D. FLANAGAN.

TWO-REEL SEWING MACHINE.

APPLICATION FILED JULY 15, 1910.

981,629. Patented Jan. 17, 1911.

FIG. 1.

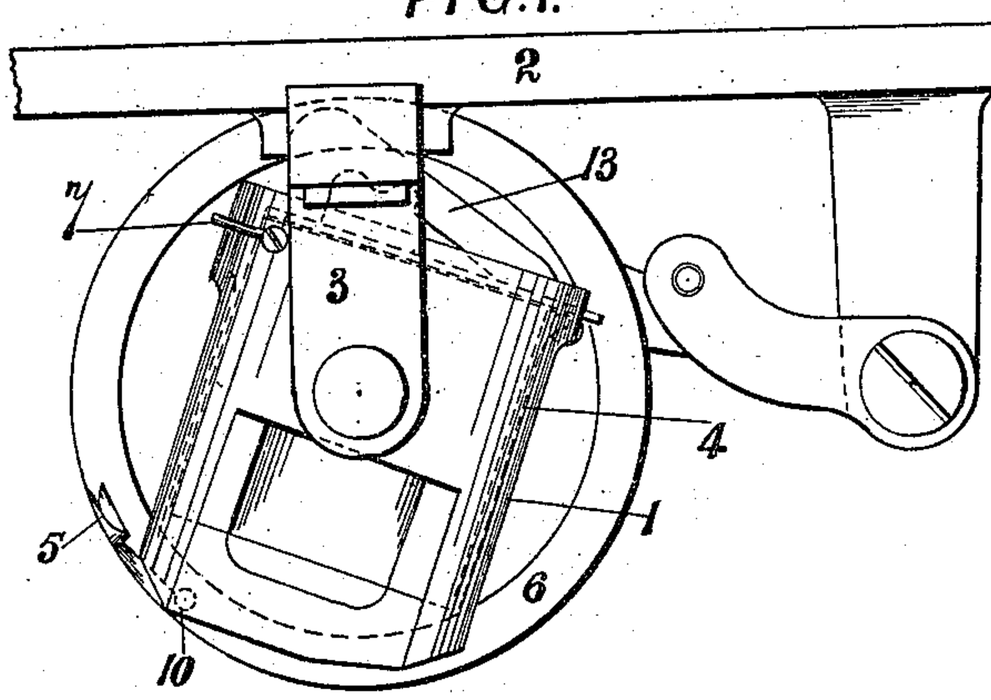


FIG. 2.

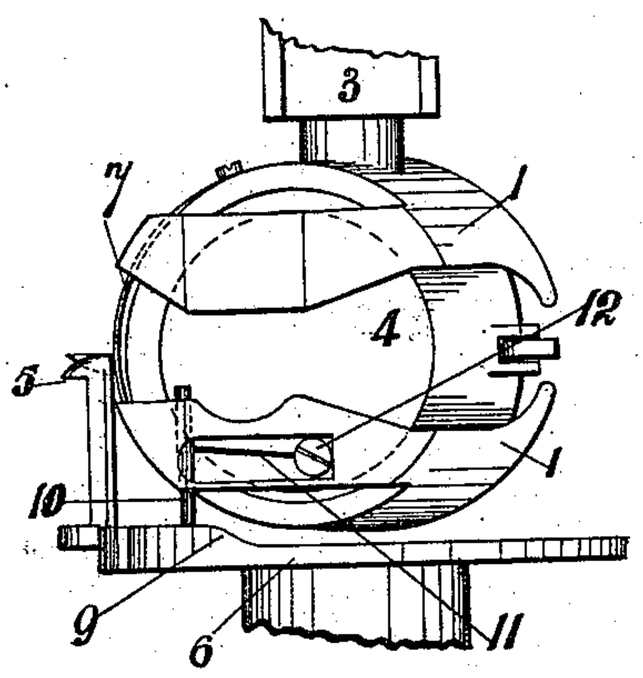


FIG. 5.

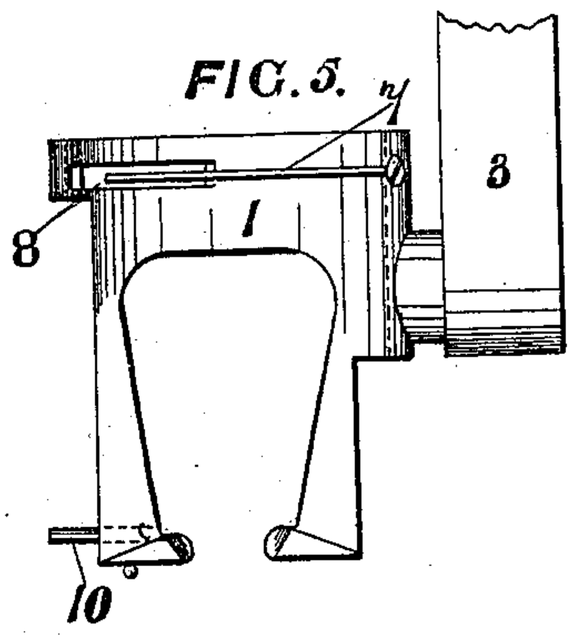


FIG. 6.

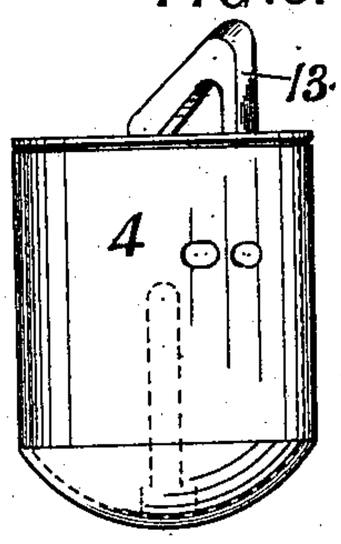


FIG. 3.

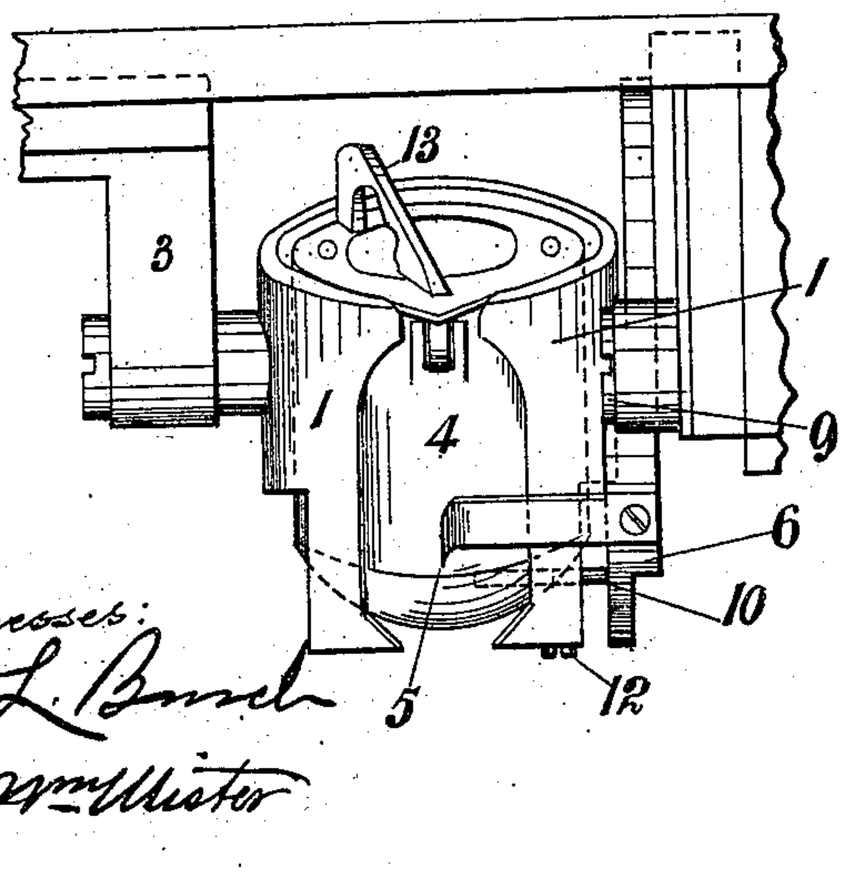
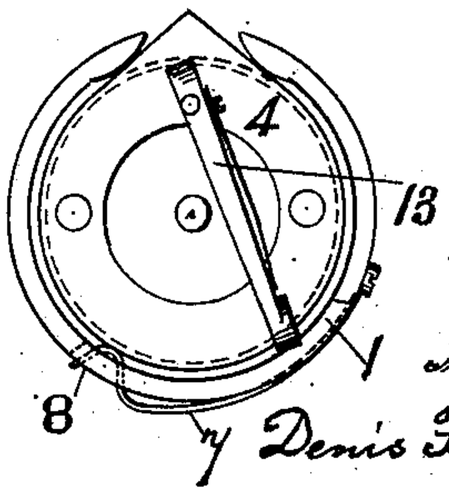


FIG. 4.



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TWO-REEL SEWING-MACHINE.

981,629. Specification of Letters Patent. **Patented Jan. 17, 1911.**

Application filed July 15, 1910. Serial No. 572,156.

To all whom it may concern:

Be it known that I, DENIS FLANAGAN, residing at 26 Oswald street, Clayton-le-Moors, in the county of Lancaster, England, have invented certain new and useful Improvements in Two-Reel 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.

This invention relates to improvements in two-reel sewing machines in which the lower reel of thread is contained in a metallic reel case and the latter is carried in a holder or carrier.

In operation and when machines of this class are at work the upper or needle thread is caught by the hook-like point of the rotating loop former or looper disk and carried by it around the reel case and reel therein the thread in which is referred to as the lower thread. In its passage around the reel case and reel the thread passes between the reel case and the reel case holder or carrier and it is desirable that there should be a minimum of friction or strain on the thread during its passage. As the reel case is supported in the holder or carrier the thread has to make its way between the two and slightly move the reel case in doing so it being impossible to maintain the reel case in suspension in its carrier even though this is theoretically what is desirable.

The object of the present invention is to facilitate the passage of the needle thread between the outside of the reel case and the inside of its holder or carrier and so to reduce the friction and tension on the thread and avoid breakages. To avoid this strain and tension I apply a small and light spring and spring presser to the case which is thereby maintained approximately concentric with its holder or carrier and the needle thread can be drawn between the two without putting an undue tension or strain on it.

Referring to the drawings which form a part of this specification Figure 1 is a side elevation of so much of a two-reel sewing machine as is necessary to illustrate the present invention. Fig. 2 is a plan view of the underside of Fig. 1. Fig. 3 is a front view of the reel case and its holder or carrier with the improvements applied to it. Fig. 4 is a plan view of the reel case and its carrier or holder. Fig. 5 is a front view of the reel case carrier or holder. Fig. 6 is a view of the reel case.

According to this invention the reel case holder or carrier 1 is affixed to the underside of the bed plate 2 of the machine by means of the bracket 3 in which the holder or carrier 1 can swivel or be adjusted in the ordinary manner. The reel case 4 is received in the holder or carrier 1 and the needle thread is caught by the hooked end 5 of the loop former or looper disk 6 and by it carried around the reel case 4 and between the latter and the holder or carrier 1 in the usual manner in two-reel machines of this class. To facilitate the passage of the thread around the reel case 4 and between it and the holder or carrier 1 a spring of fine round wire 7 is secured to the outside of the holder or carrier 1 and the free end is curved and passes through a slot 8 in the holder or carrier 1 and bears lightly against the outside of the reel case 4. As the thread is carried around the reel case 4 a cam surface 9 on the face of the looper disk or loop former 6 bears upon the end of the pin 10 carried in a hole in the holder or carrier 1 and mounted on one end of a bent wire spring 11 secured by the screw 12 in a recess in the holder or carrier 1. The pin 10 being moved endwise or inward in contact with the reel case 4 slightly tilts or moves the latter in its holder or carrier 1 and eases the passage of the thread between the case and carrier.

As the lower thread is drawn off the reel in the case 4 and under a tension device on the bridge piece 13 of the reel case 4 it tends to pull the case 4 against the side of the holder or carrier 1 and the passage of the thread is partly blocked thereby but at this point the spring 7 is operative and resting lightly against the case 4 separates the latter from its holder or carrier 1 and maintains a space between the case 4 and holder 1 and the tread has only to be drawn between or under the spring 7 and the tension and strain are reduced to a minimum the case 4 being for all practical purposes held or maintained in a state of suspension in the carrier or holder 1.

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

1. In a two-reel sewing machine having a reel case and reel case carrier or holder and a rotary looper or loop former, a spring for

separating the reel case from its holder or carrier and a spring presser actuated by a cam surface on the looper or loop former to facilitate the passage of the thread between the reel case and its carrier or holder substantially as and for the purpose herein described.

2. The combination, with a reel case holder provided with a lateral opening at one end portion, of a reel case arranged in the said holder, a loop forming device arranged adjacent to the said parts and provided with a projection, a slidable spring-pressed pin carried by the other end portion of the said holder and arranged in the path of the said projection and adapted to engage with the reel case, and a spring secured to the outside of the said holder and projecting through the said opening and bearing on the said reel case.

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

DENIS FLANAGAN.

Witnesses:

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