(No Model.)

C. W. CRARY.

Set-Up Device for Circular Knitting Machines.

No. 242,435. **Patented June 7, 1881.**

Fig. 1.

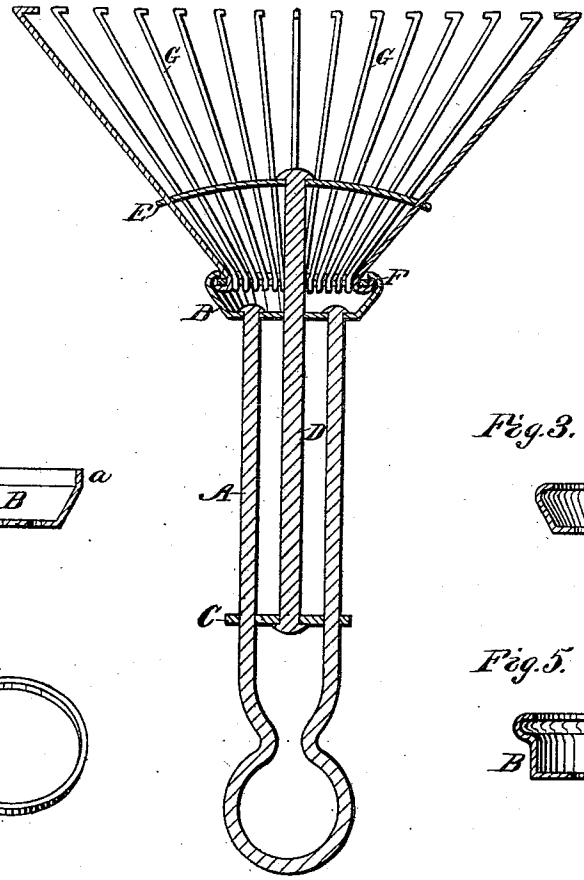


Fig. 2.

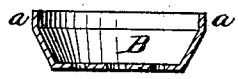
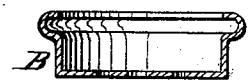


Fig. 3.



Fig. 4.

Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

CUSHMAN W. CRARY, OF CHICAGO, ILLINOIS.

SET-UP DEVICE FOR CIRCULAR-KNITTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 242,435, dated June 7, 1881.

Application filed December 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, CUSHMAN W. CRARY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Set-Up Devices for Circular-Knitting Machines, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a vertical central section of a set-up embodying my invention. Fig. 2 is a like representation of the cap detached, showing its form before the final step in its construction is taken. Fig. 3 is a like representation of the completed cap. Fig. 4 is a perspective of the annulet or ring; and Fig. 5 is a vertical central section of a cap, showing a form of construction employed previous to my invention.

Like letters of reference indicate like parts.

A represents the handle, and B is a cap rigidly attached thereto.

C is a cross head or bar sliding on the arms of the handle, and D is a stem or rod rigidly attached to the head C.

E is a disk attached to the upper end of the stem D.

F is an annulet or ring arranged within the cap B, and G G are hooks passing freely through openings near the edge of the disk E, and bent at their lower ends partly around the ring F.

The operation of the device now described is the same as that of set-ups belonging to the same class; but its details of construction, to which my invention relates, are different from previous constructions, so far as I am aware, in the particulars which I will now mention.

Heretofore the ring employed in lieu of the ring F has been made of wire, the ends of which were soldered or brazed together. An objectionable feature of that mode of construction has been that the ends of the ring would sometimes part. Besides, the operation of soldering or brazing I have found to be tedious. To obviate these objections I strike the ring out of sheet metal by means of a suitable die.

The cap employed in lieu of the cap B has heretofore been made by drawing up a sheet-metal disk into the form of a comparatively shallow cup with straight sides, by then rolling a groove or channel in the inner upper part of the sides to form a seat for the ring, by then arranging the ring on its seat, and by then pressing the upper edge of the cap down, so as to hold the ring in its place. This form of cap I have shown in Fig. 5. An objection to the form and mode of constructing the cap shown in Fig. 5 has been that it was difficult by that means to fit the cap as nicely to the ring it was intended to confine as should be done in order to produce the best results. This objection or difficulty I obviate by making the sides of the cap tapering or flaring, as shown in Figs. 1, 2, and 3, for it is obvious that the ring F and hooks G G, bent partly around the said ring, will find a fixed seat against the sides of the cap B when placed therein, and that the upper edge of the cap may be pressed in, so as to confine the ring and hooks therein. Besides, the operation of rolling the groove or channel is thus avoided.

The upper part of the cap B, I draw up vertically, as shown at *a* in Fig. 2, as that form aids in carrying out the final step of turning over the upper edge of the cap upon the lower ends of the hooks G G after they are bent about the ring F.

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

The combination of the handle A, the cap B, flaring outwardly from its bottom upward, and rigidly attached to the said handle, the sliding cross-head C, the stem D, the disk E, the sheet-metal ring F, and the hooks G G, all adapted and arranged for operation together substantially as and for the purposes set forth.

CUSHMAN W. CRARY.

Witnesses:

F. F. WARNER,

HENRY FRANKFURTER.