

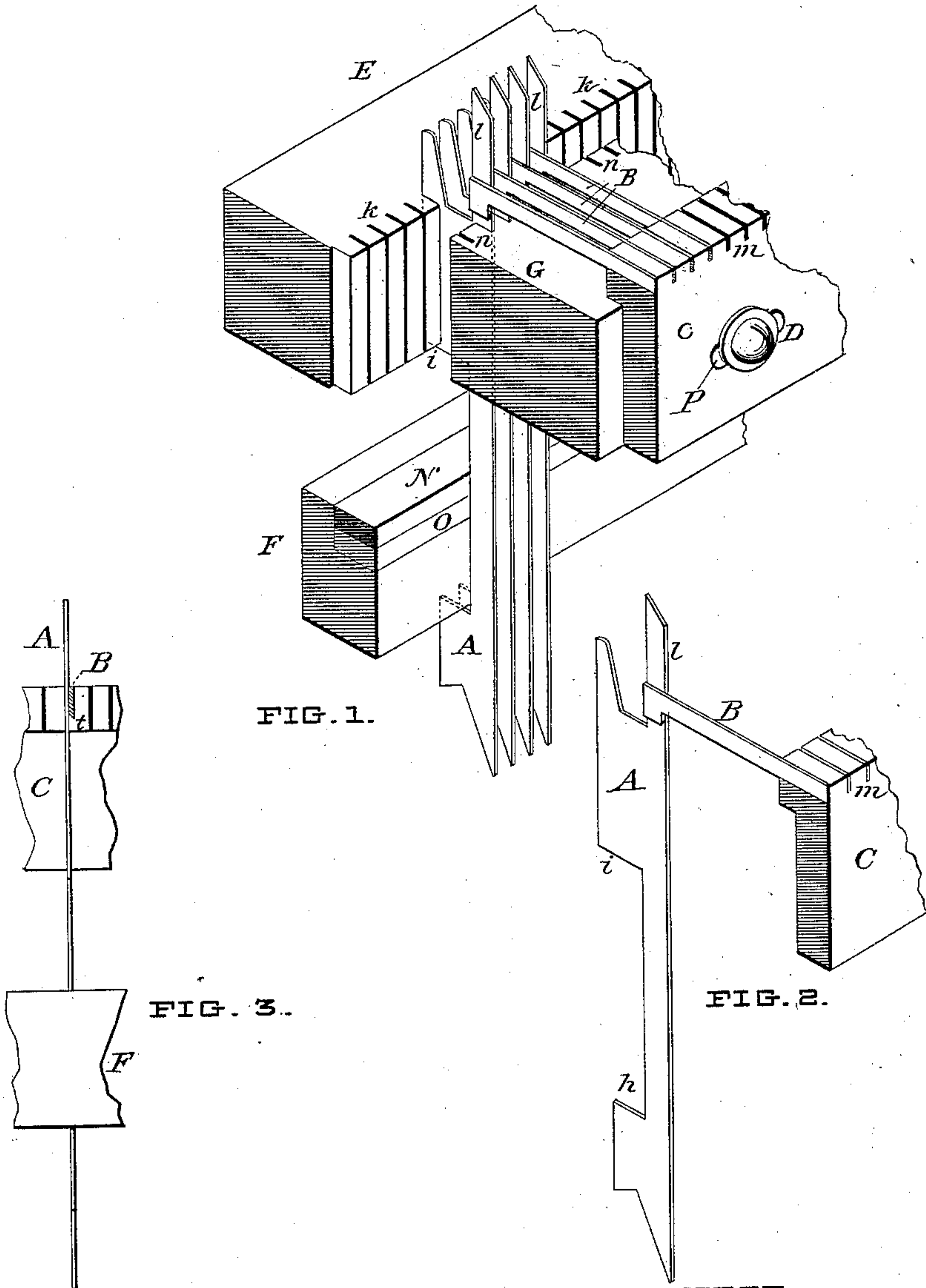
(No Model.)

E. TIFFANY.

SPRING FOR SINKERS OF KNITTING MACHINES.

No. 374,280.

Patented Dec. 6, 1887.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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SPRING FOR SINKERS OF KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 374,280, dated December 6, 1887.

Application filed August 16, 1886. Serial No. 210,984. (No model.)

To all whom it may concern:

Be it known that I, ELI TIFFANY, of the town of Bennington, in the county of Bennington and State of Vermont, have invented certain improvements in Springs for Sinkers of Knitting-Machines, of which the following description, in connection with the accompanying drawings, constitutes a specification.

This invention relates to means for holding the sinkers of knitting-machines in any desired stage of elevation or depression during the operation of feeding in the yarn to form the stitch and of knocking over the same.

The means commonly employed for holding up the vertical sinkers, especially in straight knitting-machines, have consisted of a small nick in the back edge of the sinker in conjunction with a thin flat spring carrying a small bent detent of U shape, formed near the end of the spring, which is adapted to spring or fall into the nick when the sinker is elevated or depressed, as the case may be, so that the nick and detent shall come in apposition. Such devices so arranged were operative and efficient only when the detent was in engagement with the nick, the pressure of the spring exerted against the edge of the sinker at other stages of its movement being too slight and inefficient to prevent the sinker from sometimes falling or sliding down out of its proper position.

To obviate these defects and provide the sinker with a spring efficient to hold the same firmly at any stage of elevation or depression, and minimize the liability to breakage of the sinkers resultant from their falling out of position, are among the objects of this invention.

Figure 1 of the drawings is a view, in perspective, of a detached section from a straight knitting-machine, showing a limited number of sinkers and springs in position. Fig. 2 is a similar view of a single sinker and spring detached from their surroundings. Fig. 3 is an edge view of a sinker and an end view of a spring designed to show the beveled under edge of the end of the spring.

E and G are the front and rear grooved sley-bars, through which the sinkers work.

F is the bar, designed to raise and lower the sinkers by reciprocating vertically between the shoulders *i* and *h* of the sinkers. The sinkers are shown at A A, and slide in the grooves

h h of bar E and *n n* of bar G. The sinkers play freely through these grooves and require some extraneous appliance to prevent their dropping down when elevated. For this purpose I have provided a series of flat springs, B B B, mounted in a stock or bar, C, and rigidly fastened in grooves therein. The bar C is screwed or bolted to the back side of bar G by means of screws D, and spans the whole series of sinkers. By this plan of construction all the springs may be simultaneously adjusted with reference to the sinkers. The screw-holes in bar C are longitudinally elongated, so as to admit of slight longitudinal adjustment, as seen at P in Fig. 1. Each one of the springs is adjusted so as to impinge laterally against the side of a sinker and thus pinch it against the side of the groove in which it plays. By this arrangement a constant pressure is brought to bear against each sinker sufficient to hold it up steadily at any stage of its elevation in the process of knitting.

It sometimes happens that sinkers get broken in two through their weakest part, leaving the fragments in the groove, in which case the natural result would be that the spring B would spring in over the groove, and on the next upstroke of the sinker the broken fragment below the spring would collide with the bottom edge of the spring and possibly cause further breakage. As a precaution against this, I have beveled the bottom edges of the springs, as shown at *t*, Fig. 3, so that if a broken end should happen to impinge against it the spring would be thrust aside and the broken sinker would rise without further obstruction.

I am aware that springs attached to sectional blocks, somewhat similar in shape and functional action to mine, have heretofore been used on straight knitting-machines; but my invention differs from such in having the under edge of that part of each spring which comes in contact with the sinker beveled for the purposes described, and also in attaching all my springs to a single head or stock, so that all may be adjusted at the same time and by the same operation.

I therefore claim as my invention—

1. The combination of a longitudinally-sliding sinker adapted to slide in a groove in a sley-bar with a flat spring, one end of which is

rigidly fastened and the other end is free to impinge or bear against one side of the sinker to hold or press the same against one side of the sley-groove in which it slides, said spring
5 having its lower edge beveled, as shown, opposite its line of contact with the sinker, substantially as described, and for the purposes set forth.

2. The combination, in a straight knitting-
10 machine, of a grooved sley-bar and a series of sinkers adapted to slide longitudinally in the grooves thereof, with a parallel spring-bar provided with a series of springs corresponding with the aforesaid sinkers, and having the

under edges thereof abreast the sinkers against 15 which they impinge beveled, as shown, and means for securing said spring-bar and longitudinally adjusting the same with reference to the sinkers, substantially in the manner described, and for the purposes set forth. 20

In testimony whereof I have hereto subscribed my name, at Bennington, Vermont, this 13th day of April, A. D. 1886.

ELI TIFFANY.

In presence of—

FRANKLIN SCOTT,
F. M. TIFFANY.