July 13, 1926.

1,592,293

T. F. BRACKETT ET AL

SEWING MACHINE ATTACHMENT

Filed April 19, 1924 2 Sheets-Sheet 1

Fig. 1.

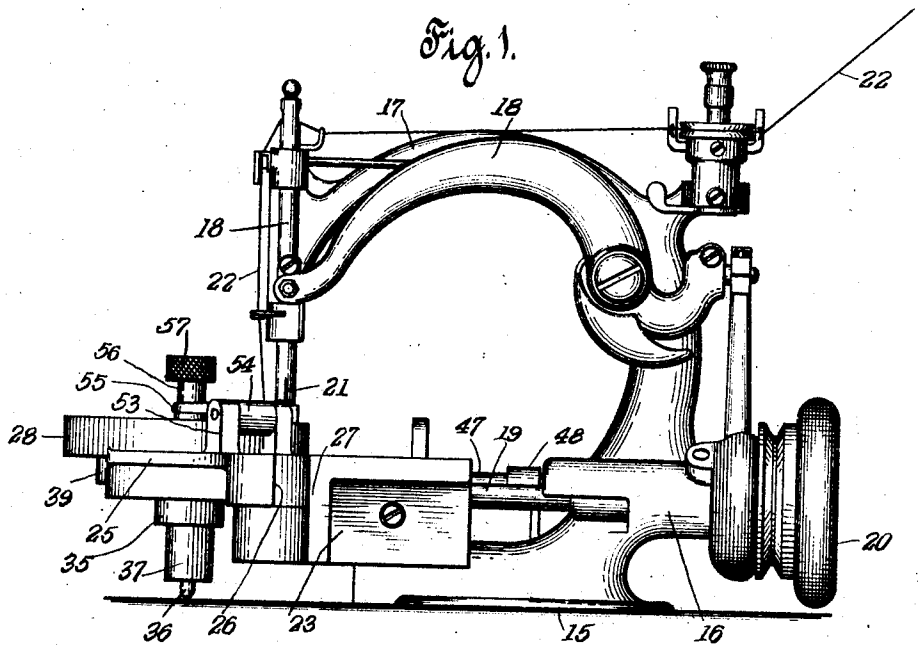
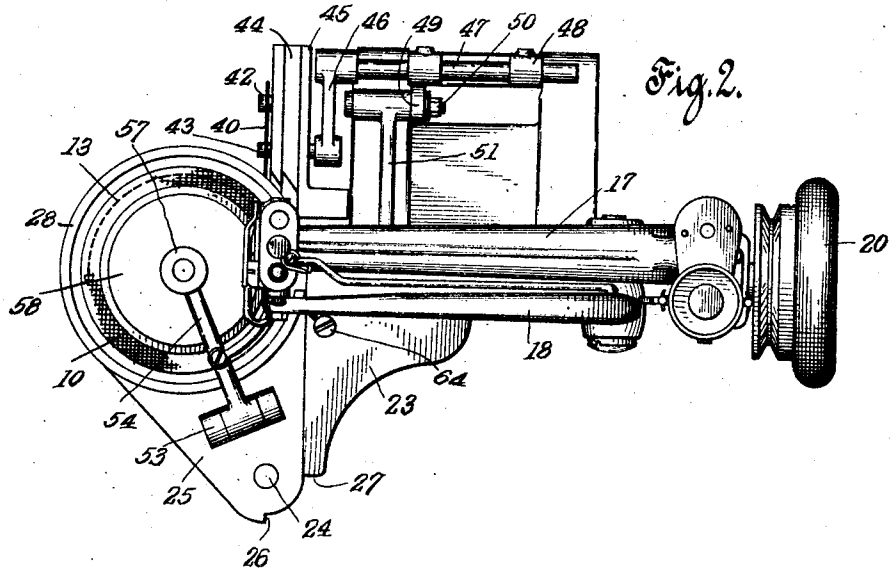


Fig. 2.



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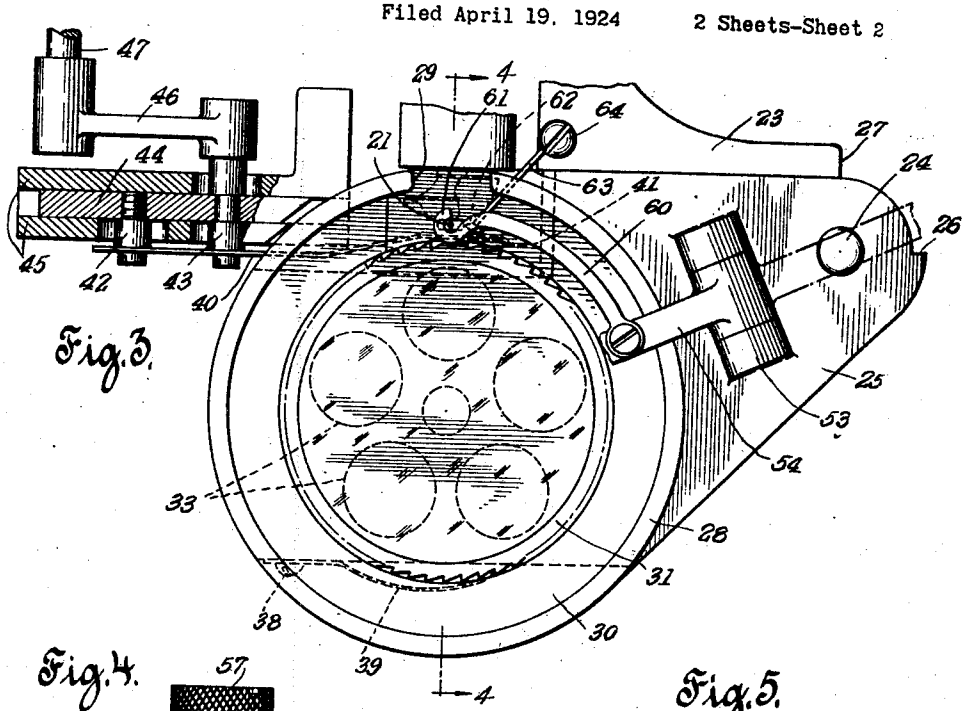


Fig. 3.

Fig. 4.

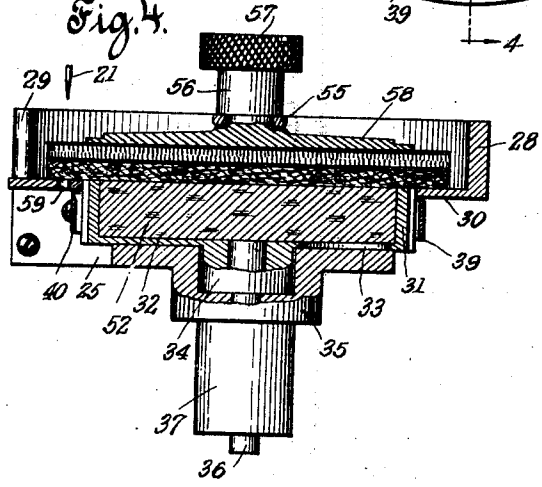


Fig. 5.

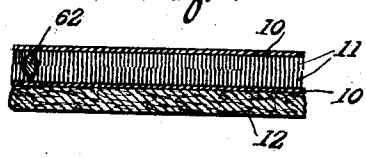


Fig. 6.

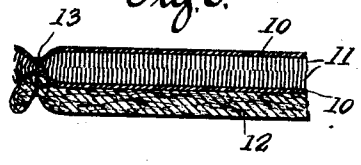
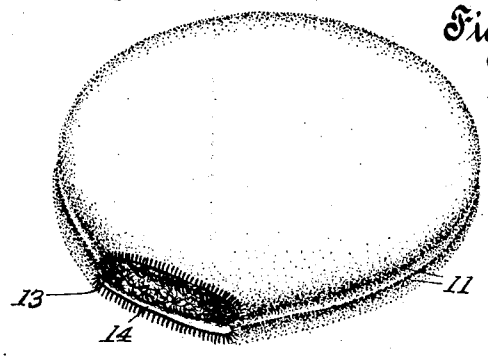


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE ATTACHMENT.

Application filed April 19, 1924. Serial No. 707,663.

This invention relates to improvements in sewing machine attachments for producing a row of stitches around a circular object.

One of the objects of the invention is to provide an attachment specifically adapted for the manufacture of powder puffs, in which a pile fabric is disposed on the exterior surfaces and a soft cushion to be completely enveloped by turning the sewed article inside out.

Another purpose is to produce an attachment so associated with a sewing machine that the article to be sewed may be moved into or out of the path of the needle, rotated when in sewing position and its substitution effected in a rapid manner.

A further aim is in the provision of means for loosely but securely clamping the several plies of fabric together, including the foraminous padding, tucking the pile of enveloping fabric so as to avoid being engaged by the stitches and applying a suitable compression to the piles as the article is moved under the needle.

These and other important and practical aims and objects are accomplished by the novel construction and arrangement of parts hereinafter described and shown in the accompanying drawings, forming an essential part of this disclosure and in which:—

Figure 1 is a side elevational view of well known type of sewing machine, showing the application of the invention.

Figure 2 is a top plan view of the same.

Figure 3 is a partial sectional, partial plan view of the main operative parts, drawn to an enlarged scale.

Figure 4 is a partial transverse sectional view taken substantially in a plane indicated by the line 4—4 of Figure 3.

Figure 5 is a fragmentary sectional view showing the powder puff prior to stitching.

Figure 6 is a similar view of the same after stitching.

Figure 7 is a perspective view of the powder puff after stitching and turning, preliminary to finishing by closing and sewing the gap.

Stated in general terms, the powder puff, shown in detail in Figures 5 and 6 and 7, consists of two like circular pieces of firm woven fabric 10 which have a fine pile 11 on one side presenting a velvet-like effect.

Interposed between the smooth surfaces of the fabric is a cushion 12, soft and semi-elastic, as cotton, adapted to extend the cheeks or sides of the pad when used as a brush or dauber in applying powdered substances to the skin.

Such pads are preferably made by attaching the plies together, the pile surfaces being adjacent and the cushion element on the outside, as clearly indicated in Figure 5.

A row of stitches 13 are disposed along the border or margin, except at a gap 14, the pad then being turned inside out to bring the cushion 12 between the piles or layers 10 of fabric backing, the pile 11 being outermost.

Referring now more particularly to the mechanism for assembling and stitching the pads, Figures 1 and 2 show in general, the well known Willcox and Gibbs sewing machine as adapted to manufacturing purposes, the same consisting of a base 15, frame 16 and raised, forwardly extending arm 17.

At the front of this arm are guides for the needle bar 18, actuated by the lever arm 18′, pivoted on the frame near the rear and operated by the usual means on the horizontal shaft 19, the same being provided with a combined band and hand wheel 20.

A needle 21 is fixed to the lower end of the needle bar 18, the same being provided with thread 22 guided and tensioned as usual, the machine so far described being of common type.

Attached to the forward part of the frame 16 is a bracket support 23 on which pivoted on a pin 24, is a plate arm 25, provided with a stop 26 limiting the outer movements or swing of the plate by contact with the extending corner 27 of the bracket, against the straight edge of which the plate is held when in operative position.

The outer end of the element 25 has a circular, cup-like rim 28, except for a single open space 29, the purpose of which is to allow the rim to clear the needle when moved laterally into or out of its path.

The bottom wall 30 contains a circular opening into which projects a hollow ratchet wheel 31 having teeth on its periphery, its web 32 containing a plurality of openings 33 to lighten the construction, the web having a central hub 34 rotatably in an extension 35 of the support 25, and

the hub having fixed on its spindle 36 rotatably mounted in the hub 37 of the support.

A spring pawl 39 is secured to a lug formed on the support 25 by the screw 38, the point of the pawl 39 engaging the teeth of the ratchet 31 to prevent a reverse movement of it.

An actuating pawl 40, having a hooked inturned end 41, adapted to engage the ratchet on its opposite side, is fixed at its outer end on studs 42 and 43, said studs being secured in a slide 44 movable in guides 45 formed on the bracket 23.

The slide 44 is moved reciprocatively by a link 46, fixed on a spindle 47 rocked with its bearings 48 by a link 49, the outer end of which is slotted to be adjustably engaged by a bolt 50 moved by an arm 51 actuated by a cam (not shown) fixed on the shaft 19.

From the foregoing it will be seen that the ratchet wheel 31 will be moved intermittently, in timed relation to the movement of the needle, and further, that the extent of motion, or in other words, the number of teeth engaged by the pawl may be controlled by changing the stroke at the bolt 50.

Fixed in the chamber of the ratchet wheel 31 is a circular block of cork 52 to extend at least flush with the upper edge of the wheel, and on which is disposed the article to be sewn, as the pad indicated, the cushion element 12 being lowermost.

Pivoted in a pair of spaced lugs 53, raised from the swinging plate 25, is an arm 54 having at its outer end a ring 55 engaging an annular recess in a stud 56 provided with a knurled knob 57 by which it may be conveniently rotated.

The lower end of the stud is fixed in a relatively heavy clamp disc 58, adapted to rest on the pad to rotate with it, the reduced edge of the clamp disc clearing the path of the needle 21 when the plate 25 is in operative sewing position, the needle passing into the opening 59 in the bottom wall 30 of the pad holder, when at the bottom of its stroke, the construction appearing best in Figure 4.

Rigidly attached to the arm 54 is a curved bar 60 having an open loop 61 at its outer end partially encircling the needle 21 and acting as a presser-foot to hold the fabric firmly at the point of penetration of the needle, closely adjacent the periphery of the clamp disc 58.

In order to open the pile of the fabric, so as to prevent the pile from becoming entangled in the stitches, an opener 62, of generally elliptical shape, is formed at the end of a spring wire arm 63, the same being held by a clamp screw 64 fixed at a convenient point in the frame 23 of the machine, in such manner that the opener is disposed to enter between the plies of piles as shown in Figure 5.

In operation the pad material is placed on the cork plate 52 within the holder, at that time swung outwardly, the clamp disc placed thereover and then the holder is swung into operative position as shown in Figure 3.

Upon starting the machine, the sewing will begin and co-incidently therewith the work will rotate, the pawl and ratchet acting to feed the work in a circular path until the machine is stopped, preferably to leave an open unsewed gap 14 to permit turning the article inside out.

Stopping of the machine is effected by the hand-wheel 20 and the needle should be at its highest point before swinging the holder outwardly, whereupon the clamp disc may be raised and the thread cut by passing over the knife like edge on the upper part of the spring pawl 40.

Although I have described my improvements with considerable detail and with respect to certain particular forms of my invention, I do not desire to be limited to such details since many changes and modifications may well be made without departing from the spirit and scope of my invention in its broadest aspect.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. Sewing mechanism comprising in combination with a frame, a shaft revoluble therein, and a reciprocating needle, a circular work support pivoted to said frame adapted to swing into and out of the path of said needle, a ratchet wheel revoluble in said support, a clamp hinged to rest on work disposed in said support, a ratchet pawl actuated by said shaft to engage the teeth of said ratchet wheel when said support is in operative position relative to said needle.

2. Sewing mechanism comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, a circular work support pivoted to said frame adapted to swing into and out of the path of said needle, a ratchet wheel revoluble in said support, a pliable friction disc on said ratchet wheel to receive the work, means for pressing the work upon said disc, and means for rotating said ratchet wheel during the up stroke of said needle when said support is moved into the path of the needle.

3. Sewing mechanism comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, a cupped work support having an arm pivoted to said frame and movable relatively to the path of said needle, a ratchet wheel revoluble in said support, means timed with the movement of said needle for actuating said

ratchet wheel, means to prevent retrograde movement of the ratchet wheel, a pliable friction disc on the ratchet wheel, and a clamp hinged to said support to rest over said disc.

4. Sewing mechanism comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, a cupped work support having an arm pivoted to said frame and movable relatively to the path of said needle, a ratchet wheel revoluble in said support, a spring pawl actuated by said shaft to engage the teeth of said ratchet wheel, means for adjusting the stroke of said pawl, means for preventing a reverse movement of the ratchet wheel, a block of cork on the upper surface of said wheel, and a gravity actuated clamp hinged to said arm to rest upon work disposed upon said cork.

5. Sewing mechanism comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, a cupped work support having an arm pivoted to said frame and movable relatively to the path of said needle, a ratchet wheel revoluble in said support, a spring pawl actuated by said shaft to engage the teeth of said ratchet wheel, said pawl having a portion provided with a knife edge to sever the thread at the end of the sewing operation, frictional means on said wheel to receive the work parts, and weighted means for holding the work thereon.

6. Sewing mechanism for circular sheets of pile fabric comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, a cylindrical support for the fabric sheets, said support having an arm pivoted to said frame to move in a horizontal plane into and out of the path of said needle, a rotatable work receiving seat in said support, means for intermittently actuating said seat, a hinged cover for for said holder adapted to rest upon the fabric sheets, and means for separating the pile of the fabric sheets at a point immediately in advance of the needle.

7. Sewing mechanism for circular sheets of pile fabric comprising in combination with a frame, a shaft revoluble therein and a reciprocating needle, means for holding two or more plies of pile fabric discs upon a support, manual means for swinging said support into or out of the plane of action of said needle, means for rotating the fabric discs to feed their margins to the action of the needle, said means presenting a cutting edge adapted to sever the thread at the end of the sewing operation, and means for spreading the pile of the fabric discs at a point immediately in advance of the needle.

Signed at New York in the county of New York and State of New York this 18th day of March A. D. 1924.

TRACY F. BRACKETT.
NICHOLAS MONFORT.