(No Model.) 2 Sheets—Sheet 1.

J. S. CROCKER.

SEWING MACHINE SHUTTLE CARRIER.

No. 306,135. Patented Oct. 7, 1884.

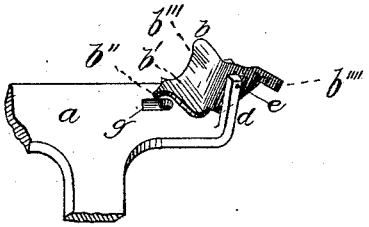


Fig. 4

Fig. 1.

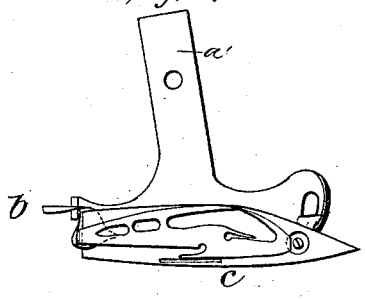
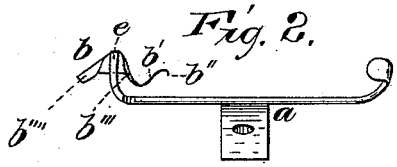


Fig. 2.



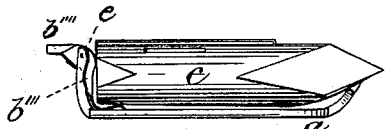


Fig. 3.

Attest:
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Chas. F. Kerr.

Inventor:
James S. Crocker,
by Drake & Cy, Attys

(No Model.) 2 Sheets—Sheet 2.

J. S. CROCKER.

SEWING MACHINE SHUTTLE CARRIER.

No. 306,135. Patented Oct. 7, 1884.

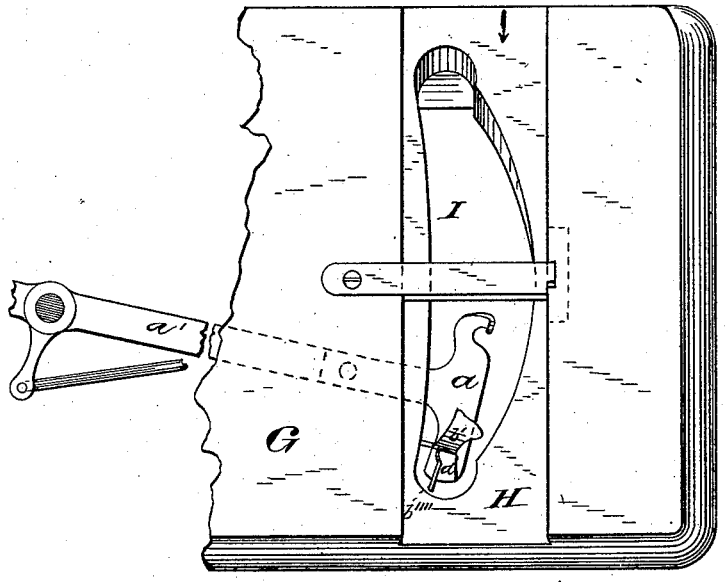

Fig. 5.

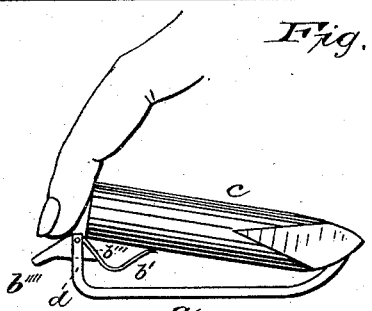

Fig. 6.

Attest:
F. F. Campbell.
Edward G. Krupf.

Inventor:
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Attys.

UNITED STATES PATENT OFFICE.

JAMES S. CROCKER, OF NEWARK, NEW JERSEY.

SEWING-MACHINE SHUTTLE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 306,135, dated October 7, 1884.

Application filed August 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. CROCKER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machine Shuttle-Carriers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of sewing-machines, including those commonly known as the "Domestic," "New Home," "New York," &c., having a vibrating lever arranged beneath a slotted table and adapted to receive a cylindrical shuttle and actuate the same to a reciprocal movement, said shuttle in said movement passing through a loop made in the thread by the needle.

The object of the invention is to prevent or reduce the noise occasioned by the shuttle when reversing its course, striking the heel of the carrier, and at the same time to enable an operator on said machine to raise the shuttle with increased ease and facility from said reciprocating carrier through the slot or opening in the table with a peculiar movement. (Illustrated by Figures 5 and 6.) Heretofore, to raise the shuttle, it has been necessary in most machines of this class, and especially those particularized, to insert the finger-nail between the heel of the carrier and that of the shuttle. This process was oftentimes vexatious, in that the shuttle was apt to slip from the hand before it was fairly caught. It is true that heretofore lifting devices have been provided to throw or raise the shuttle from its carrier. They do not, however, produce the peculiar results attained by my improvements—to wit, the prevention or reduction of the noise occasioned by the shuttle striking the heel-piece of the carrier when the carrier in its vibratory movements changes from an action in one direction to a reverse action, and with the same mechanism to render it possible for the operator to throw the heel of the shuttle upward toward the slot or opening in the machine table or plate and to catch said shuttle all with a continuous movement of a single finger, as shown.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying two sheets of drawings, in which similar letters of reference indicate like parts in each of the several figures, Fig. 1 is a plan of a portion of a shuttle-carrier adapted to receive a cylindrical shuttle, and having a lever fulcrumed on the heel thereof engaging with said shuttle to throw the heel of the latter upward. Fig. 2 is a side elevation of the shuttle-carrier with the shuttle removed and the seat of the lever raised. Fig. 3 is a second side elevation with the shuttle in place. Fig. 4 is a perspective view of a portion of the carrier, more clearly illustrating the heel-piece lever. Fig. 5, Sheet 2, illustrates the slotted bed-plate or table of the sewing-machine, having the shuttle-lever arranged thereunder; and Fig. 6 illustrates the peculiar process of extracting the shuttle.

In carrying out the invention, the table or bed-plate G is provided with a transverse depression, H, and slot I, adapted to be covered by sliding plates arranged in said depression and lying flush with the plate G, all in the usual manner. Beneath said plate G is arranged a vibrating lever, the head or carrying extremity *a* of which vibrates in a path corresponding with the slot, so that the shuttle can be withdrawn at any point therethrough. The shuttle-lever is divided into the body portion *a'* and shuttle-carrying portion *a*, the latter of which parts is provided with a horn to receive the pointed extremity of the shuttle and a heel, *d*, which is bent or formed at an angle to the body of the lever and receives the abutting end or heel of the shuttle. The heel of the shuttle-carrying portion of the lever *a* is split substantially as shown, and into it a lever, *b*, is fitted to engage with the shuttle and raise the same into catching engagement with the operator's lever-depressing finger. Of said lever *b* the seat *b'* enters beneath the shuttle and raises the same, the said seat lying approximately parallel with the body of the carrier. The extremity of the portion *b'* is adapted to pass into a recess, *g*, in the carrier *a*, Fig.

4, so that the thread in its passage between the shuttle and carrier or lever will not catch upon said lever, all as will be understood. The portion b''', which is bent at an angle to the fulcrumed portion of the lever b, to form a cushion to prevent noise in the longitudinal movement of the shuttle, is slightly concaved, as shown in Figs. 2, 3, and 4, to prevent the shuttle from binding when the same is being raised. The portion b'''' of the lever is adapted to be depressed when the operator rests the extremity of his finger thereon, the weight of the finger being sufficient to raise the shuttle.

The operation of the device is substantially as follows: When the operator, reaching from the front of the machine in the direction indicated by the arrow, rests a depressing-finger on the finger-piece b'''', as shown in Fig. 6, said finger-piece is more or less depressed, while the seat portion of the lever throws the shuttle up, so that the heel of the shuttle strikes the ball of the finger. A back movement of the finger draws said shuttle, so that the remaining fingers of the hand may readily grasp the same and lift it through the opening I. The motion of the finger described is, in practice, a simple downward and backward curve of the finger, such as no other device of which I am aware would allow.

I am aware that changes may be made in the form of the parts without departing from the spirit of the invention, which, having described, I now set forth in the following clauses of the claim.

What I claim as new is—

1. In a sewing-machine, the head of the shuttle-carrying portion of the lever provided with bent extremities, upon one of which a lever, b, is fulcrumed, said lever having the finger-piece b'''', the cushion b''', adapted to receive the longitudinal motion of the shuttle when the motion of the lever changes, and the seat b', all said parts being arranged and operating substantially as herein set forth and shown.

2. In a sewing-machine, the head of the shuttle-lever a, provided with bent extremities to engage with the ends of the cylindrical shuttle, one of which extremities has a lever, b, fulcrumed thereon, said lever having the finger-piece b'''', the concaved cushion b''', and the seat b', all substantially as set forth.

3. The combination, with the slitted heel-piece of the shuttle-carrier, of the lever b, arranged thereon, having the seat portion b' and bent extremity b'', arranged in a recess of the shuttle-carrier, substantially as set forth.

4. The combination, with the shuttle-carrier having the heel d, of a lever fulcrumed on said heel, and having the seat b' and concavity b''', substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of August, 1883.

JAMES S. CROCKER.

Witnesses:
CHARLES H. PELL,
OLIVER DRAKE.