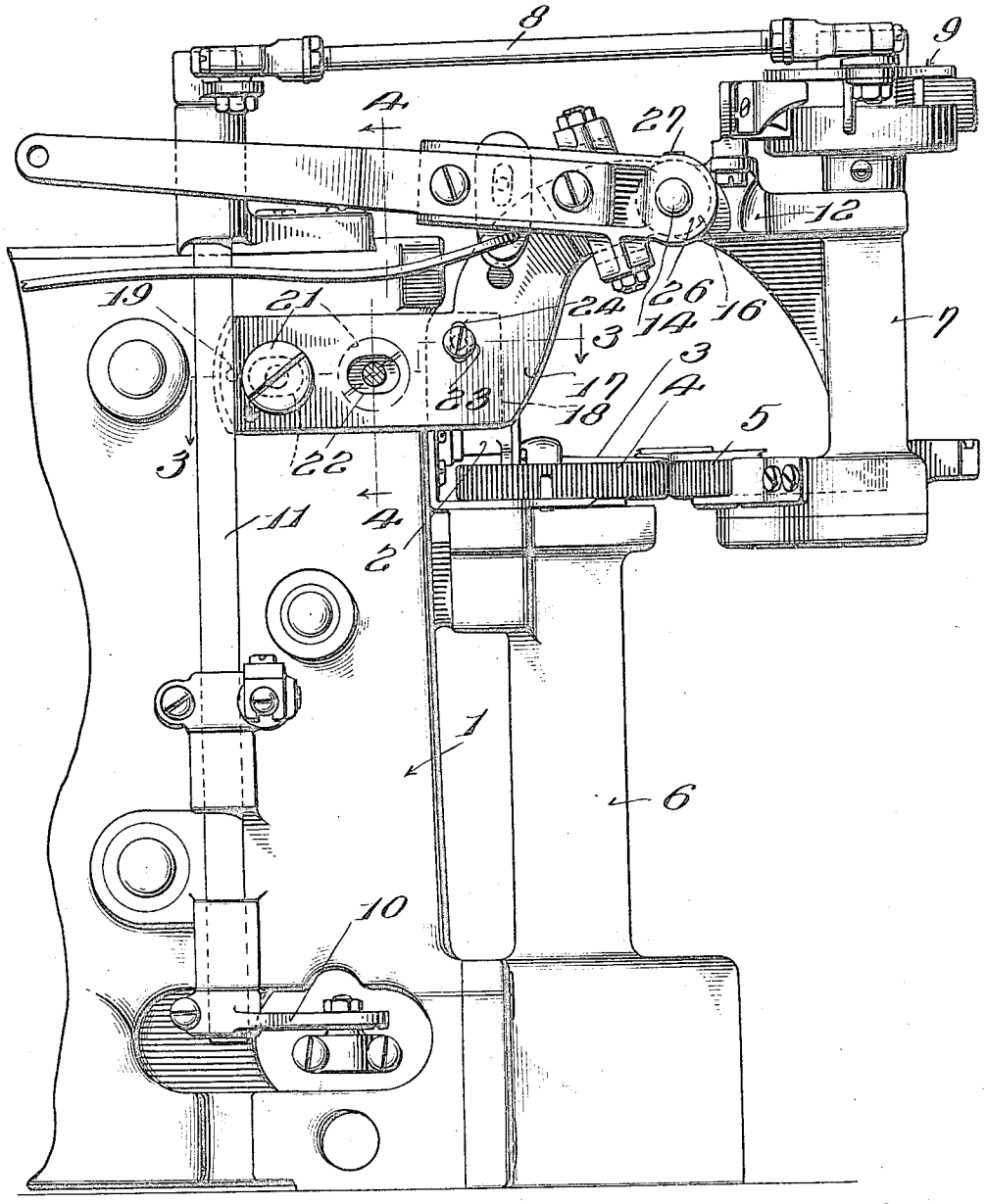
April 9, 1929. J. R. MOFFATT 1,708,024

CUP FEED MACHINE

Filed May 29, 1924 2 Sheets-Sheet 1



Inventor

Fig. 1.

James R. Moffatt

By Stevenson & Mason

Attorneys

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FIG. 2.

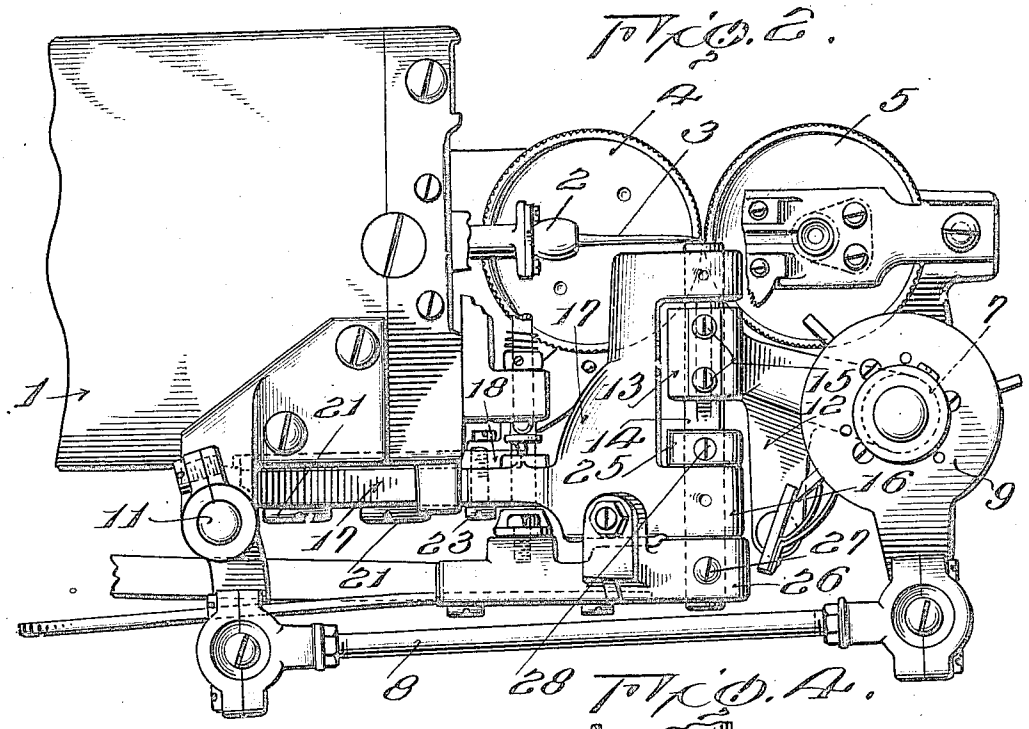


FIG. 4.

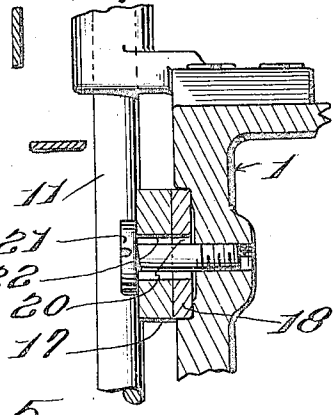


FIG. 3.

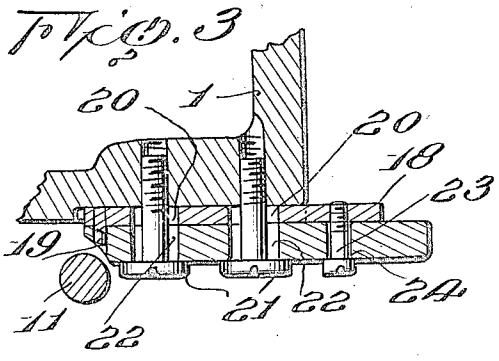
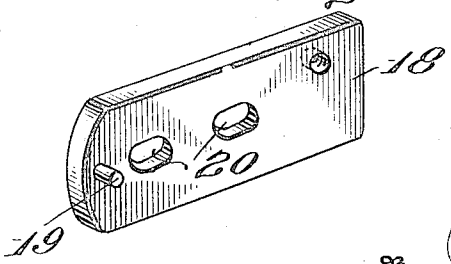


FIG. 5.



Inventor

James R. Moffatt

By Stuttevant & Mason

Attorneys.

Patented Apr. 9, 1929. 1,708,024

UNITED STATES PATENT OFFICE.

JAMES R. MOFFATT, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CUP-FEED MACHINE.

Application filed May 29, 1924. Serial No. 716,745.

The invention relates to new and useful improvements in overseaming machines, and more particularly to an overseaming machine of the type known as the cup feed machine, wherein the material is supported by rotating cups or feed wheels, while the material is held in a vertical position and the overseaming stitches are formed about the edge of the material.

In a machine of this type, it is very essential that the feed cups shall meet at a point directly underneath the needle so that the fabric will be clamped in line with the point where the needle enters. It is also essential that the top edges of the feed cups shall be in substantially the same plane, and that the vertical faces shall make contact throughout their entire extent and particularly at the upper edges. In order to accomplish this, the object of the present invention is to provide a support for the outer feed cup, which support is capable of being adjusted so that the feed cup may be shifted in a direction parallel with the line of feed, likewise in a direction at right angles to the line of feed, and also vertically, so as to insure the proper placing of the feed cups relative to each other.

In the drawings which show by way of illustration one embodiment of the invention—

Figure 1 is a side view of the machine embodying my improvements;

Fig. 2 is a plan view of the same;

Fig. 3 is a sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view on the line 4—4 of Fig. 1, and

Fig. 5 is a perspective view of the supporting plate for the bracket which carries the outer feed cup.

The invention is directed broadly to a cup feed machine and the particular manner in which the outer feed cup is mounted. It includes devices whereby the feed cup supporting bracket may be shifted laterally in a direction parallel with the line of feed, and also devices whereby said bracket may be shifted laterally in a direction at right angles to the line of feed, and again it includes devices whereby the bracket may be tilted in a vertical plane for raising and lowering the outer feed cup. These adjustments are accomplished by mounting the bracket which supports the outer feed cup on a plate which is rigidly attached to the frame of the machine, said bracket being pivoted to the plate and capable of an angular adjustment in a vertical plane, which accomplishes the raising and lowering of the outer feed cup. The plate is in turn adjustable endwise in a horizontal direction, and this accomplishes an adjustment of the outer feed cup toward and from the inner feed cup, or in a direction at right angles to the line of feed. The supporting sleeve for the outer feed cup is mounted on a shaft which is capable of being swung to move the outer feed cup away from the inner feed cup, and this shaft is so mounted that it may be moved endwise in its supporting bearings, and this accomplishes the adjustment of the feed cup in a direction parallel with the line of feed.

The machine to which my invention is applied is of the type shown and described in the application of James R. Moffatt, filed December 7, 1923, Serial No. 679,150, and it is not thought necessary to describe in detail the machine.

The machine consists of a main frame 1 in which is mounted a reciprocating needle bar 2 carrying a needle 3. Cooperating with this needle is a looper which is so operated as to make an overedge stitch. The fabrics to be stitched are clamped together between two feed cups or feed wheels 4 and 5. The feed wheel 4 is mounted on a shaft carried in a sleeve bracket 6, while the feed wheel 5 is mounted on a shaft which in turn is journaled in a sleeve bracket 7. The shaft carrying the feed wheel 5 is operated by means of a link 8 through a suitable clutch feed 9. The inner feed wheel 4 is operated in turn from this same shaft by means of a clutch feed connected to the arm 10. The link 8 is connected to the vertical shaft 11 which likewise carries the arm 10. This shaft 11 is operated by suitable mechanism from the main shaft of the machine. The sleeve bracket 7 is provided with a projecting arm 12 which terminates in a sleeve 13, and this sleeve is clamped to a shaft 14 by means of set screws 15, 15. The shaft 14 is mounted in suitable spaced bearings 16, 16 carried by a bracket 17. The bracket 17 is secured to a supporting plate 18 by a pivot dowel 19. This supporting plate 18 is provided with elongated openings 20 through which screws 21, 21 pass for securing the plate to the frame 1 of the machine. The bracket 17 is likewise provided with elongated openings 22, and the screws 21 pass

through these openings 22. It will readily be seen that by loosening the screws 21, the supporting plate 18 and the bracket 17 carried thereby may be moved endwise or in a horizontal direction, and this adjustment of the bracket 17 will bodily move the pivot shaft and the sleeve bracket 7 carried thereby Thus it is that the outer feed cup 5 can be moved toward and from the inner fed cup 4, or in a direction at right angles to the line of feed, which, of course, is tangential to the two feed cups at the point where said feed cups make contact. The bracket 17 is secured to the plate 18 by means of a screw 23 which passes through a slot 24 in the bracket 17. This slot is elongated and curves about the dowel pin 19 as a center. By loosening the screw 23, the bracket 17 can be raised or lowered, and this will raise or lower the shaft 14 which in turn will raise or lower the bracket 7 carrying the outer feed cup. The plate 18 is set in a recess in the frame 1 and this prevents the plate from shifting up or down, but permits endwise adjustment of the same when the screws 21 are loosened.

The shaft 14 is held from endwise movement in the bearings 16, 16 by means of a thrust collar 25 and an arm 26. The arm 26 is secured to the end of the shaft by a screw 27, and said arm abuts against the outer face of the outer sleeve 16. The thrust collar 25 is secured to the shaft by means of a set screw 28 and bears against the inner face of this outer bearing 16. By loosening the thrust collar and the arm 26, the shaft or hinge pin 14 may be moved endwise, and thus the bracket 7 carrying the outer feed cup shifted laterally so that the outer feed cup is moved in a direction parallel with the line of feed.

From the above description, it will be apparent that I have provided a support for the outer feed cup, which permits three adjustments of said cup. It can be raised or lowered relative to the inner cup; it can be moved laterally in a direction parallel with the line of feed, and thus the point of contact between the cups properly positioned relative to the needle; it can be moved in a direction at right angles to the line of feed, and thus proper contact between the two feed cups insured.

It is obvious that minor changes in the details of construction and the arrangement of the parts may be made without departing from the spirit of the invention as set forth in the appended claims.

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

1. A cup feed sewing machine including in combination, inner and outer feed cups, means for supporting the outer feed whereby the same may be raised or lowered relative to the inner feed cup, means whereby said outer feed cup may be moved toward and from said inner feed cup, and means whereby said outer feed cup may be moved laterally in a direction parallel with the line of feed.

2. A cup feed sewing machine including in combination, an inner feed cup, an outer feed cup, a sleeve bracket carrying said outer feed cup, a shaft to which said sleeve bracket is rigidly secured, a bracket having spaced lugs carried by the frame of the machine in which said shaft is journaled, an arm secured to said shaft for swinging the same to move the feed cups away from each other, a thrust collar carried by the shaft and engaging one of said spaced bearings for preventing said supporting shaft form moving endwise, said arm and said thrust collar being adjustable to permit said shaft to be moved endwise for adjusting the sleeve bracket for the outer feed cup.

3. A cup feed sewing machine including in combination, an inner feed cup, an outer feed cup, a sleeve bracket carrying said outer feed cup, a shaft to which said sleeve bracket is rigidly secured, a bracket having spaced lugs carried by the frame of the machine in which said shaft is journaled, an arm secured to said shaft for swinging the same to move the feed cups away from each other, a thrust collar carried by the shaft and engaging one of said spaced bearings for preventing in said supporting shaft from moving endwise, said arm and said thrust collar being adjustable to permit said shaft to be moved endwise for adjusting the sleeve bracket for the outer feed cup, a supporting plate attached to the frame on which said bracket for the supporting shaft is pivotally mounted, and means for securing said bracket in adjusted positions on said plate.

4. A cup feed sewing machine including in combination, an inner feed cup, an outer feed cup, a sleeve bracket carrying said outer feed cup, a shaft to which said sleeve bracket is rigidly secured, a bracket having spaced lugs carried by the frame of the machine in which said shaft is journaled, an arm secured to said shaft for swinging the same to move the feed cups away from each other, a thrust collar carried by the shaft and engaging one of said spaced bearings for preventing said supporting shaft from moving endwise, said arm and said thrust collar being adjustable to permit said shaft to be moved endwise for adjusting the sleeve bracket for the outer feed cup, a supporting plate attached to the frame on which said bracket for the supporting shaft is pivotally mounted, means for securing said bracket in adjusted positions on said plate, said bracket and plate having spaced elongated openings, and screws passing through said openings and into the frame for securing the bracket and plate in adjusted positions.

5. A cup feed sewing machine including in combination, an inner feed cup, an outer feed cup, a sleeve bracket carrying said outer feed cup, a shaft to which said sleeve bracket is

rigidly secured, a bracket having spaced lugs carried by the frame of the machine in which said shaft is journaled, an arm secured to said shaft for swinging the same to move the feed cups away from each other, a thrust collar carried by the shaft and engaging one of said spaced bearings for preventing said supporting shaft from moving endwise, said arm and said thrust collar being adjustable to permit said shaft to be moved endwise for adjusting the sleeve bracket for the outer feed cup, a supporting plate attached to the frame on which said bracket for the supporting shaft is pivotally mounted, means for securing said bracket in adjusted positions on said plate, said bracket and plate having spaced elongated openings, and screws passing through said openings and into the frame for securing the bracket and plate in adjusted positions, said frame having a recess formed therein to receive said plate, said recess permitting the plate to be shifted endwise but preventing said plate from turning on the screws supporting the same.

6. A cup feed sewing machine including in combination, an inner and outer feed cup, a bracket sleeve for supporting the outer feed cup, an arm projecting from said sleeve and rigidly secured to a pivot shaft, a plate mounted in a recess in the frame, said plate being adjustable endwise in said recess, a bracket carrying said pivot shaft, a dowel pin on the plate on which said bracket is pivotally mounted, said bracket having an arc-shaped slot concentric to said dowel pin, and a screw passing through said slot into the plate for locking said bracket supporting the pivot shaft in adjusted positions, said bracket and said plate having elongated slots through which screws pass for securing said parts to the frame of the machine.

7. A cup feed sewing machine including in combination, a frame, a plate attached to said frame, a bracket carried by said plate, inner and outer feed cups, means carried by the bracket for supporting the outer feed cup, means whereby said bracket may be adjusted on said plate for raising and lowering the outer feed cup, and means whereby said plate and bracket may be adjusted on said frame for moving said outer feed cup toward and from said inner feed cup.

8. A cup feed sewing machine including in combination, a frame, a plate attached to said frame, a bracket carried by said plate, inner and outer feed cups, means carried by the bracket for supporting the outer feed cup, means whereby said bracket may be adjusted on said plate for raising and lowering the outer feed cup, means whereby said plate and bracket may be adjusted on said frame for moving said outer feed cup toward and from said inner feed cup, and means on said bracket whereby the outer feed cup may be shifted and thus moved laterally in a direction parallel with the line of feed.

In testimony whereof, I affix my signature.

JAMES R. MOFFATT.