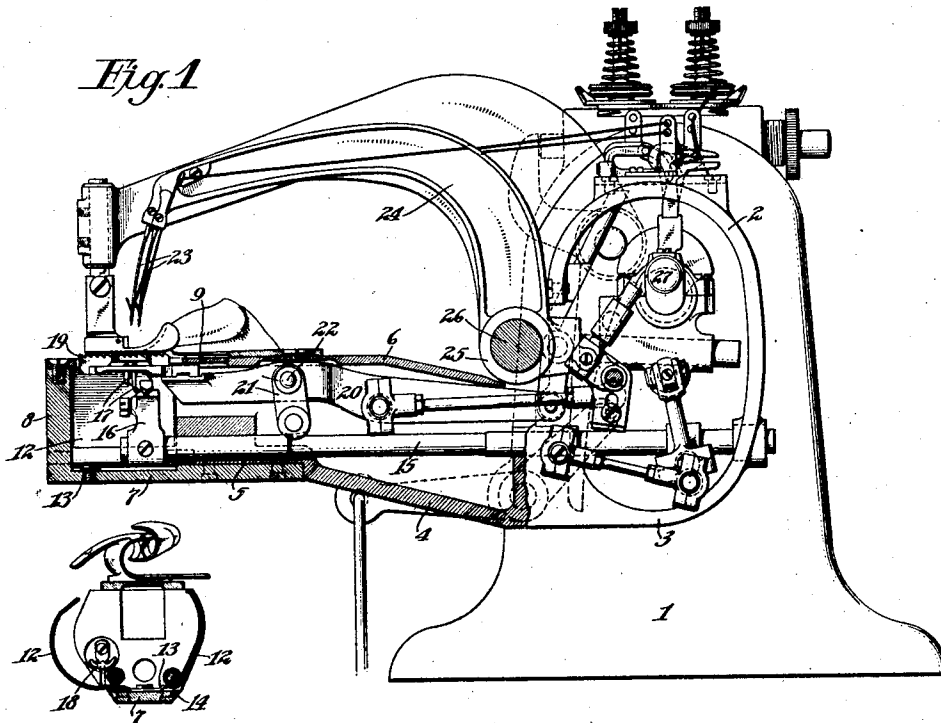


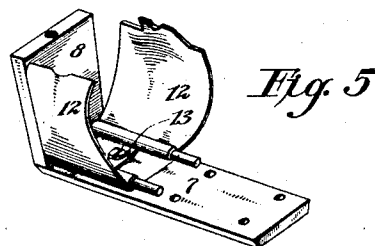
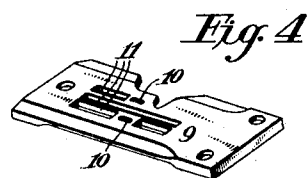
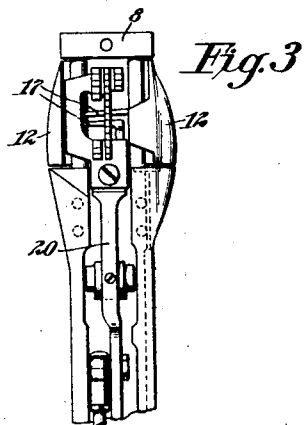
A. H. DE VOE.  
 WORK ARM FOR SEWING MACHINES  
 APPLICATION FILED OCT. 30, 1918.

1,355,216.

Patented Oct. 12, 1920.



*Fig. 2*



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

ALBERT H. DE VOE, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

## WORK-ARM FOR SEWING-MACHINES.

1,355,216.

Specification of Letters Patent.

Patented Oct. 12, 1920.

Original application filed May 18, 1916, Serial No. 98,277. Divided and this application filed October 30, 1918. Serial No. 260,257.

*To all whom it may concern:*

Be it known that I, ALBERT H. DE VOE, a citizen of the United States, residing at Westfield, in the county of Union and State

of New Jersey, have invented certain new and useful Improvements in Work-Arms for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improved form of work-arm for sewing machines, and more particularly to machines of the feed-off-the-arm type for sewing up tubular work, such as the machine shown in my co-

pending application Serial No. 98,277, filed May 18, 1916, of which this application is a division.

The objects of the invention are to provide a work-arm having means by which the looper and feeding mechanisms may be readily inspected and adjusted, or if desired, completely exposed.

In its preferred form the work-arm is of a general trough or channel shape and extends first at an inclination from its support and then horizontally. A lower extension piece is secured to the free end of the arm, at the extremity of which piece an end wall rises. Secured to the end wall and to the work-arm is a throat-plate. The sides adjacent the throat-plate are closed by hinged spring-pressed cover plates.

In the accompanying drawings Figure 1 is a vertical longitudinal section through the work-arm of the machine. Fig. 2 is a transverse section through the arm taken at a point just within the end wall. Fig. 3 is a top plan view of the arm, partly broken away and with the cover-plate and throat-plate removed. Fig. 4 is a perspective of the throat-plate. Fig. 5 is a perspective of the extension piece, showing the hinged cover-plates.

Referring to the drawings, 1 indicates the base of a machine from which projects laterally a bridge member 2 having at its outer free end a downwardly projecting extension 3 all as more fully disclosed in my co-

Projecting transversely from the projection 3 is a work-arm which is substantially channel or trough shaped. The inner portion of the work-arm is upwardly inclined, as shown at 4, and its outer or free end portion 5 is

horizontally disposed, the upper side of the arm being normally closed by a cover-plate 6 secured thereto. Secured to the lower wall of the end portion 5 is the extension-piece 7 shown in Fig. 5, and the end wall 8 rises from the free end of the extension piece. A throat-plate 9 is secured by screws to the end wall 8 and to the main body of the work-arm, said throat-plate forming a continuation of the cover-plate 6. The throat-plate has the usual needle apertures 10 and feed-dog apertures 11. At the sides of the extension-piece hinged cover-plates 12 are mounted to swing outwardly and downwardly. As clearly shown in Figs. 1, 2 and 5, a leaf spring 13 is secured between its ends to the extension piece 7, the free ends of the spring bearing against the flattened portions 14 of the cover-plate hinges to yieldingly hold the cover-plates in closed position. When the cover-plates are opened the spring also holds them in open position. Mounted to rock and slide in the work-arm is a looper-shaft 15 carrying a looper-support 16 to which are adjustably secured the loopers 17. Mounted in the end wall of the work-arm proper is a stationary thread-guide 18 from which the thread leads to the loopers. A feed-dog 19 is mounted on a feed rock-lever 20 fulcrumed on the links 21 at 22. Needles 23 are carried by a curved reciprocatory needle-lever 24, whose hub 25 is journaled upon a stud-pin 26. The needle-lever, looper-shaft and feed rock-lever are actuated from the main-shaft 27 in the manner fully disclosed in my co-

pending application above mentioned.

It is evident that by the use of the above described construction access to the looper and feed mechanisms may be had at any time by opening one or both of the hinged cover-plates 12, and if desired said mechanisms may be entirely exposed for inspection and adjustment by merely removing the throat-plate 9 and extension-piece 7.

Having thus set forth the nature of the invention, what I claim herein is—

1. A sewing machine comprising, in combination, a reciprocating needle, a hollow work-arm, a loop-taker mounted within the free end-portion of said work-arm, said portion including opposed hinged cover-plates adapted to swing outwardly and downwardly, substantially as described.

2. A sewing machine including a frame having a hollow work-arm free at one end and supported at its opposite end, an extension-piece carried at the free end of said work-arm, an upwardly extending end-wall carried by said extension-piece, a throat-plate secured at one end to said end-wall and at its opposite end to the hollow work-arm and forming with the extension-piece a cavity with a lateral opening affording access thereto.

3. A sewing machine including a frame having a hollow work-arm free at one end and supported at its opposite end, an extension-piece carried at the free end of said work-arm, an upwardly extending end-wall carried by said extension-piece, a throat-plate secured at one end to said end-wall and at its opposite end to the hollow work-arm, and a cover-plate hinged to said extension-piece and adapted to swing outwardly and downwardly.

4. A sewing machine including a frame having a hollow work-arm free at one end and supported at its opposite end, an extension-piece carried at the free end of said work-arm, an upwardly extending end-wall carried by said extension-piece, a throat-plate secured at one end to said end-wall and at its opposite end to the hollow work-arm, a cover-plate hinged to said extension-piece and adapted to swing outwardly and downwardly, and yielding means for holding said cover-plate in closed position.

5. A sewing machine comprising, in combination, a frame including an elongated work-arm having at its free end a cavity, a reciprocating needle, a cooperating loop-taker housed within said cavity, said work-arm including a main body-portion, an extension-piece closing the lower side of said cavity, an end-wall carried by said extension-piece and closing the outer end of said cavity, a throat-plate secured at one end to said end-wall and at its opposite end to the main body-portion of said work-arm and closing the upper side of said cavity and a hinged cover-plate extending between said extension and throat-plate.

6. A sewing machine comprising, in combination, a frame including an elongated work-arm having at its free end a cavity, a reciprocating needle, a cooperating loop-taker housed within said cavity, said work-arm including a main body-portion, an extension-piece closing the lower side of said cavity, an end-wall carried by said extension-piece and closing the outer end of said

cavity, a throat-plate secured at one end to said end-wall and at its opposite end to the main body-portion of said work-arm and closing the upper side of said cavity, and a cover-plate closing one side of said cavity and hinged to said extension-piece to swing outwardly and downwardly.

7. A sewing machine comprising, in combination, a frame including an elongated work-arm having at its free end a cavity, a reciprocating needle, a cooperating loop-taker housed within said cavity, said work-arm including a main body-portion, an extension-piece closing the lower side of said cavity, an end-wall carried by said extension-piece and closing the outer end of said cavity, a throat-plate secured at one end to said end-wall and at its opposite end to the main body-portion of said work-arm and closing the upper side of said cavity, a cover-plate closing one side of said cavity and hinged to said extension-piece to swing outwardly and downwardly, and yielding means for holding said cover-plate in closed position.

8. A sewing machine having a hollow work-arm proper, feeding and looper mechanisms extending beyond the arm, and detachable means for inclosing said mechanisms comprising an extension-piece having an end-wall, a throat-plate, and a hinged cover-plate extending between said extension-piece and throat-plate.

9. A sewing machine having a hollow work-arm proper, feeding and looper mechanisms extending beyond the arm, and detachable means for inclosing said mechanisms including means for affording access to them while inclosed.

10. A sewing machine having a hollow work-arm proper, feeding and looper mechanisms extending beyond the arm, detachable top, bottom and end walls inclosing said mechanisms, and side walls hinged to said bottom wall and yieldingly held in open or closed position.

11. A sewing machine having a hollow work-arm, feeding and looper mechanisms extending beyond the arm, detachable top, bottom and end walls inclosing said mechanisms, and a retractable side wall affording access to said mechanisms while inclosed.

In testimony whereof, I have signed my name to this specification.

ALBERT H. DE VOE.