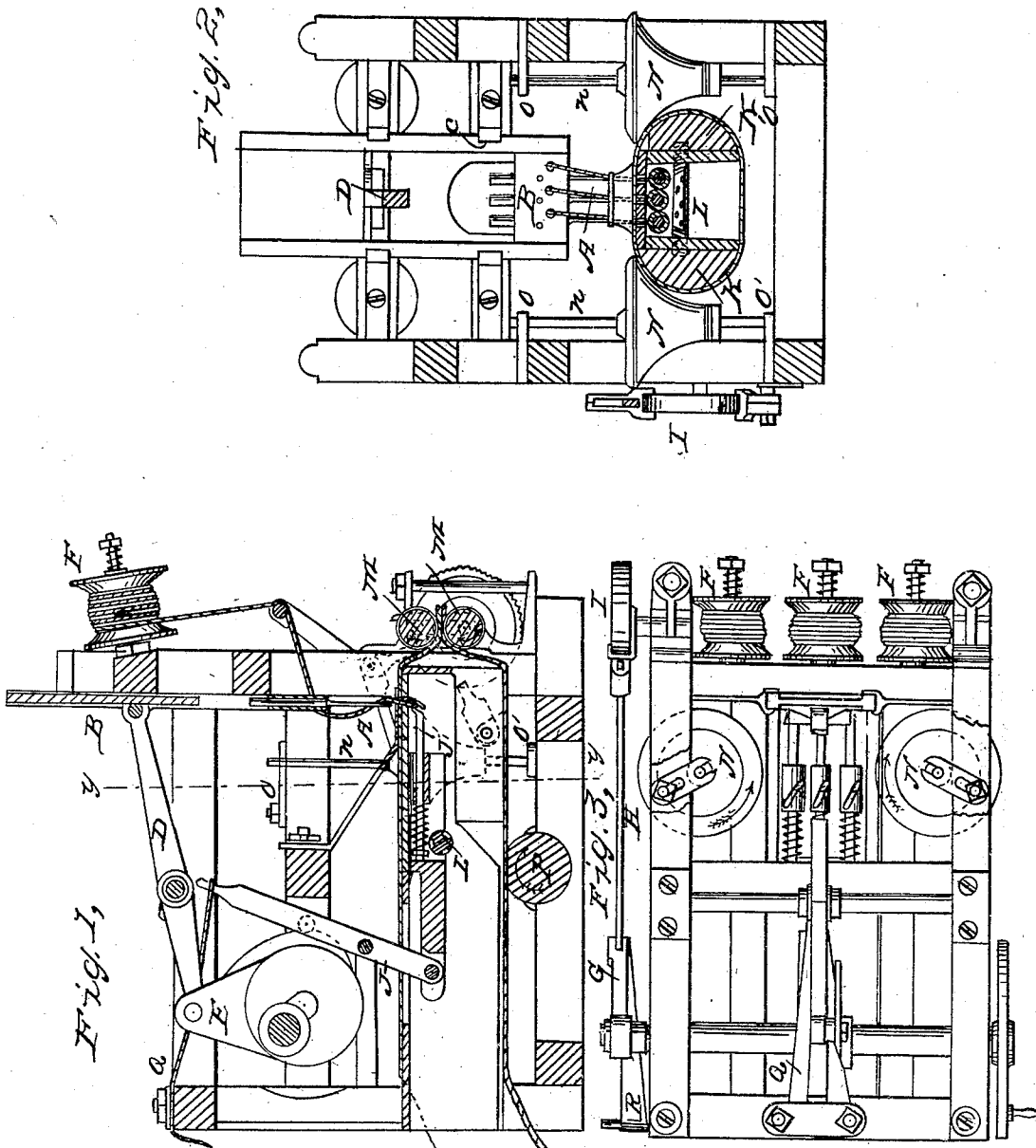


Q. RICE.
Sewing Machine.

No. 31,214.

Patented Jan. 22, 1861.



WITNESSES:
Oscar Knight
J. W. Benard

INVENTOR:
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UNITED STATES PATENT OFFICE.

QUARTUS RICE, OF NEVADA, CALIFORNIA, ASSIGNOR TO LORENZO RICE,
OF WEST WINSTED, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 31,214, dated January 22, 1861.

To all whom it may concern:

Be it known that I, QUARTUS RICE, of Nevada, in the county of Nevada and State of California, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a horizontal section of the machine. Fig. 2 is a transverse section at $y y$, but showing the adjusting-screw of gage. Fig. 3 is a plan.

Similar letters of reference indicate corresponding parts in the several figures.

The subject of my said invention is a machine adapted to sew continuous tubular work of indefinite length for hydraulic hose and analogous purposes; and it consists essentially in the combination, with sewing apparatus of common form, of guide-rollers and an internal gage, operating as hereinafter explained.

The present illustration represents three needles, A, working side by side in a common needle-carrier, B, reciprocated in guides C by means of lever D and crank E. These parts, as well as the spools F, feed-movement G H I, and loopers J, may be of common construction and arrangement, and therefore require no specific description.

K K' are two parts of a gage, having together an approximately-cylindrical form, and adjusted in distance asunder by means of a shaft, L, having a right and left screw at its respective ends.

M M are feed-rollers, rotated in direction of the arrows. In practice the said rollers are placed at a considerable distance from the gage K K', so that the finished hose will pass freely off the end of the latter and between the rollers.

N N are guide-rollers, formed and placed as shown in Figs. 1 and 2, and mounted upon shafts $n n$, journaled in bearings O O', the upper of which, O, are clamped adjustably to the frame by means of a screw-bolt and nut o , so as to permit the adjustment of the upper ends of the shafts in a line parallel with the axis of the gage K K', so as to set the rollers vertically or at any needful inclination to vary their effect upon the cloth, as will be hereinafter explained.

P is an additional feed-roller, rotated in the

direction indicated by the arrow, and operating to forward the cloth and keep it in place beneath the gage.

Q' and R are springs operating to retract the looper and feed-levers respectively.

The operation is as follows: The cloth is placed beneath and around the gage with its edges uppermost, and, passing within the rollers N and P, it is tightly compressed upon the gage so that its edges meet and lap at top, and in this position pass under the action of the needles, by which they are tightly stitched together with three parallel seams. The completed hose, after passing off the end of the gage, is drawn between the feed-roller M, the rotation of which imparts to it the needful intermittent motion.

It will be observed that the attachment of the gage K K' is wholly at top and at its rear end, so that the strip of cloth may be introduced beneath it at back, and after passing the lever j^* of the loopers may meet with no obstruction to the connection of its edges. By this means continuous tubing of indefinite length may be produced.

To form tubing of smaller or larger diameter, the distance between the parts K and K' of the gage is diminished or increased by the rotation of the shaft L.

By setting the upper ends of the shafts n of the guide-rollers N forward or backward the tightness of the compression of the cloth around the gage may be regulated as desired.

The positions of the cloth and the thread are indicated by red lines.

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

1. The combination, with a sewing-machine of any suitable construction, of the gage K K', constructed and operating, substantially as set forth, to produce continuous tubular work.

2. The adjustable guide-rollers N N, operating in combination with the gage K K', substantially as and for the purpose set forth.

3. The general combination of the feed-movement G H I M, sewing mechanism A B C D, gage K K', and rollers N P, arranged and operating substantially as and for the purposes set forth.

QUARTUS RICE.

Witnesses:

OCTAVIUS KNIGHT,
L. W. BEUDRÉ.