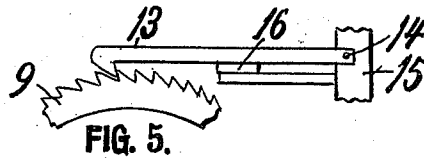
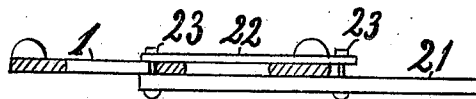
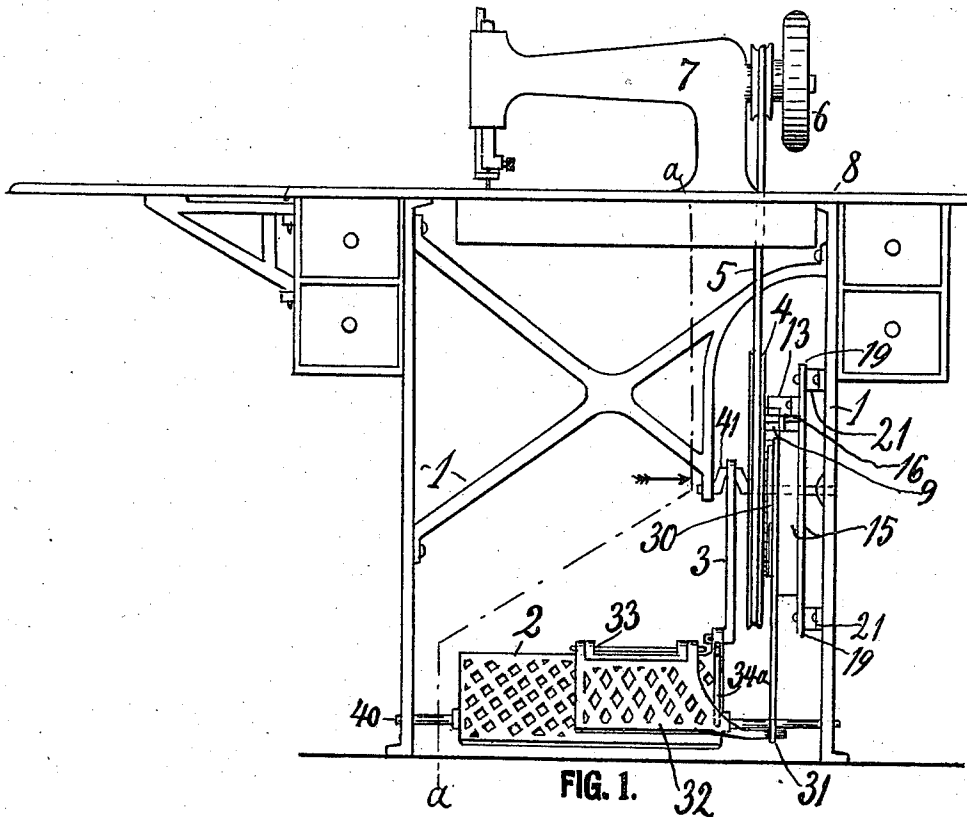


SEWING MACHINE OR ATTACHMENT FOR SAME.

Patented Feb. 21, 1911.

2 SHEETS—SHEET 1.



A. E. Carlsen.
T. T. Carlsen.

INVENTOR:
Alfred E. Holmberg.
BY HIS ATTORNEY:
A. M. Carlsson

A. E. HOLMBERG.
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APPLICATION FILED JULY 8, 1910.

984,562.

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2 SHEETS—SHEET 2.

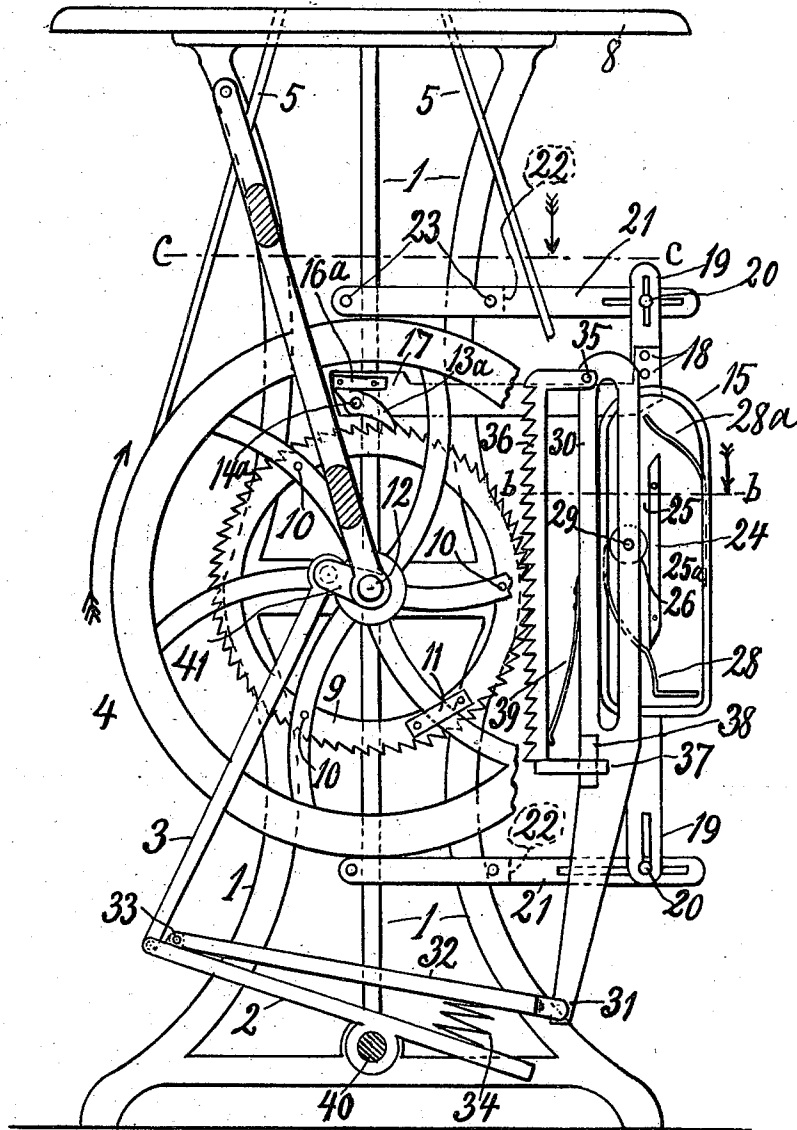


FIG. 2.

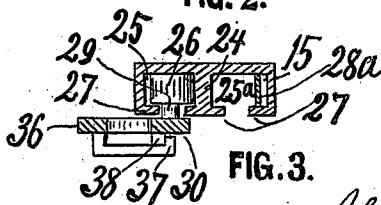


FIG. 3.

WITNESSES:

A. C. Carlson.
H. H. Carlson.

INVENTOR.

Alfred E. Holmberg.
BY his ATTORNEY:
A. M. Carlson.

UNITED STATES PATENT OFFICE.

ALFRED E. HOLMBERG, OF CHATHAM, MINNESOTA.

SEWING-MACHINE OR ATTACHMENT FOR SAME.

984,562.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed July 8, 1910. Serial No. 571,077.

To all whom it may concern:

Be it known that I, ALFRED E. HOLMBERG, a citizen of the United States, residing at Chatham, in the county of Wright and State of Minnesota, have invented a new and useful Sewing-Machine or Attachment for Same, of which the following is a specification.

My invention relates to improvements in sewing machines and may be built as a portion of the machine or form a removable attachment thereto so as to be applicable to sewing machines of any make, already made or even in use.

The main objects of the invention are, first, to cause a sewing machine to always start the rotation of its fly wheel in the desired direction without applying the operator's hand to any part of the machine for that purpose, thus leaving both hands available for holding, steering and otherwise handling the work, lower the presser-foot, arranging the thread, &c.

A second object is to prevent accidental rotation of the machine in the wrong direction, that is, in a direction which on most machines will break the thread and bend or break the needle.

These and other objects I attain by the construction and arrangement of parts hereinafter described and illustrated in the accompanying drawings, in which,—

Figure 1 is a front side elevation of a sewing machine with my invention applied to it. Fig. 2 is an enlarged vertical section on the line *a—*a** Fig. 1 with the parts 16, 21 and some other parts slightly modified. Fig. 3 is a section on the line *b—*b**, Fig. 2. Fig. 4 is a section on line *c—*c** Fig. 2 of the main frame of the machine with the supporting parts of the attachment clamped thereon. Fig. 5 is a fragment of the upper edge of the ratchet wheel shown in Fig. 2, and the means that prevents reverse turning of said wheel, in the original form shown in Fig. 1.

Referring to the drawings by reference numerals, 1 designates the main frame, 2 the regular treadle, 3 the pitman, 4 the large fly-wheel having a belt 5 driving the small fly-wheel 6 of the sewing machine proper, which is designated by the numeral 7 and stands upon the regular table 8 of the machine.

My invention involves a ratchet wheel 9, which represents any kind of toothed wheel and is secured to the fly-wheel 4 either by

bolts 10 or clamps like 11 (see Fig. 2); or it may be secured on the crank-shaft 12 of the machine.

To prevent accidental rotation of the ratchet wheel in the wrong direction, it is engaged by a pawl 13, which may be pivoted to any part of the frame work, but I have preferably shown it in Figs. 1 and 5 as pivoted at 14 to a stationary yoke 15 of the attachment and resting upon a soft cushion 16, so as not to fall upon the ratchet wheel and cause a rattling noise, but simply be ready at all times to prevent rotation of the wheel in the wrong direction. In the modified form in Fig. 2 the pawl 13^a is pivoted at 14^a to an arm 17, which is firmly secured at 18 to the yoke 15; the pawl being in this case held by a cushion 16^a to prevent its rattling on the ratchet wheel.

The stationary yoke 15 has its end extensions 19 slotted and secured by bolts 20 to slotted arms 21, which may be made integral with the frame 1, but may also, and as an attachment preferably so, be secured to the frame by clamping straps 22 and bolts 23, (see Fig. 4).

As best shown in Fig. 3, the yoke 14, in its complete form, is formed with a central rib 24, at either side of which is a channel 25 or 25^a; said channels forming an endless path for a roller 26 to move in, and said roller is retained therein by flanges 27, (shown in Fig. 3 but omitted in Fig. 2). Whenever the roller 26 reaches the end of the rib 24 one of the springs 28 and 28^a drives it beyond the end of the rib so it is free to move at the opposite side thereof. Said roller 26 is mounted on a stud 29, which is secured in a yoke 30 and the latter has its lower end pivotally connected at 31 to a secondary or upper treadle 32, which is hinged at 33 to the toe end of the primary treadle, 2, and is supported by a light spring carried by the primary treadle; said spring may be of the spiral type 34 in Fig. 2, or a plain spring arm as 34^a in Fig. 1.

To the upper end of the yoke 30 is pivoted at 35 the upper end of a rack 36, whose lower end has a hook 37 (see Figs. 2 and 3) engaging a lug 38 when a spring 39 has swung the rack into proper mesh with the ratchet wheel.

In the operation of the device and the machine, when the operator places his feet, or at least one foot, on the upper treadle 32, the spring 34 yields and permits the upper treadle to rest upon the lower one, and the

two treadles move together as if they were but one, swinging on the supporting bar 40 and driving the pitman 3 up and down, while the heel end of the upper treadle reciprocates up and down the yoke 30, with its roller 26 plying between the lower end of channel 25^a and the spring 28^a in the upper end thereof, thus holding the moving yoke with the rack disengaged from the ratchet wheel. When the machine is to stop, the operator presses downward by his toes so that the crank 41 will stop at or near its lowest dead center; at the same time, or next thereafter, the operator raises his heels or heel sufficiently to let the spring 34, or 34^a, push the upper treadle and its yoke 30 so far upward that the spring 28^a can push the roller over into the channel 25, and thereby the rack into mesh with the ratchet wheel; the operator now, in starting the machine again, presses downward first with his heel, whereby the spring 34 is compressed and the yoke and its rack are moved downward sufficiently to start the turning movement of the ratchet wheel and fly-wheel in the right direction, bringing the crank rearwardly and upwardly with sufficient force to lend the centrifugal motion to the fly-wheel required to bring the crank past its upper dead center, and as the operator now presses downward with the toes and then with the heel alternately the rotary movement is kept up until the machine is again stopped by an extra heavy pressure at the toe end of the main treadle. It will be observed that as soon as the first downward stroke of the yoke 30 is completed and the pitman is starting on its first downward stroke, the spring 28 drives the roller 26 into the lower end of the channel 25^a, thereby disengaging the rack from the ratchet wheel; should such disengagement not be completed when the fly wheel gets into further rotary motion, the spring 39 will yield and let the ratchet wheel turn a cog or two with slight touching against the rack until the latter is fully disengaged. It will also be understood that the dog or pawl, 13, or 13^a, both by itself and in combination with the rack 36 and the two yokes and upper treadle, serve to prevent accidental rotation of the fly-wheel in a direction injurious to the thread or needle or other parts of the machine. Also, that the invention is easily applicable to any ordinary sizes and makes of sewing machines, especially as the arms by which the attachment is supported provide for adjustment of the attachment in various positions; and it is obvious that the invention is applicable to machines turning in

either direction, only the attachment be modified by mechanical expedients and skill to suit such variation.

The ratchet wheel is in the drawing enlarged for clearness, but in the best proportioned structure it is to be of such diameter that the rack when making a full stroke downward imparts half a turn to the wheel.

What I claim is:

1. In a sewing machine, the combination with the regular rotary fly-wheel of the machine, of a pitman and treadle rotating same, a toothed wheel secured to the fly-wheel, a stationary yoke secured to the frame work of the machine and having two parallel channels connected at their ends, a reciprocal yoke having a roller traveling in said channels, a secondary treadle hinged upon the pitman treadle of the machine and connected with said reciprocal yoke, a rack carried by said yoke and adapted to engage the toothed wheel when the roller is in one channel and to disengage the toothed wheel when the roller is in the other channel, a spring at each end of the stationary yoke for pushing the roller of the moving yoke from one channel into the other, and a spring arranged to hold the secondary treadle normally upward some distance from the pitman treadle.

2. In a sewing machine, the combination with the regular rotary fly wheel of the machine, of a pitman and treadle rotating same, a toothed wheel secured to the fly-wheel, a stationary yoke secured to the frame work of the machine and having two parallel channels connected at their ends, a reciprocal yoke having a roller retained in and traveling in said channels, a secondary treadle hingedly connected with the pitman treadle and having a spring holding it normally raised above the latter treadle; said secondary treadle being operatively connected with the moving yoke; a rack pivotally attached with one end to the moving yoke and having its other end spring-pressed toward the toothed wheel, and means for limiting the said spring-pressure; and a spring near each end of the stationary yoke to act on the roller and force it from one channel into the other, and means for the prevention of accidental reverse rotation of the toothed wheel when it is disengaged from the rack.

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

ALFRED E. HOLMBERG.

Witnesses:

A. W. NARY,
ANNA LE BUN.