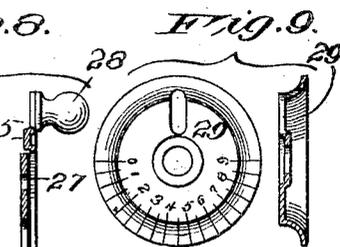
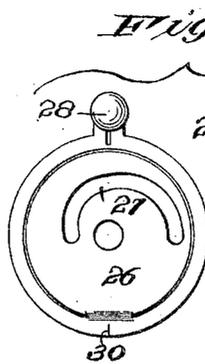
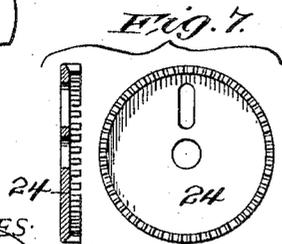
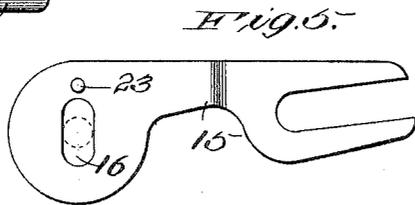
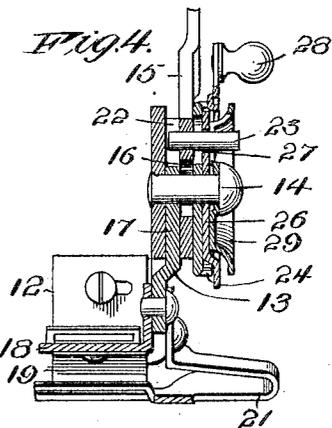
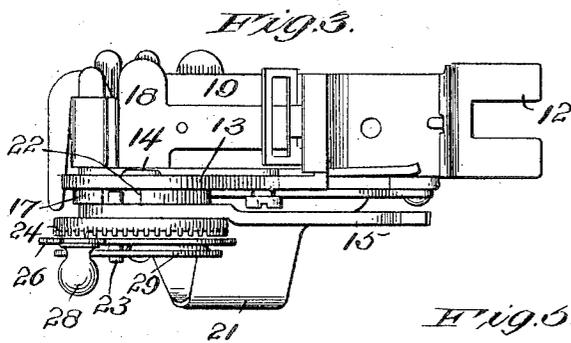
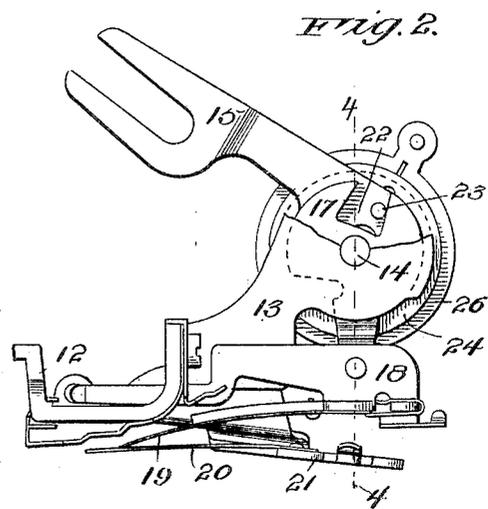
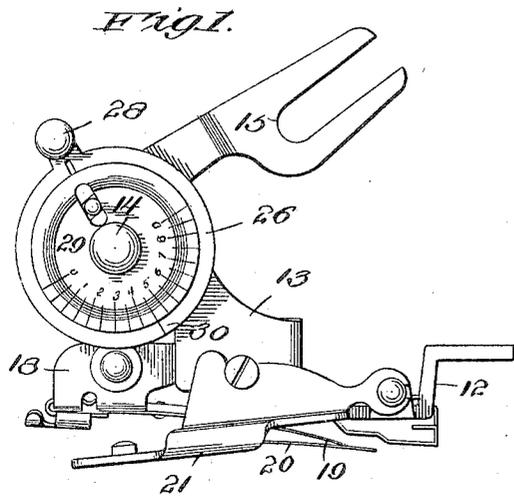


J. M. GREIST.
SEWING MACHINE RUFFLER.
APPLICATION FILED JAN. 26, 1905.



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UNITED STATES PATENT OFFICE.

JOHN M. GREIST, OF NEW HAVEN, CONNECTICUT.

SEWING-MACHINE RUFFLER.

No. 802,636.

Specification of Letters Patent.

Patented Oct. 24, 1905.

Application filed January 26, 1905. Serial No. 242,714.

To all whom it may concern:

Be it known that I, JOHN M. GREIST, a citizen of the United States, 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 that class of sewing-machine rufflers which are operated from the needle-bars of the machines; and the invention has for its object to provide a ruffler of the class referred to in which the regulating mechanism by which the throw of the ruffling-blade may be varied will be compact and simple in construction and efficient in operation. To this end the main or needle-bar lever has a slotted connection with the pivot-pin on the standard of the ruffler-frame, and the secondary lever, fulcrumed on said pivot-pin, is provided with a notch or recess loosely entered by an operating-pin on the needle-bar lever, said operating-pin also entering an eccentric slot formed in a regulating-disk which may be turned to move the said pin nearer to or farther from the fulcrum of the said secondary lever, so that the movements of said lever and the throw of the ruffling-blade will be lessened as the said pin is moved toward the fulcrum of the said secondary lever and will be increased as the said pin is adjusted farther from said fulcrum, this variation in the movements imparted to the said secondary lever from the main or needle-bar lever being preferably increased by forming the said slot in the secondary lever with inclined walls, so that the said slot will be wider at its inner part than at its outer part. Also by making one of said walls somewhat more inclined relative to a line which would be radial to the circular part of said lever than the other the variation of the forward throw of the ruffling-blade from the center or middle part of its movement will be less than the variation of the backward throw of the said blade from said center of movement, as is usually desirable in sewing-machine rufflers.

In the accompanying drawings, Figures 1 and 2 are opposite side views of the improved ruffler, and Fig. 3 is a plan view thereof. Fig. 4 is a vertical section of the same on line 4 4, Fig. 2. Fig. 5 is a detail view of the main or needle-bar lever, and Fig. 6 a detail view of

the secondary lever. Fig. 7 represents in section and elevation the detent-disk. Fig. 8 illustrates the adjusting or regulating disk in elevation and section, and Fig. 9 represents the outer or index disk in elevation and section.

Referring to the drawings, the frame of the attachment comprises a presser-foot portion 12 and a standard portion 13, which is preferably integral with said presser-foot portion and which supports a stud or pivot-pin 14. The main or needle-bar lever 15, slotted in the usual manner for engagement with a screw or stud on the needle-bar, is provided with a slot 16, through which the said stud or pivot-pin passes, thus permitting the said lever to be adjusted on said pivot-pin. The secondary lever 17 is fulcrumed on the said stud or pivot-pin and has at its lower end a pivotal connection with the carrier 18, to which the ruffling-blade 19 is attached in any suitable manner, said ruffling-blade cooperating in the usual way with a separator-plate 20, attached to a holder 21, preferably removably secured to the frame of the ruffler.

The secondary lever 17 is provided with a notch or recess 22, entered by an operating-pin 23 on the needle-bar lever 15, said pin extending through a slot in a detent-disk 24, which is serrated or provided with an annular series of teeth at its periphery, said teeth being engaged by a small lug or projection 25 on the regulating-disk 26, provided with an eccentric or cam slot 27, through which the said pin 23 passes, so that by turning the said regulating-disk the needle-bar lever may be raised or lowered on the stud or pivot-pin 14 to bring the said operating-pin 23 nearer to or farther from the fulcrum of the said secondary lever, so that the throw of the latter imparted thereto by the uniformly-moving needle-bar lever through the operating-pin 23 will be less or greater, as it may be desired, to lessen or increase the throw of the ruffling-blade. The regulating-disk is of thin spring metal, and its rim is preferably detached from its central part, excepting at the part opposite the lug or projection 26, so that said lug or projection may be readily moved away from the teeth of the detent-disk when said regulating-disk is to be turned to effect an adjustment. To increase this variation, due to the adjustment of the said operating-pin 23 nearer to or farther from the fulcrum of the secondary

lever, the notch 22, with which the latter is provided, is preferably formed with inclined walls, which serve as stops for the said operating-pin, so that said notch is wider at its inner part than at its outer part, one of said walls being preferably more inclined relative to a radial line extending from the pivot of said lever than the other, so that the variation of the forward throw of the ruffling-blade from the central or middle portion occupied by said blade will be less than the variation of the backward throw thereof from said position, as is usually desirable in this class of devices. The regulating-disk 26 is preferably provided with a handle 28, by which it may be conveniently turned on the stud or pivot-pin 15 to effect the adjustments of the throw of the ruffling-blade, and outside of said disk on said stud or pivot is preferably placed an index-disk 29, provided with a graduated scale, so that in connection with an index-mark 30 on the said regulating-disk 26 the length of the throw of the ruffling-blade for a given adjustment may be readily indicated.

In the operation of the ruffler the serrated detent-disk 24 and the index-disk 29, as also the regulating-disk 26, all move with the needle-bar lever 15, and when the said regulating-disk is turned to vary the throw of the ruffling-blade the said detent-disk and index-disk both remain stationary relative to said needle-bar lever, being held from turning by the pin 23, which passes through slots in both of said disks.

The invention above described provides a compact and simple construction consisting of parts which may be cheaply manufactured and which when assembled, as shown and described, provide for a convenient adjustment of the throw of the ruffling-blade in accordance with the character of ruffling which is to be performed by the ruffler.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a sewing-machine ruffler, the combination with a ruffling-blade and its carrier, of a standard provided with a fixed pivot-pin, a main or needle-bar lever having at its fulcrum a slotted connection with said pivot-pin, a secondary lever having a hole in which said pivot-pin closely fits so that said lever will be fulcrumed on said pivot-pin, and which secondary lever is provided with a notch or recess, an operating pin or projection on the main or needle-bar lever entering said notch or recess, and a rotatable part having a cam-slot entered by the said operating-pin, and which rotatable part may be turned to raise or lower the said lever and thus locate the said operating-pin nearer to or farther from the fulcrum of the said secondary lever.

2. In a sewing-machine ruffler, the combination with a ruffling-blade and its carrier, of

a standard provided with a fixed pivot-pin, a main or needle-bar lever having at its fulcrum a slotted connection with said pivot-pin, a secondary lever having a hole in which said pivot-pin closely fits so that said lever will be fulcrumed on said pivot-pin, and which secondary lever is provided with a notch or recess, an operating pin or projection on the main or needle-bar lever entering said notch or recess, and a rotatable part having a cam-slot entered by the said operating-pin and which rotatable part may be turned to raise or lower the said lever and thus locate the said operating-pin nearer to or farther from the fulcrum of the said secondary lever, said notch or recess in said secondary lever having differently-inclined walls which serve as variable stops for the said operating-pin.

3. In a sewing-machine ruffler, the combination with a ruffling-blade and its carrier, of a standard provided with a pivot-pin, a main or needle-bar lever having at its fulcrum a slotted connection with said pivot-pin, a secondary lever fulcrumed on said pivot-pin and provided with a notch or recess, an operating pin or projection on the main or needle-bar lever entering said notch or recess, and a rotatable part having an eccentric or cam slot entered by the said operating-pin and which rotatable part may be turned to raise or lower the said lever and thus locate the said operating-pin nearer to or farther from the fulcrum of the said secondary lever, said rotatable part having a lug or projection, and a serrated detent-disk to be engaged by said lug or projection.

4. In a sewing-machine ruffler, the combination with ruffling-blade and its carrier, of a standard provided with a pivot-pin, a main or needle-bar lever having at its fulcrum a slotted connection with said pivot-pin, a secondary lever fulcrumed on said pivot-pin and provided with a notch or recess, an operating pin or projection on the main or needle-bar lever entering said notch or recess, the serrated detent-disk 24, and the adjustable regulating-disk 26 having a lug or projection to engage said detent-disk and having also the cam-slot 27 and entered by said operating-pin which latter also engages said detent-disk and holds the same from turning with said regulating-disk.

5. In a sewing-machine ruffler, the combination with a ruffling-blade and its carrier, of a standard provided with a pivot-pin, a main or needle-bar lever having at its fulcrum a slotted connection with said pivot-pin, a secondary lever fulcrumed on said pivot-pin and provided with a notch or recess, an operating pin or projection on the main or needle-bar lever entering said notch or recess, the serrated detent-disk 24, the adjustable regulating-disk 26 having a lug or projection to engage said detent-disk, and having also the cam-slot 27 entered by said

operating-pin which latter also engages said
detent-disk and holds the same from turn-
ing with said regulating-disk, and the index-
disk 29 outside of said regulating-disk and
5 provided with a graduated scale to be read in
connection with an index with which said
regulating-disk is provided.

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

JOHN M. GREIST.

Witnesses:

HENRY CALVER,
GEO. W. REA.