

(Model.)

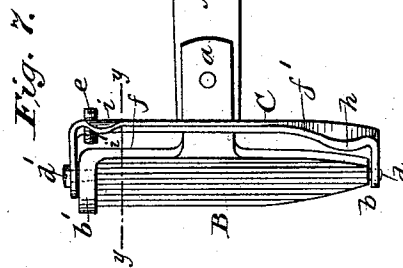
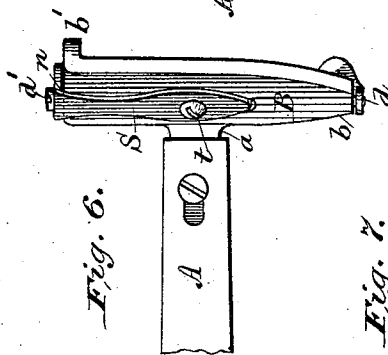
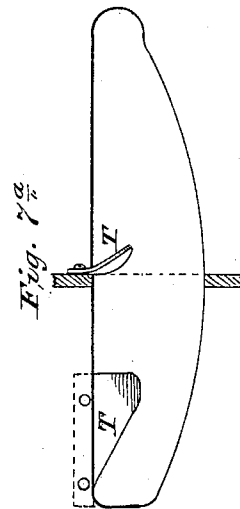
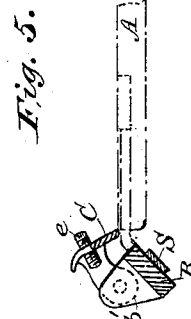
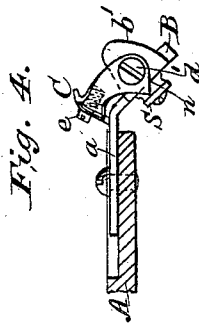
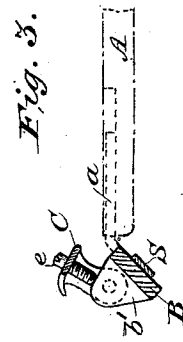
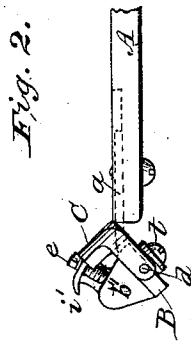
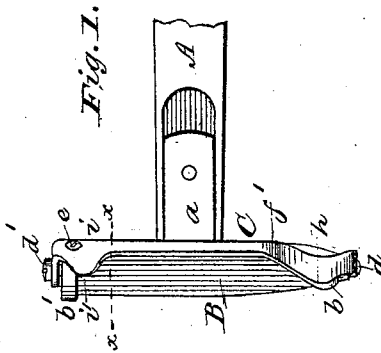
2 Sheets—Sheet 1.

C. E. TIBBLES.

SHUTTLE CARRIER FOR SEWING MACHINES.

No. 328,539.

Patented Oct. 20, 1885.



Witnesses:

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T. A. Ellsworth

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(Model.)

2 Sheets—Sheet 2.

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Fig. 8.

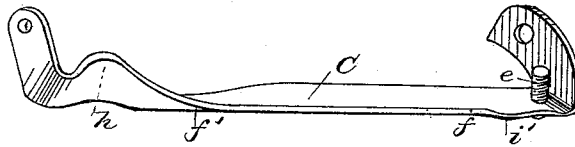


Fig. 9.

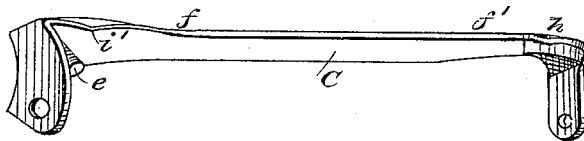


Fig. 10.

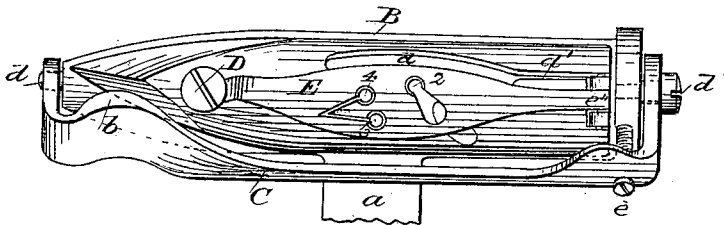


Fig. 11.

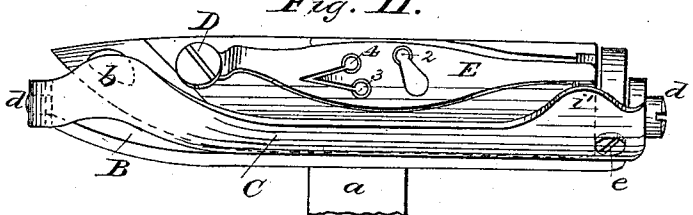


Fig. 12.

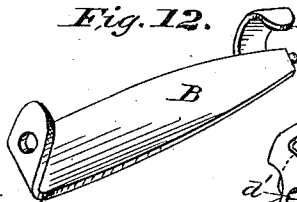
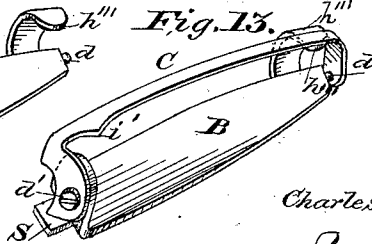


Fig. 13.



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UNITED STATES PATENT OFFICE.

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SHUTTLE-CARRIER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 328,539, dated October 20, 1885.

Application filed March 6, 1885. Serial No. 157,966. (Model.)

To all whom it may concern:

Be it known that I, CHARLES E. TIBBLES, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Shuttle-Carrier for Sewing-Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—
Figure 1 is a top view of the carrier closed. Fig. 2 is a side elevation with the carrier closed. Fig. 3 is a vertical sectional view on the line *xx* of Fig. 1. Fig. 4 is a side elevation with the carrier open, showing the end opposite to that in Fig. 2. Fig. 5 is a vertical sectional view on line *yy* of Fig. 7. Fig. 6 is a bottom view of the carrier. Fig. 7 is a top view of the carrier opened. Fig. 7^a illustrates a plan and section of the stop on the bed-plate to automatically close the latch, the bed-plate being shown both in plan and section. Fig. 8 is an enlarged view of the top of the carrier-latch in perspective and removed from the carrier, looking toward the shuttle-point end. Fig. 9 is an enlarged view of the bottom of the carrier-latch in perspective, and looking toward the shuttle-heel end. Fig. 10 is an enlarged view of the carrier open, and the shuttle within it. Fig. 11 is an enlarged view of the carrier closed, and the shuttle within it. Figs. 12 and 13 illustrate a modification.

My invention relates to shuttle-carriers generally, but especially carriers to be used in machines where the driving-shaft may be turned either way at will, or the goods sewed moving to or from the operator.

My invention has for its object to provide a shuttle-carrier which will open to receive the shuttle, and then can be closed upon it and encompass it, so as to reduce its noisy jumping, and also prevent the thread from kinking and fouling in machines capable of sewing either way when the direction of the shuttle may be changed on an incomplected stitch, as would be the case if the ordinary carrier were used.

To this end my invention consists in a shuttle-carrier provided with a longitudinal latch having two contacts to check the jump of the shuttle, and an intermediate connecting thread-guide, whereby is insured with certainty the

passage of the thread over the ends of the shuttle at all times.

My invention further consists of the carrier and latch, as aforesaid, in combination with an adjustable stop controlling the distance to which the latch approaches the carrier to compensate for wear.

My invention further consists in a carrier and latch, as hereinbefore stated, in combination with a stop on the under side of the bed-plate, to automatically close down the latch on the carrier should the operator forget to do so.

My invention further consists in certain details of construction and combination of devices, as will be hereinafter fully described, and specifically pointed out in the claims.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the shuttle-lever of a sewing-machine, to the end of which is adjustably secured the shank *a* of the carrier B. This carrier is made of a plate narrow at the end *b*, where the shuttle-point rests, and gradually widening to the end *b'*, where it is turned at a right angle and forms an abutment for the heel of the shuttle.

By means of a stud, *d*, at the point end and a screw, *d'*, at the heel end, forming pivots, there is secured to the carrier two rectangularly-bent ends of a shuttle-holding latch, C, which has a movement in the arc of a circle over the side of the carrier remote from the race, so that it can be made to approach and recede from the shuttle, and the nearness of such approach is controlled by means of a set-screw, *e*, passing through the heel end of the latch and impinging upon the edge of abutment *b'*.

The details of the form of the working portion of the shuttle-latch are as follows: Commencing at the heel end, the body of the latch is broadened and peaked, as seen at *i*, the peak being bent slightly downward immediately over the heel, as seen at *i'*, to form a contact, which the heel of the shuttle strikes. From the heel-contact the latch is suddenly narrowed and made slightly torsional, so that its inner edge, from *f* to *f'*, lies just over the line of the back of the shuttle, and dropping as it ap-

proaches the point. Close to the point, beginning at f' , the latch is again broadened and curved downwardly longitudinally to form contact h , for the point of the shuttle to strike. The space allowed between the latch and the shuttle is just sufficient for the free passage of the thread around the point, body, and heel of the shuttle, and, as before indicated, can be controlled, either for adjustment or to take up wear, by set-screw e .

When latch C is thrown back to place the shuttle in the carrier, it is necessary or desirable that it should remain retracted until the operator has properly located the shuttle, and when closed it must remain closed, and this I accomplish in the following manner:

The bent end of the latch at the heel end of the carrier, which is pivoted on screw d' , is cut with a square lower edge, n , upon which bears normally, when the latch is closed, the end of a flat steel spring, S, riveted or screwed at t to the bottom of the shuttle-carrier. The pressure of spring on edge n keeps the latch closed. When the latch is retracted or forced back, the edge n , acting after the manner of a cam, forces down the end of spring S until the point of contact has passed the center, when the latch will remain open until thrown past the center again.

It might happen that the operator would forget to close down latch C before starting the machine, and thereby injure it by striking the plate. To provide against such a contingency I have secured to the under side of the bed-plate a curved wedge-shaped lump or stop, T, directly in the path of the travel of the carrier-latch, and against which it will ride and gradually and smoothly be closed, as will be obvious from the illustration shown in Fig. 7^a.

Experiment shows me that for the successful holding of the shuttle and conduction of the thread around the point it is not absolutely necessary that both contacts should

be on the latch which performs the function both of holding the shuttle and conducting the thread. I have therefore shown in Figs. 12 and 13 a modification of my invention, wherein one of the contact-points h'' is secured rigidly to the carrier while the latch passes back and forth over its end. This construction may sometimes be found to be desirable, as the latch still performs the function of the thread conductor or guide, which is the prominent feature of this invention.

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

1. A shuttle-latch having two distinct contacts for the shuttle to strike and an intermediate thread-guide bar, in combination with the carrier B, substantially as and for the purpose described.

2. The carrier B, having its heel-end turned up to form abutment b' , in combination with latch C, screw e , and spring S, to regulate the relation between the carrier and the latch, substantially as specified.

3. In combination with the shuttle-carrier, the latch C, pivoted to the ends of the carrier at d d' , and having the broadened peaked portion or contact i bent slightly at i' , the narrow torsional bar f to f' , and the broadened downwardly-curved portion or contact h , all constructed as set forth.

4. The carrier B, in combination with a pivoted guide-bar to conduct the thread around the point of the shuttle when the movement is reversed while the shuttle is in the loop.

5. A shuttle-carrier provided with a pivoted latch, C, in combination with a stop, T, in the path of the travel of the carrier-latch to automatically close said latch, substantially as set forth.

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Witnesses:

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F. D. ELLSWORTH.