

No. 647,350.

Patented Apr. 10, 1900.

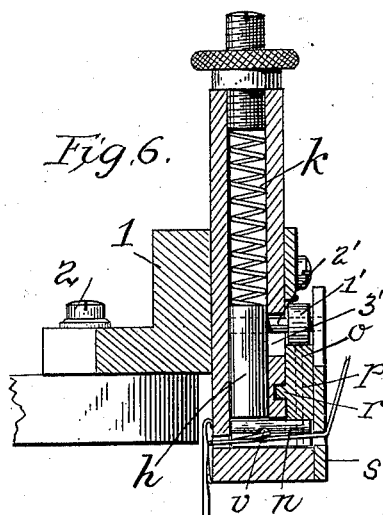
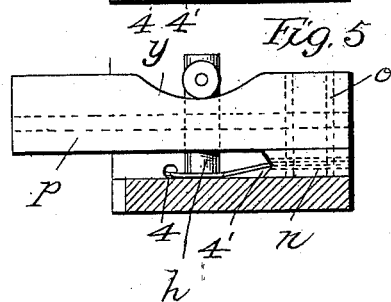
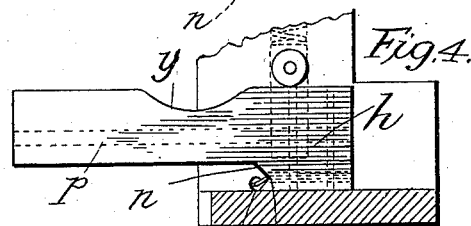
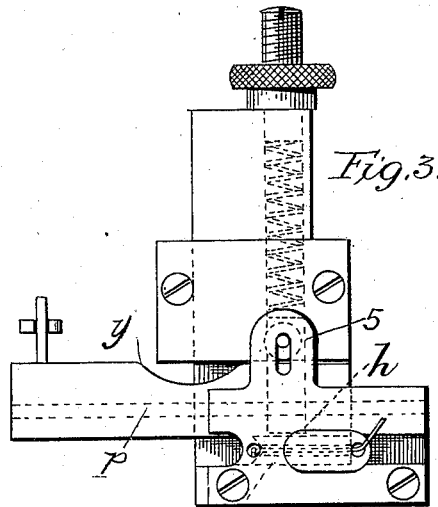
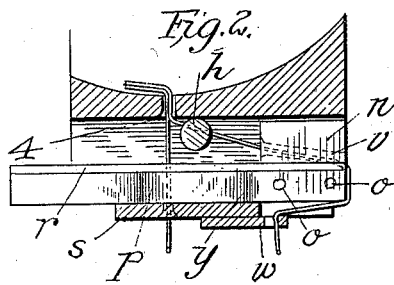
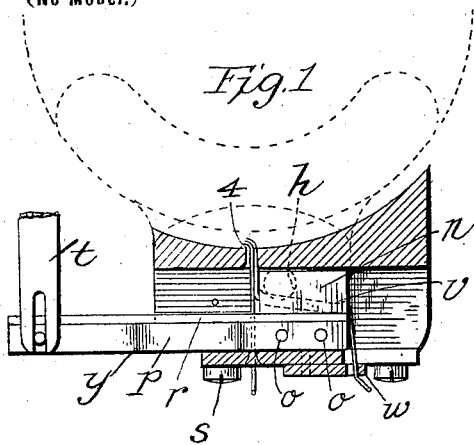
F. B. WILDMAN.

SPLICING MECHANISM FOR KNITTING MACHINES.

(Application filed Sept. 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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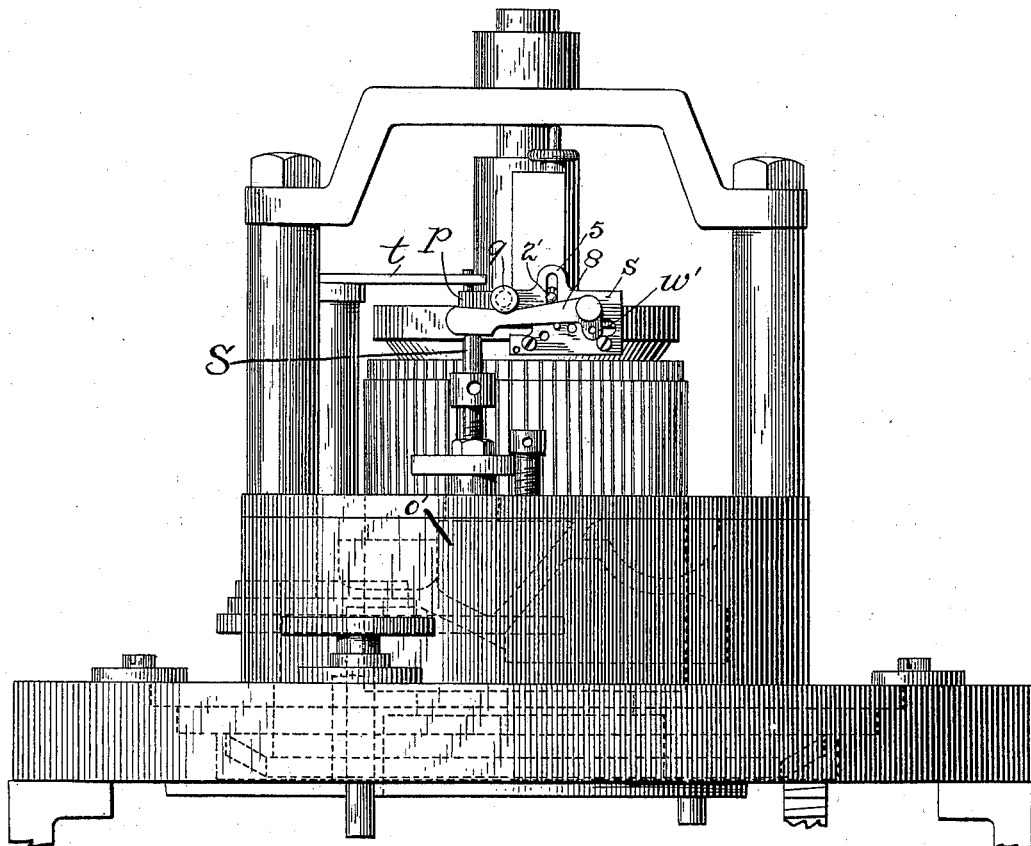
SPLICING MECHANISM FOR KNITTING MACHINES.

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(No Model.)

2 Sheets—Sheet 2.

Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK B. WILDMAN, OF NORRISTOWN, PENNSYLVANIA, ASSIGNOR
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SPLICING MECHANISM FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 647,350, dated April 10, 1900.

Application filed September 7, 1899. Serial No. 729,778. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. WILDMAN, a citizen of the United States, residing at Norristown, Pennsylvania, have invented certain new and useful Improvements in Splicing Mechanism for Knitting-Machines, of which the following is a specification.

My invention consists in the features and arrangement of parts hereinafter described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view, partly in section, of the invention. Fig. 2 is a detail view similar to Fig. 1, with the parts in a different position from that shown in Fig. 1. Fig. 3 is a front view of the attachment shown in Fig. 1. Fig. 4 is a detail front view of the lower part of Fig. 3, with parts removed. Fig. 5 is a view similar to Fig. 4, with the parts in a different position. Fig. 6 is a central vertical section of the invention in its modified form. Fig. 7 is a front view of the invention, showing the manner of controlling the stitch-cam.

In the drawings, 1 is a bracket attached by screws 2 to the dial-cap of the knitting-machine. At 4 is shown the guide-opening which directs the main yarn to the needles. A carrier for the splicing-thread moves toward and from this opening in a direction transversely or laterally with respect to the main yarn and its guide, so as to move the splicing-thread to the main thread. This splicing-thread carrier consists of a block *n*, arranged to move toward and from the main yarn. This carrier is connected by pins *o* with a slide *p*, guided by a rib *r* thereon fitting a guideway in the bracket, a face-plate *s* being secured to the lower edge of the bracket and serving also to guide the slide-bar. The slide-bar is operated through any suitable connections leading to the operating parts of the machine—as, for instance, the lever *t*. The carrier *n* has an opening *v* extending through it at an inclination, and the splicing-thread is directed to the opening in the carrier by the fixed thread-guide *w*, secured to the face-plate. By means of this carrier the loose end of the splicing-thread is moved into contact with or toward the main thread, the action

taking place in a direction transversely or laterally in relation to the main thread and its guide. This insures a positive action, as the loose end by contacting with the main yarn will be drawn into the fabric thereby.

In order to stop the feeding in of the splicing-thread, a clamping device in the form of a plunger *h* is used. When this is in its lowest position, it clamps the splicing-thread between itself and the face of the bracket, so that the thread will break between the clamp and the needles. When the plunger is raised, the carrier moves forward to make the splicing-thread end engage the main thread. The clamping-plunger slides vertically in the bracket and is pressed normally downward by means of a spring *k*.

The clamping device for the splicing-thread is operated by the slide-bar *p*, which has a cam-surface *y* acting on the roller *l'*, turning on a pin *2'*, projecting from the clamping device through a slot *3'* in the bracket. The cam-surface lifts the clamping device, and the spring in the bracket serves to force it down with a yielding pressure.

The carrier is provided with a V-shaped notch *4'*, which enables it to push the splicing-thread directly against the main thread, and I prefer this manner of controlling the splicing-thread—that is, placing it in contact with the main thread.

The face-plate has a slotted extension *5*, serving as a guide to the roller-pin.

The carrier, it will be noticed, is arranged to slide transversely and completely under the clamping device, and this serves to clear the space of any accumulation of lint or fiber which might interfere with the clamping action, and this complete movement of the carrier up into contact with the main thread serves to insure the proper and certain introduction of the splicing-thread.

Slackness is created in the splicing-thread between the fixed guide *w* and the clamping device and fabric, and this slackness is produced by moving the carrier from the position of Fig. 1 to that of Fig. 2 in relation to the fixed guide *w*.

Referring to Fig. 7, a lever *8* is pivoted to

the face-plates, said lever having an inclined upper edge to be engaged by a headed pin or stud 9 on the cam-slide *p*. This lever bears on the rod *S*, which is arranged and connected to the stitch-cam *o'* in a manner similar to that shown in Letters Patent of the United States No. 604,100, dated May 17, 1898. The arrangement is such that when the slide is moved to introduce the splicing-thread, or leftward, as seen in Fig. 7, the lever 8 will be depressed, thus forcing down the rod *S* and the stitch-cam *o'*, thus producing the necessary slackness in the courses of knitting by making the needles draw slightly longer loops. The slide thus serves to operate the splicing-thread carrier, the clamp, and the stitch-cam. The stitch-cam will be lifted when the splicing-thread is out of work by the heels or jacks of the needles. The cam-slide is operated by lever connections substantially the same as those disclosed in my United States patent referred to, No. 604,100, dated May 17, 1898, the lever *t* being connected to and operated from the rock-shaft *g*. The clamping-plunger, it will be noticed, operates vertically toward and from the surface of the bracket, while the splicing-thread carrier operates horizontally and laterally in relation to the main-thread guide. The lever 8 is provided with a guide-eye *w'* for the splicing-thread, which acts in a manner substantially the same as that marked *w*, before described.

I claim as my invention—

1. In combination, the main-yarn guide a carrier for the splicing-thread movable transversely in relation to the main thread or its guide to make the splicing-thread contact with the main thread connections for operating the carrier toward and from the main yarn, a stitch-cam and means for operating the same through the movement of the said connections, substantially as described.

2. In combination, a clamping-plunger, a reciprocating cam - slide for operating it, a stitch - cam and means for controlling the stitch-cam operated from the said slide, the reciprocating movement of the cam-slide being utilized to control the splicing-thread in addition to the control exercised by the clamping-plunger.

3. In combination, the clamping-plunger, the splicing - thread carrier, the stitch - cam and the cam - slide arranged to operate the said plunger, carrier, and stitch - cam, substantially as described.

4. In combination, the clamping-plunger, the splicing-thread carrier separate from the clamping-plunger, connections for operating the plunger and carrier, a stitch-cam and means for operating the same from said connections, substantially as described.

5. In combination, the plunger, the cam-slide the lever operated by the cam-slide, the stitch-cam and means operated by the lever for controlling the stitch-cam, substantially as described.

6. In combination, a reciprocating thread-carrier block, a clamp for the splicing-thread separate from the carrier, a stitch-cam and means for operating the stitch-cam as the thread - carrier block reciprocates, substantially as described.

7. In combination, the clamp, the reciprocating thread-carrier separate from the carrier, means connected therewith for operating the clamp, the stitch-cam and means for operating the same as the thread-carrier reciprocates substantially as described.

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

FRANK B. WILDMAN.

Witnesses:

CARRIE LANDIS,
FLORENCE E. SHAW.