Aug. 26, 1924. 1,506,024

E. J. MALONEY

STRAW SEWING MACHINE

Filed Feb. 3, 1921

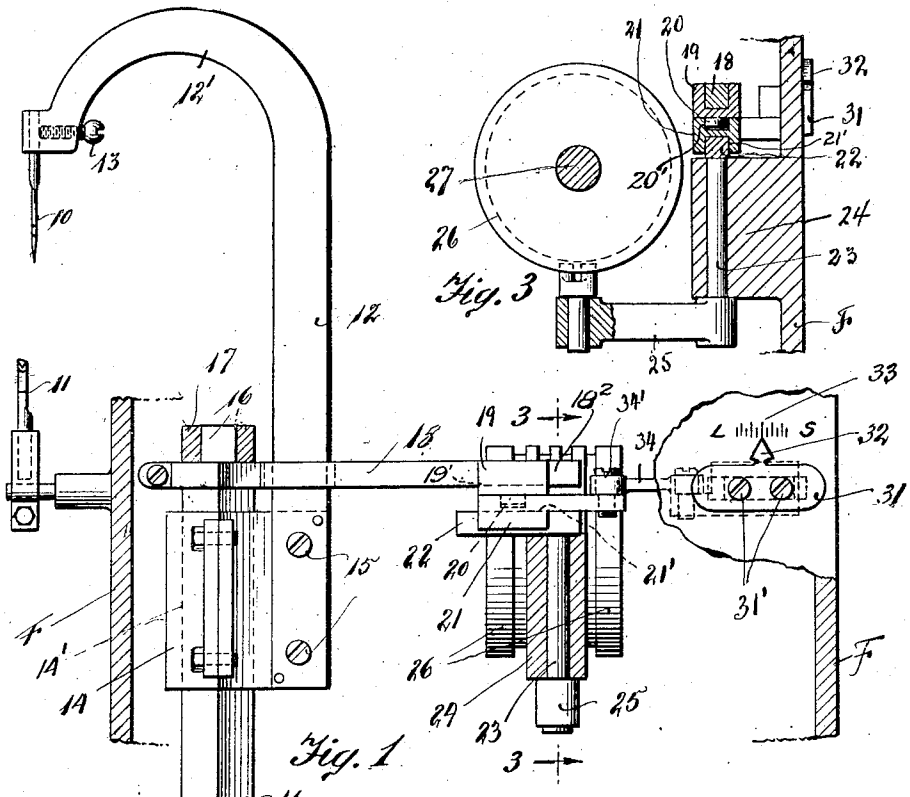


Fig. 1

Fig. 3

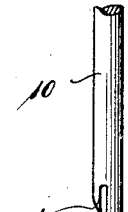


Fig. 4

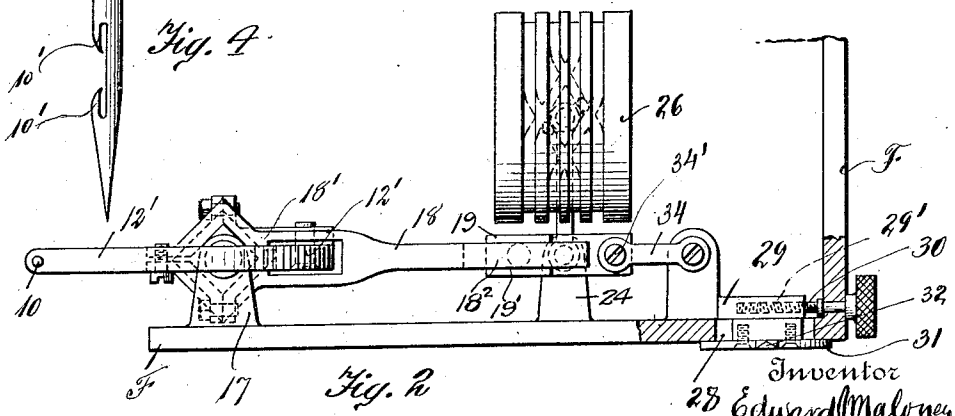


Fig. 2

Inventor
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By his Attorney
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UNITED STATES PATENT OFFICE.

EDWARD J. MALONEY, OF LONG ISLAND CITY, NEW YORK, ASSIGNOR TO ANDREW WOLF, OF NEW YORK, N. Y.

STRAW-SEWING MACHINE.

Application filed February 3, 1921. Serial No. 442,214.

To all whom it may concern:

Be it known that I, EDWARD J. MALONEY, a citizen of the United States of America, residing at Long Island City, in the county of Queens and State of New York, have invented certain new and useful Improvements in Straw-Sewing Machines, of which the following is a specification.

The present invention relates to a machine for sewing straw braid in the manufacture of straw hats and has for its object to provide a construction in which the stitches are formed by the cooperation of a single double hook needle and a single looper according to the method described in my U. S. Letters Patent No. 1,308,294 of July 1, 1919.

Another object of this invention is to provide means for readily adjusting the widths of the binder stitches, so that braids of different styles can be united together by different widths of binding stitches, according to the braid used.

My invention is illustrated in the accompanying drawing in which only so much of the machine is shown as is necessary to understand the operation of the novel parts and principle involved.

Fig. 1 is a front elevation of my machine; Fig. 2 is a top plan view thereof; Fig. 3 is a vertical section on line 3—3 of Fig. 1; and Fig. 4 is an enlarged elevation of the double hook needle.

The stitches are formed according to the method described in the aforenamed patent by the cooperation of a needle 10 having two superposed oppositely directed hooks 10′ and a looper 11. The looper is adapted to be arranged below the work and to be oscillated horizontally by means which do not form part of this invention, and are therefore not shown. The needle 10 projects downwardly from the curved end 12′ of an arm 12 in which it is secured by a screw bolt 13. The opposite end of the arm has attached to it by screws 15 or otherwise, a sectional guide member 14, the sections of which are adapted when assembled and joined together to form a guide groove of square cross section 14′. The guide member is slidably mounted on an arbor 16 of square cross section, and is formd with cylindrical ends 16′ rotatively borne in stationary bearings 17. The slide 14 is adapted to be reciprocated vertically on the arbor 16 by suitable means not shown.

Clamped to the arbor 16 with its forward bifurcated end 18′ is a horizontally disposed arm 18, the rear end 18^2 of which slidably bears in a groove 19′ of a block 19 which on its bottom is provided with a pivot 20 bearing in a socket 20′ of a slide 21. This slide has in its bottom a longitudinal groove 21′ whereby it slidably bears on a crank arm 22 projecting from the upper end of a vertical spindle 23 rotatively borne in a stationary bearing 24 of the casing or frame F of the machine. The lower end of said spindle carries a second crank arm 25 which receives intermittent oscillatory movement from a cam 26 of well known construction mounted on the driven shaft 27 of the machine. The oscillatory movement of the crank arm 25 is transmitted through spindle 23 and crank arm 22 to the slide 21 and by the latter to the needle arm 12.

It will be seen that the farther the block 21 is shifted from the axis of the spindle the greater will be the horizontal swinging stroke of the needle, and the closer it will be to said axis, the shorter said stroke. The adjustment of the slide 21 on the crank arm 22 is accomplished by the following mechanism:—

Slidably fitted in a groove 28 in the frame or casing F of the machine is a block 29, to which is secured by screws 31′ or the like an indicator plate 31 arranged on the outside of the groove 28. The indicator 32 of said block points toward a scale 33 provided on the outer face of the frame F, and at the ends of which appear letters S, L, denoting "short" and "long."

The rear end of the block has a screw threaded bore 29′ in which works a thumb screw 30 borne in and held against longitudinal displacement in the frame F. The front end of the block is connected through a link 34 to the tail end of the slide as at 34′.

The operation of the machine is as follows:—

The needle reciprocating vertically passes on its downward stroke through the goods engaging the thread held by the looper, then

returns carrying the thread through the goods. Through the cam controlled arm 18 the needle then receives a horizontal movement causing it to pass at its succeeding downward stroke through a different point of the goods, carrying the thread with it, which thereupon is cast off the hooked needle by the looper. The binder stitch is formed in line with the feeding of the work through the cooperation of the looper and the hooked needle.

By turning the screw 30 in one or the other direction the slide 21 will be correspondingly shifted on the crank arm 22 and the extent of displacement will be indicated by the pointer 32 on the scale 33.

Through this adjustment of the slide 21 on the crank arm 22 the needle arm 12 will receive a longer or shorter horizontally oscillating stroke, whereby the bite of the binding stitch will be enlarged or decreased. Thus, if a course or heavy straw braid is used, the bite may be short or close and the block 29 moved toward the letter "S". For a delicate braid, the bite by moving the block 29 toward "L" may be adjusted to be longer, thereby preventing the stitches from being pulled through the braid.

Since the construction of my mechanism may be variously modified without departing from the principle of my invention, I do not wish to limit myself to the details as described and shown.

What I claim and desire to secure by Letters Patent is:—

1. In a stitch forming machine, a double hook needle and means for imparting thereto variable horizontally oscillating movement, said means including a horizontally oscillatory arbor, a needle carrier mounted on said arbor, so as to oscillate with and be capable of reciprocating on said arbor, an arm engaging said arbor with one and a cam controlled adjustable slide pivotally engaging the other end of said arm.

2. In a stitch forming machine, a double hook needle and means for imparting thereto variable horizontally oscillating movement, said means including a horizontally oscillatory arbor, a needle carrier mounted thereon, so as to oscillate with and be capable of reciprocating thereon, a cam controlled slide, means for transmitting motion from said slide to said arbor and means for adjusting said slide, so as to vary the stroke of the needle.

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

EDWARD J. MALONEY.

Witnesses:

JULIA D. LARRAIN,

GOSS MONTROSE.