

W. C. FREE & J. B. ANGOVE.

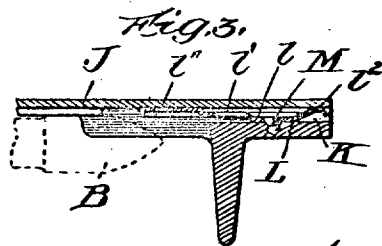
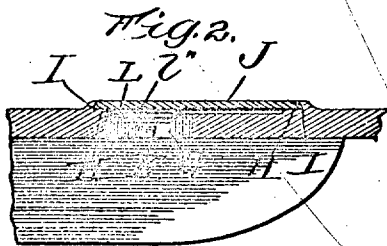
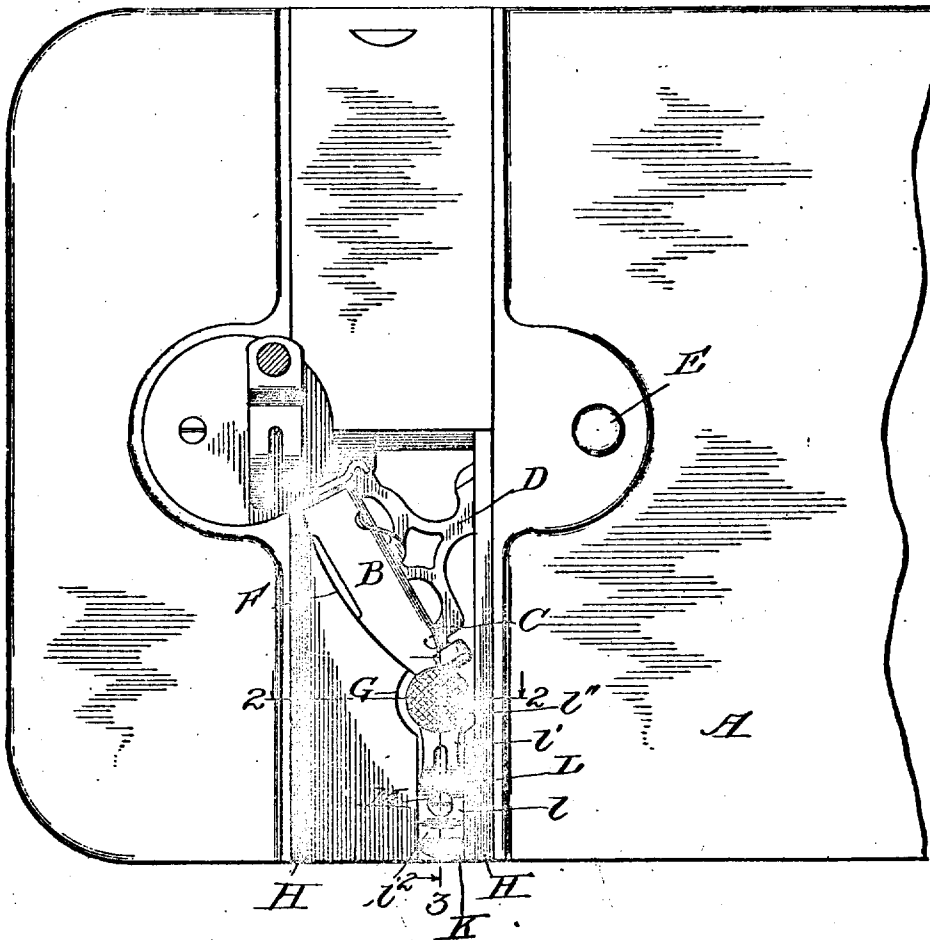
SEWING MACHINE.

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898,976.

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Fig. 1.



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UNITED STATES PATENT OFFICE.

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TO ILLINOIS SEWING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF
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SEWING-MACHINE.

No. 898,978.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM C. FREE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, and JOSEPH B. ANGOVE, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

The invention relates in part to means for "flipping" the shuttle out of its carrier and in part to the combination with said flipping means of means for preventing the slide or cover of the shuttle race from rattling or moving at random. Preferably a single device is used for accomplishing these two objects, said device being of such construction that when the slide is in place it bears against the under side thereof with sufficient force to produce the amount of friction necessary to prevent it from rattling or moving at random but not sufficient to prevent its easy manipulation, and, when the slide is removed, either wholly or sufficiently to give access to said device, it may be so manipulated as to throw or "flip" the shuttle out of the carrier. We desire to have it understood, however, that the invention is not limited to the dual function of this device and if desired the locking function may be dispensed with.

To these ends the invention consists in the features of novelty that are hereinafter described with reference to the accompanying drawing, which is made a part of this specification, and in which;

Figure 1 is a plan view of a portion of a sewing machine head with our improved device applied, the front slide of the shuttle race being omitted; Figs. 2 and 3 are vertical sections thereof on the lines 2—2, and 3—3, Fig. 1, respectively.

A represents the base-plate of the head of a sewing machine, B, the shuttle, (shown in outline), C, the shuttle-carrier, and D the shuttle-carrier arm, pivotally supported by the base-plate at E. All of these parts may be of any desired construction, so long as they are suitable for the carrying out of the invention. The shuttle race, F, is concentric with the pivotal center, E, of the arm, D, and at the end of the shuttle

race the base-plate has a cove or recess, G, into which the point of the shuttle extends, when at the limit of its forward movement. The base-plate has the customary milled shoulders, H, and undercut grooves, I, for receiving the beveled edges of the slide, J, and between these shoulders the base-plate has a groove, K, in which the device, L, embodying our invention is secured. This device is preferably made of a single piece of spring metal stamped to shape. It comprises a flat portion, L', which fits upon the bottom of the groove, K, and is perforated for the passage of the retaining screw, M, an upwardly and rearwardly extending portion, L'', which acts as a spring and is slotted to reduce its rigidity, a head or button, P, at the extremity of the spring and a tail piece, Q, of inverted V-shape. The head or button is preferably rough and is located over the point of the shuttle when the latter is at the limit of its forward movement, so that by pressing downward on the head or button it will strike the point of the shuttle and "flip" it out of the carrier. This device is simple and effective and avoids the necessity for prying the shuttle out of the carrier by means of a pair of scissors or other implement. We desire to have it understood, however, that in its broadest aspect the invention is not limited to a roughened head, or, in fact, to a head of any description, because a straight spring disposed as described would give good results. But we prefer to use an enlarged head, as it gives a broader bearing surface for the finger and we prefer to roughen it as this prevents the finger from slipping off as the pressure is being applied.

Another function of this device is to prevent the random movement of the slide, J, and to this end the head P' of the spring L', normally occupies a plane somewhat above the plane of the shoulders, H, so that when the slide is in place the spring bears against the under side of the slide with sufficient force to hold it in place. In addition to this means for holding the slide against random movement,—or in place of it,—we may use the elastic tail piece Q' which, also, projects above the plane of the shoulders H and engages the under side of the slide. But we prefer to use both of these means for preventing the

random movement of the slide, and do so in practice.

What we claim as new and desire to secure by Letters Patent is:

- 5 1. The combination with the base-plate of a sewing machine, of a depressible device secured thereto adjacent to the shuttle race and having a portion projecting over the shuttle race and lying in a plane above the horizontal plane of the shuttle, said device being adapted when depressed to engage the point of the shuttle and thereby flip it out of the carrier, substantially as described.
- 10 2. The combination with the base-plate of a sewing machine, said base-plate having a shuttle race and a cove at the front end of said race, into which the point of the shuttle projects when at the limit of its forward movement, of a depressible device secured to the base-plate and having a portion projecting over said cove in position to engage the point of the shuttle when depressed, substantially as described.
- 15 3. The combination with the base-plate of a sewing machine, having a shuttle race, of a spring secured to the base-plate adjacent to the shuttle race and having a depressible portion projecting over the shuttle race in position to engage the point of the shuttle, substantially as described.
- 20 4. The combination with the base-plate of a sewing machine, having a shuttle race, of a spring secured to the base-plate adjacent to
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the shuttle race and having an enlarged head projecting over the shuttle race and adapted to engage the point of the shuttle, substantially as described. 35

5. The combination with the base-plate of a sewing machine, having a shuttle race and a slide for covering the said race, of a spring secured to the base-plate beneath the slide and engaging the under side thereof for preventing its random movement, said spring having a depressible portion projecting over the shuttle race in a plane above the shuttle and in position to engage the point of the shuttle, substantially as described. 40 45

6. The combination with the base-plate of a sewing machine, having a shuttle race and having a cove at the forward end of said race, of a "flipper" secured to the base-plate adjacent to said cove, said flipper having a portion perforated for the passage of the retaining screw and a spring portion projecting rearward therefrom and over the cove in position to engage the point of the shuttle when depressed, substantially as described. 50 55

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