In a sewing machine ruffler, the combination with a ruffling blade and its operating parts, comprising a spring-pressed pawl, a ratchet-wheel provided with deep and shallow notches, and a lever on which said ratchet wheel is mounted eccentric to the pivot or fulcrum of said lever, so that said ratchet-wheel may be moved into or out of operative relation to the said pawl.

3. In a sewing machine ruffler, the combination with a ruffling blade and its operating parts, comprising a spring-pressed pawl, a ratchet-wheel provided with deep and shallow notches, a lever on which said ratchet wheel is mounted eccentric to the pivot or fulcrum of said lever, so that said ratchet-wheel may be moved into or out of operative relation to the said pawl, and means for retaining the said lever in different positions of adjustment.

4. In a sewing machine ruffler, the combination with a ruffling blade and its operating parts, comprising a spring-pressed pawl, a ratchet-wheel provided with deep and shallow notches, a lever on which said ratchet-wheel is mounted eccentric to the pivot or fulcrum of said lever, so that said ratchet-wheel may be moved into or out of operative relation to the said pawl, and means for retaining the said lever in different positions of adjustment, said means comprising a spring-pressed pin movable with the said lever, and locking recesses in the frame of the attachment to be engaged by said pin.

5. In a five-stitch sewing machine ruffler, the combination with a standard forming part of the frame of the attachment, of an operating lever and a pendulous lever both mounted on the same side of said standard,

said pendulous lever being provided with a contact part or finger, an adjustable contact screw carried by said operating lever and adapted for engagement with the said contact part or finger of the said pendulous lever, a ratchet-wheel mounted on the side of said standard opposite that on which the said levers are mounted, a spring-pressed pawl carried by said operating lever and arranged to engage said ratchet-wheel, and

means for moving said ratchet-wheel into and out of operative relation to said pawl.

In testimony whereof we affix our signatures, in presence of two witnesses.

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EMANUEL J. BOYLER.

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C. M. SWEENEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
