

(No Model.)

2 Sheets—Sheet 1.

L. H. SMITH.
SEWING MACHINE.

No. 537,861.

Patented Apr. 23, 1895.

Fig. 1.

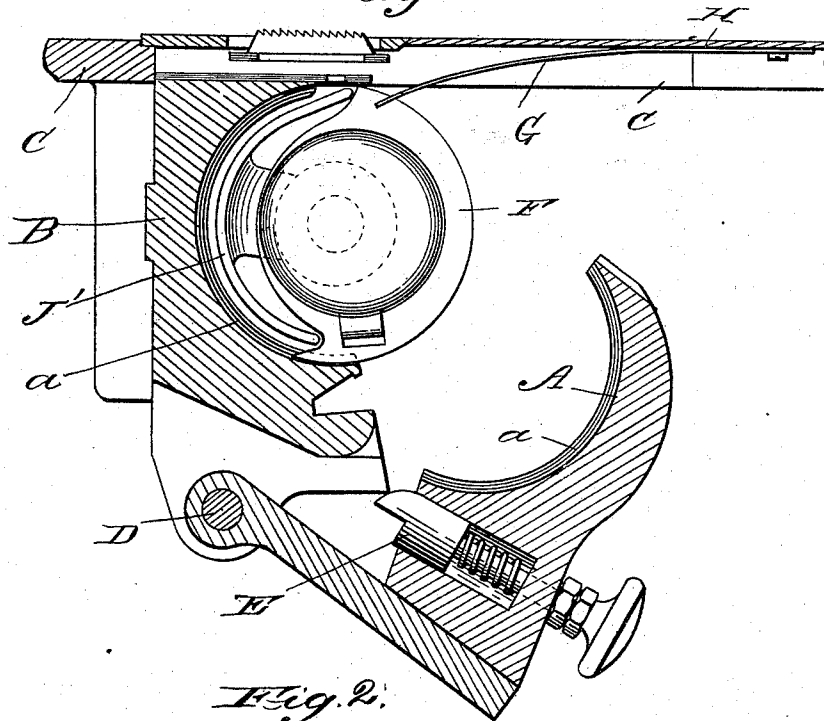


Fig. 2.

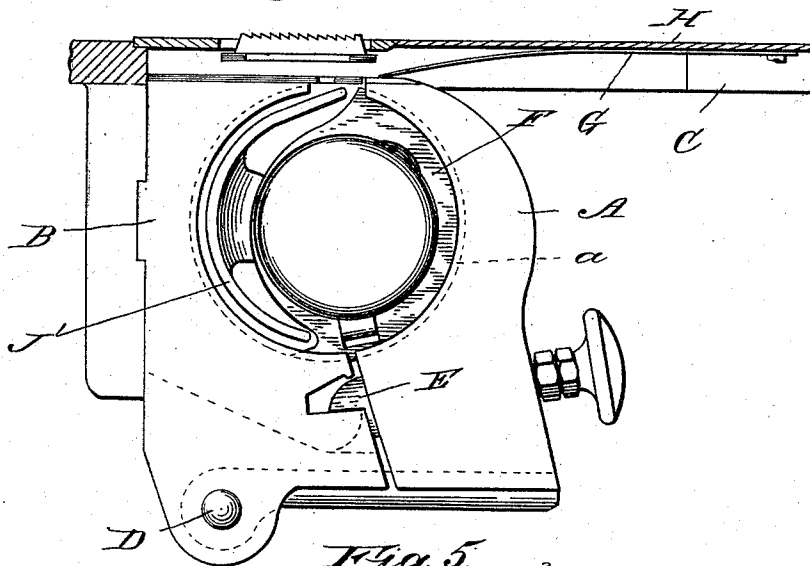
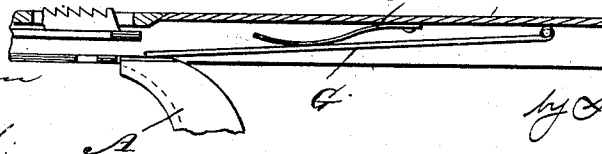


Fig. 5.



Witnesses:

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Inventor:

Lewis H. Smith
by *Henry Salter*
Attorney.

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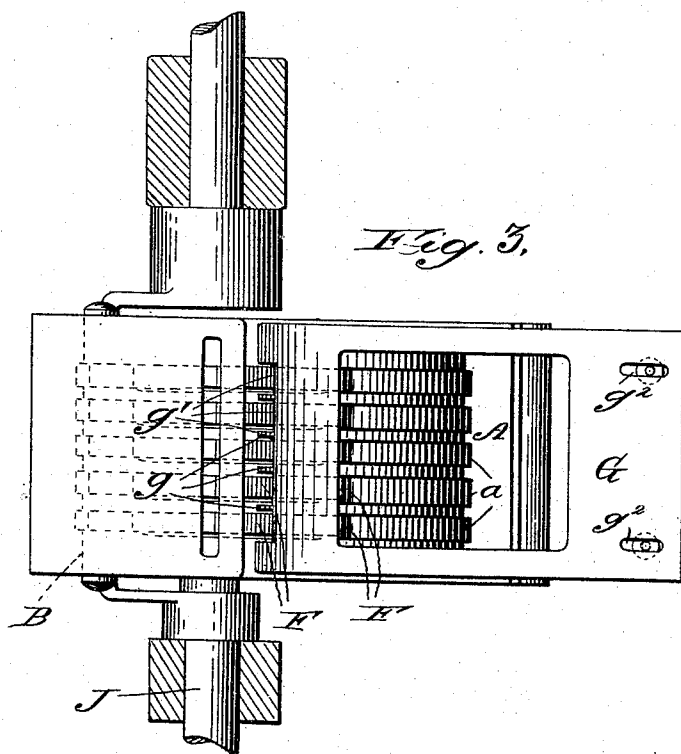


Fig. 3.

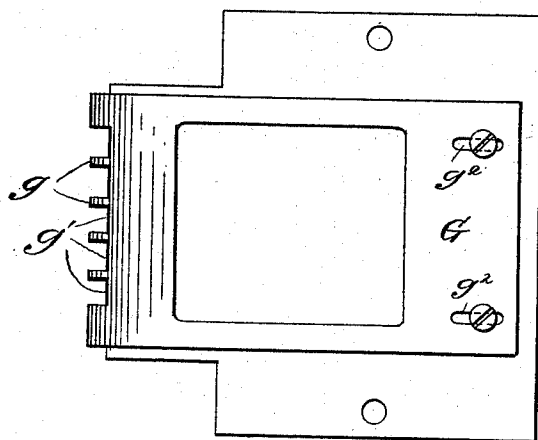


Fig. 4.

Witnesses:

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Inventor,
Lewis H. Smith,
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Attorney.

UNITED STATES PATENT OFFICE.

LEWIS H. SMITH, OF HELENSBURG, SCOTLAND, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY OF NEW JERSEY.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 537,861, dated April 23, 1895.

Application filed November 16, 1894. Serial No. 529,005. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. SMITH, a citizen of the United States, residing at Helensburg, in the county of Dumbarton, Scotland, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

In sewing machines constructed to sew simultaneously a number of rows of stitches, and in which a plurality of disk-like shuttles are employed, difficulty has been experienced in placing and maintaining the several shuttles in their proper positions in the race-way when the shuttle race is opened, and consequently, in closing the shuttle race, risk is incurred of breaking or crushing the beaks or other parts of the shuttles; and as the shuttle race must be opened for removing the shuttles much time is consumed in positioning the shuttles, at frequent intervals.

The object of my invention is to overcome the difficulty referred to by providing a spring guide or holder for automatically engaging and holding the several shuttles in their proper positions in their race-ways when the shuttle-race is opened, while permitting of the easy withdrawal and insertion of any one or a number of the shuttles without displacing the others; the guiding and holding device being automatically lifted out of the way by the closing of the shuttle race.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a transverse vertical section through the bed plate and shuttle race of the gang-shuttle sewing machine, the shuttle-race being shown opened. Fig. 2 is a similar view in which the shuttle-race is seen in elevation and closed. Fig. 3 is a plan corresponding to Fig. 1, the bed plate being removed to show the shuttle race and the spring shuttle holder or guide, and Fig. 4 is an inverted plan of the spring guide or shuttle holding device attached to the shuttle race slide or cover. Fig. 5 is a detail view illustrating a modification.

The machine is formed with a circular shuttle race grooved for a plurality of shuttles. This race consists of a front section A and a rear section B the latter being immov-

ably fixed to the under side of the bed plate C of the machine while the front section is hinged to the rear section at D, a spring catch or like device E being attached to the front section A and adapted for engagement with the rear section B to lock the two sections firmly together in working position when the front section is closed.

J is the oscillating shuttle-operating shaft and J' the shuttle driver constructed in the usual manner to actuate a series of shuttles.

For the purpose of supporting and positioning the shuttles F in the grooves or race-ways I provide a spring guide or shuttle holding plate G which is preferably secured to the shuttle race slide H, as shown, or it may be secured to the bed plate C or other part of the machine. The free end of this holder or guide G extends over the shuttle race and is preferably serrated or of comb-like formation, having teeth *g* and intervening notches *g'*, the latter receiving the peripheries of the shuttles F, when the shuttle race is opened as in Fig. 1, while the teeth *g* fall between the shuttles and hold them in place laterally. When the race is opened as shown at Fig. 1 the serrated end of the spring holder or guide G automatically drops down into engagement with the shuttles F, but on the closing of the shuttle race as shown at Fig. 2 the upper end of the hinged part A of said race presses up the spring holder or guide and raises it out of engagement with the shuttles immediately the said part A of the shuttle race has itself entered into engagement with the shuttles.

The guide or holder G is formed with slots *g²* through which screws are passed, adjustably securing it to the shuttle race slide or other part of the machine.

The guide or holder G, instead of being formed by a spring plate, may be hinged or pivoted to the bed plate or other part of the machine and be pressed down by a spring *g³*, as shown in Fig. 5.

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

1. In a gang-shuttle sewing machine, the combination with a plurality of shuttles, and a shuttle race constructed for the reception

- of the same and consisting of a fixed and a hinged or movable part, of an independent shuttle holder which is yieldingly forced into engagement with said shuttles when the shuttle race is opened, so as to hold them in the fixed portion of the race, and which is so arranged as to be disengaged from the said shuttles by the said hinged or movable part of the race when the latter is closed.
2. In a gang-shuttle sewing machine, the combination with a plurality of shuttles and a shuttle race constructed for the reception of the same and consisting of a fixed and a hinged or movable part, of a shuttle holder consisting of a serrated or notched spring-plate which by its own stress is forced toward and into engagement with the said shuttles when the shuttle race is opened, and which is so arranged as to be disengaged from the said

shuttles by the said hinged or movable part of the race when the latter is closed.

3. In a gang-shuttle sewing machine, the combination with the shuttle race consisting of the fixed part B and the part A hinged thereto, of the shuttles F, the slide H, and the shuttle holder G consisting of a spring-plate attached to said slide and having a series of notches at its free end to engage the said shuttles.

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

LEWIS H. SMITH.

Witnesses:

ARCHD. M. YOUNG,

ALEX MURDOCH,

Both of 77 St. Vincent St., Glasgow, Law Clerks.