(No Model.)

P. DIEHL.

PRESSER FOOT LIFTING MECHANISM FOR SEWING MACHINES.

No. 460,955. Patented Oct. 13, 1891.

FIG. 1.

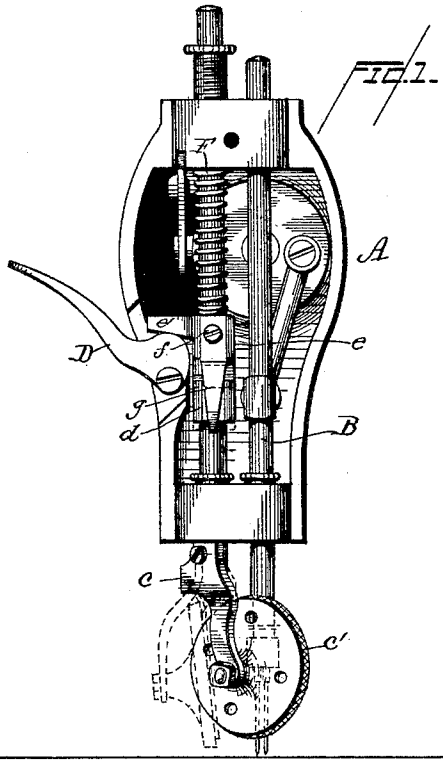
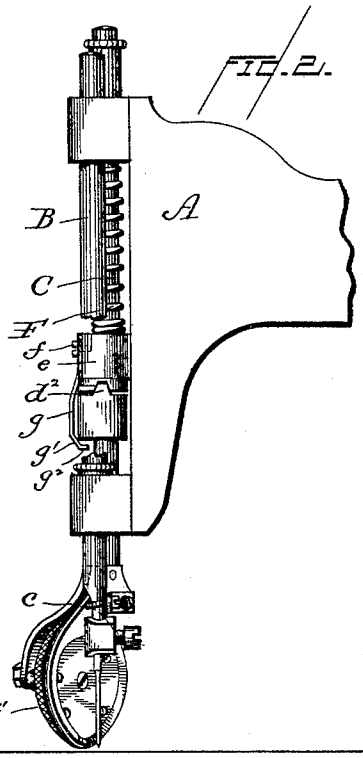


FIG. 2.



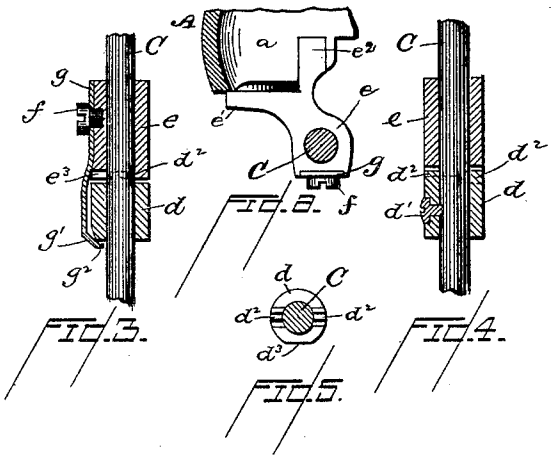


FIG. 3.

FIG. 5.

FIG. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

PHILIP DIEHL, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY OF NEW JERSEY.

PRESSER-FOOT-LIFTING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 460,955, dated October 13, 1891.

Application filed February 14, 1891. Serial No. 381,435. (No model.)

To all whom it may concern:

Be it known that I, PHILIP DIEHL, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machine Pressers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to sewing-machine pressers, and more particularly to that class thereof made in the form of rollers and carried by suitable brackets attached to the presser-bars. These roller-pressers are usually arranged to bear on the work close to the needles. They are therefore in the way of the operator when it is necessary to thread the needles, and it has accordingly heretofore been customary to render them removable from their working positions adjacent to the needles by attaching them to hinged or pivoted arms, for example, as shown in my patent, United States No. 225,274, dated March 9, 1880. The construction shown by said patent is, however, somewhat cumbersome, besides being expensive to make; and the object of my present invention is to provide a simpler and less expensive device which will render the pressers conveniently removable from their working positions and readily returnable thereto. This object I accomplish by so mounting the presser-bar that it is free to slide through the lifting-bracket, and by attaching to said bar a collar having a spring or yielding connection with said lifting-bracket, the spring having a tendency to draw said collar and bracket together, but permitting of their slight separation when necessary. The adjacent faces of the bracket and collar are provided with interlocking lugs and notches to hold the bar and presser securely in place when in working position; but when the lugs are disengaged from the notches by forcing the lifted presser slightly downward, (thus lowering the presser-bar and its attached collar,) the presser-bar will be free to be partially rotated to permit the presser to be turned aside out of the way.

In the accompanying drawings, Figure 1 is a front view of the head of a sewing-machine, embodying my invention, the cap or face-plate thereof being removed. Fig. 2 is a side view of the same. Figs. 3 and 4 are detail views showing the lifting-bracket and collar in vercal section. Fig. 5 is a plan view of the collar with the presser-bar in section; and Fig. 6 is a plan view of the lifting-bracket and its guides, also with the presser-bar in section.

A denotes a portion of the bracket-arm of a sewing-machine; B, the needle-bar, and C the presser-bar, the latter being provided at its lower end with an arm or bracket *c*, carrying a roller-presser *c'*. To the presser-bar is attached, as by set-screw *d'*, a collar *d*, the said collar being provided at its top with two diametrically-opposite locking-lugs d^2, preferably made tapering, as shown.

D is the ordinary lifting-lever, arranged to engage an arm *e'* of the lifting bracket *e*, said bracket having, as herein shown, a second or guiding arm e^2, entering a groove formed in a projection *a* on the inside of the head. The bracket *e* is provided on its lower face with notches of proper form and size to receive the lugs d^2 of the collar *d*, and with a projection e^3, which serves as a stop to limit the torsional or turning movement of the collar and its attached presser-bar.

To the bracket *e* is attached by a screw *f* a flat spring *g*, having an inclined portion *g'*, bearing against the lower edge of a flattened part d^3 of the collar *d*, the extreme lower end of said spring being inturned to form the hook or projection g^2, and said spring forming a yielding connection between said bracket and collar.

F is the usual spring for holding down the presser.

The operation of my invention is as follows: When the presser is raised from the work by the lifter, as shown in Fig. 1, the operator by bearing down slightly on the presser will disengage the lugs d^2 of the collar from the notches in the lower face of the bracket *e*, and the presser may then be turned outward to the position denoted in dotted lines in Fig. 1, leaving free access to the needle or needles, the spring *g* yielding slightly to permit of this operation, and the hook or projection g^2 thereof serving as a stop to prevent the

presser from being lowered far enough to come in contact with the work, while the projection e^3 serves as a stop to limit the turning movement of the presser-bar. To return the parts to their operative positions, the presser is merely swung inward to its place, and as soon as the lugs d^2 of the collar come into register with the notches in the bracket e, the inclined part g' of the spring g, bearing on the lower edge of the flattened face of the collar, forces the collar upward into its locking position. As the bracket e is loose on the presser-bar the lifter D would fail to lift said bar but for the spring g, which forms a connection between said bracket and the collar d attached to said bar, and the stress of the pressure-spring F, bearing on the loose bracket e, is imparted to said bar through said bracket and the attached collar d.

I have herein shown my invention in connection with two needles and a diagonally-arranged roller-presser to be used with the diagonal feed embraced by my application, Serial No. 381,434, filed simultaneously herewith, but it will be understood that the same is applicable to any forms of roller-presser machines, or to machines having ordinary presser-feet, when it may be desirable to render them capable of being turned aside from the needles.

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

1. In a sewing-machine, the combination, with a presser-foot lifter and a presser-carrying bar having a collar attached thereto and a lifting-bracket loose thereon, the adjacent faces of said collar and bracket having interlocking lugs and notches, of a spring forming a yielding connection between said bracket and collar.

2. In a sewing-machine, the combination, with a presser-foot lifter and a presser-bar carrying a roller-presser and having a collar d attached thereto and provided with lugs d^2, of a lifting-bracket e loose on said bar and provided with notches to receive said lugs and with a stop e^3, and the spring g, attached to said bracket and forming a yielding connection between the latter and said collar.

3. In a sewing-machine, the combination, with a presser-foot lifter and a presser-bar carrying a roller-presser and having a collar d attached thereto and provided with lugs d^2 and a flattened part d^3, of a lifting-bracket e loose on said bar and provided with notches to receive said lugs and with a stop e^3, and the spring g, attached to said bracket and forming a yielding connection between the latter and said collar, said spring having the inclined portion g' and the inturned hook or projection g^2.

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

PHILIP DIEHL.

Witnesses:
J. G. GREENE,
W. J. PETTIT.