

(Model.)

S. STEINER.

SHUTTLE CARRIER FOR SEWING MACHINES.

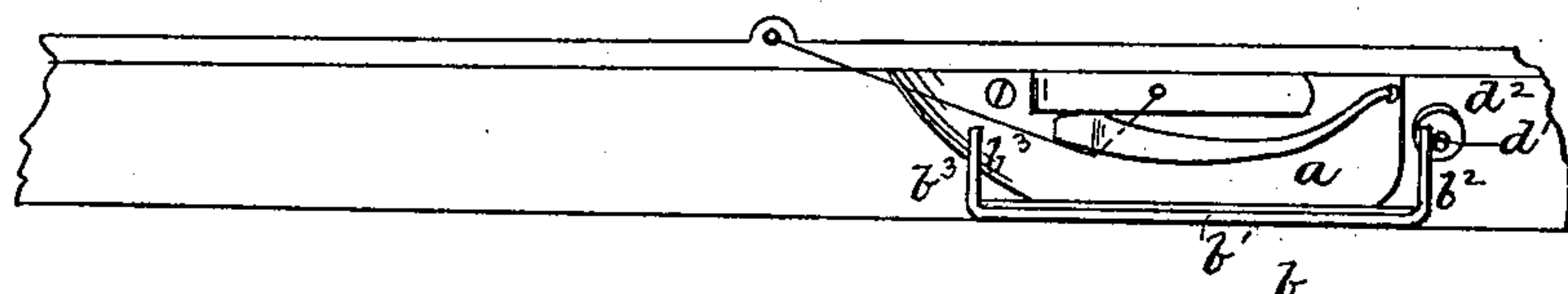
No. 245,235.

Patented Aug. 2, 1881.

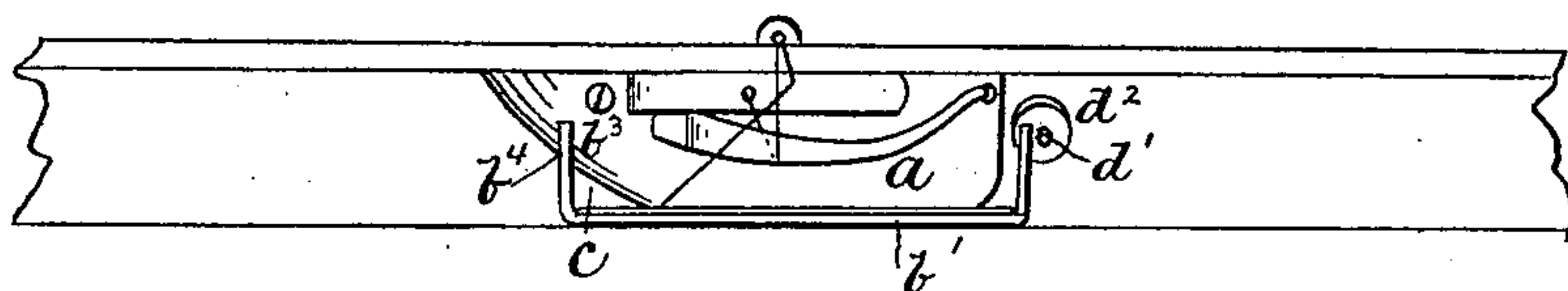
*Fig. 1.*



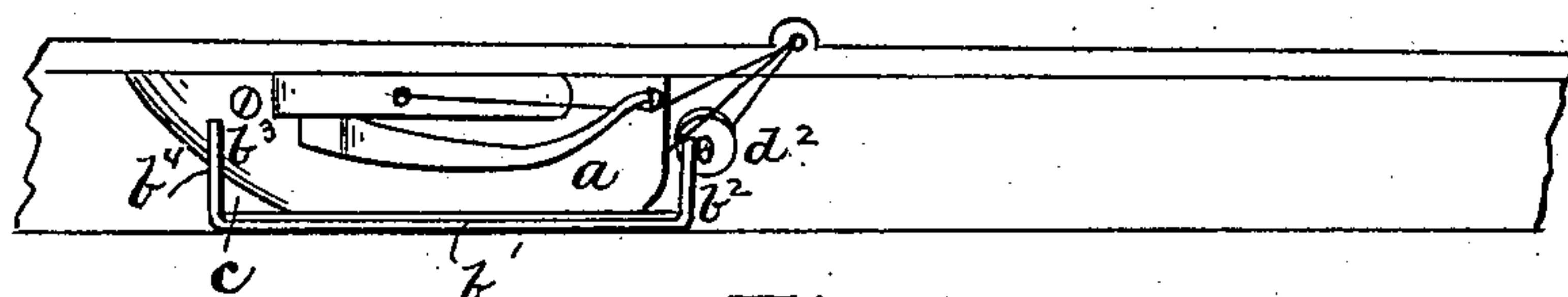
*Fig. 2.*



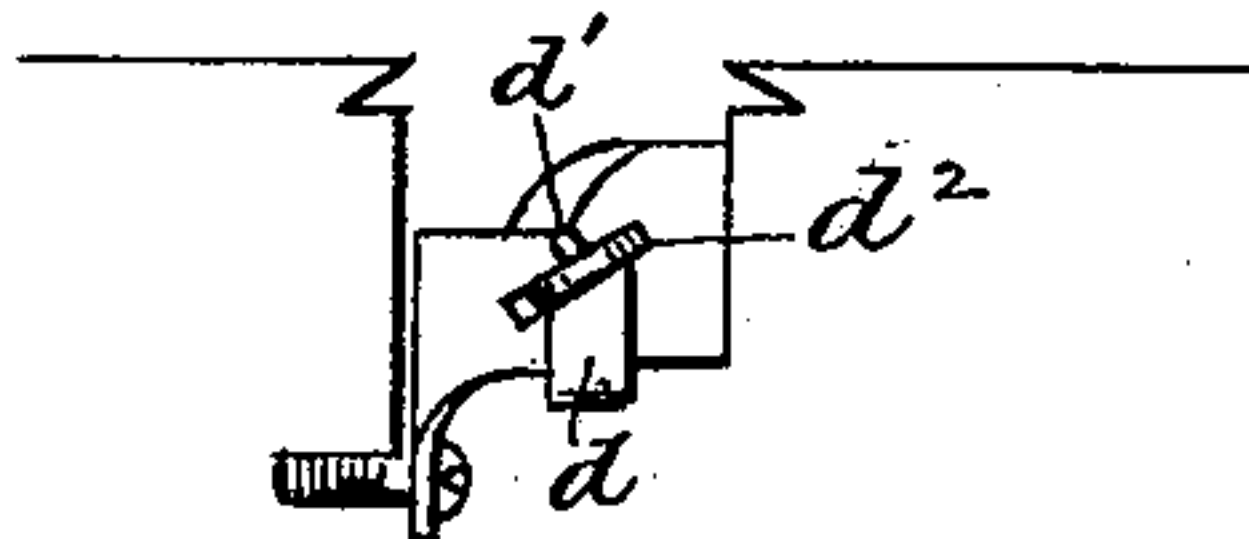
*Fig. 3.*



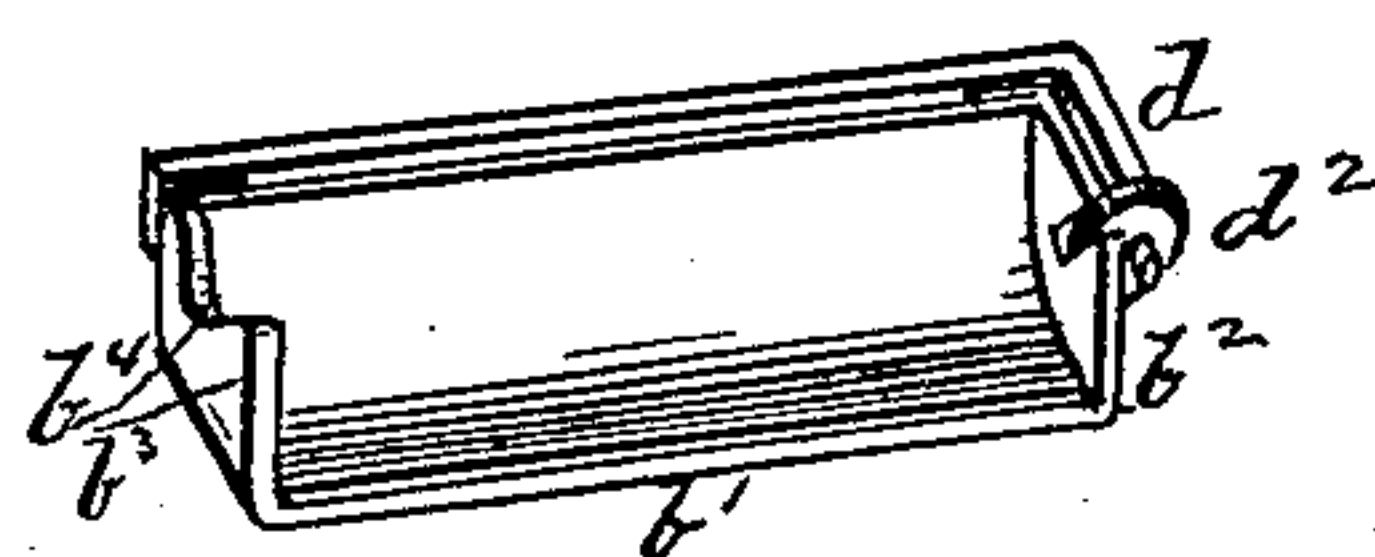
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## SHUTTLE-CARRIER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 245,235, dated August 2, 1881.

Application filed April 30, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, SYLVESTER STEINER, a citizen of the United States, residing at Cribb's, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Carriers for Shuttles for Sewing-Machines; 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 or figures of reference marked thereon, which form a part of this specification.

This invention has for its object to provide an improved shuttle-carrier for sewing-machines.

It consists in a small revolving disk or wheel placed on a spindle on the carrier, the circumference of which touches the butt-end of the shuttle or bobbin case and assists in the passage of the thread in the act of forming the stitch.

In the drawings, Figures 1, 2, 3, and 4 show a shuttle seated in my improved carrier and in different positions in the process of forming the stitch. Fig. 5 is an end view of the carrier and shuttle, and Fig. 6 is a perspective of the carrier.

*a* is the shuttle or bobbin case, of well-known make.

*b* is the carrier, constructed so as to hold the shuttle. It is composed of a bed-plate, *b'*, the ends *b<sup>2</sup>* *b<sup>3</sup>* of which are bent upward at right angles, as shown. The butt-end of the shuttle rests against the end *b<sup>2</sup>*, while the point of the shuttle is held in the concave recess *b<sup>4</sup>*, formed in the end plate, *b<sup>3</sup>*.

*c* is a concave plate secured to lugs on the rear upper edges of the ends *b<sup>2</sup>* *b<sup>3</sup>* and to the front edge of the bed-plate. This concave affords a substantial seat, in which the shuttle lies. The bed-plate is extended slightly to the rear, and is provided with suitable means whereby it can be attached to the driving mechanism.

*d* is a small bar attached to the outside of the butt-end plate *b<sup>2</sup>*, and has on its end a small spindle, *d'*, arranged just in rear of the end of the shuttle.

*d<sup>2</sup>* is a relieving-wheel placed on the spindle *d'*, and has its periphery slightly projected through a suitable slot in the end *b<sup>2</sup>* of the carrier, so that it will touch lightly the rear end of the shuttle when the latter is driven point foremost. This wheel is set at a slight angle in line with the direction in which the loop of the thread leaves the shuttle.

In the operation of the sewing-machine the shuttle, when driven point foremost, presses very tight against the rear end plate, *b<sup>2</sup>*, of the carrier, and the thread is often broken or torn in passing between the shuttle and carrier, by reason of the fixed nature of bearing against which it rubs and the tightness of pressure by the shuttle. When great tension of thread is required in sewing any particular kind of fabric the liability to break is greatly increased by the additional tension given by the pressure of the shuttle against the end of the carrier. This difficulty is entirely obviated in my device. The shuttle is held slightly off from the rear end or abutting plate, *b<sup>2</sup>*, by the wheel, thus relieving the loop of the thread entirely from pressure. When the loop strikes the wheel the latter revolves and lets the former pass out without increased pressure, and, as a result, without increased tension to the thread. By this construction and arrangement the efficiency of the shuttle is greatly enhanced and the liability of the thread to break almost wholly obviated. Two or more of these relieving-wheels could be used in connection with the carrier, being placed side by side on the same spindle, or on different spindles, or they could be arranged one above the other. The size may be according to pleasure. When two or more are employed and arranged in different places they are of necessity made small.

The great purpose of this invention is to provide a yielding bearing which relieves the thread from pressure as the latter leaves the shuttle. A small elastic bar or spring-plate could be riveted to the carrier and support the shuttle; but this spring is open to the objection that it would give or yield under the rapid forward movement of the shuttle. The roller shown in the drawings gives an unyielding support for the shuttle in the forward movement of the latter and releases the thread



without pressure or increased tension. It is an anti-tension support, which holds the shuttle firmly to its work and releases the thread without increased tension.

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

The combination, with the shuttle-carrier, of a revolving wheel journaled in the rear end thereof, and adapted to bear against the rear

or butt end of the shuttle and permit the thread 10 to pass out readily, substantially as set forth.

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

SYLVESTER STEINER.

Witnesses:

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