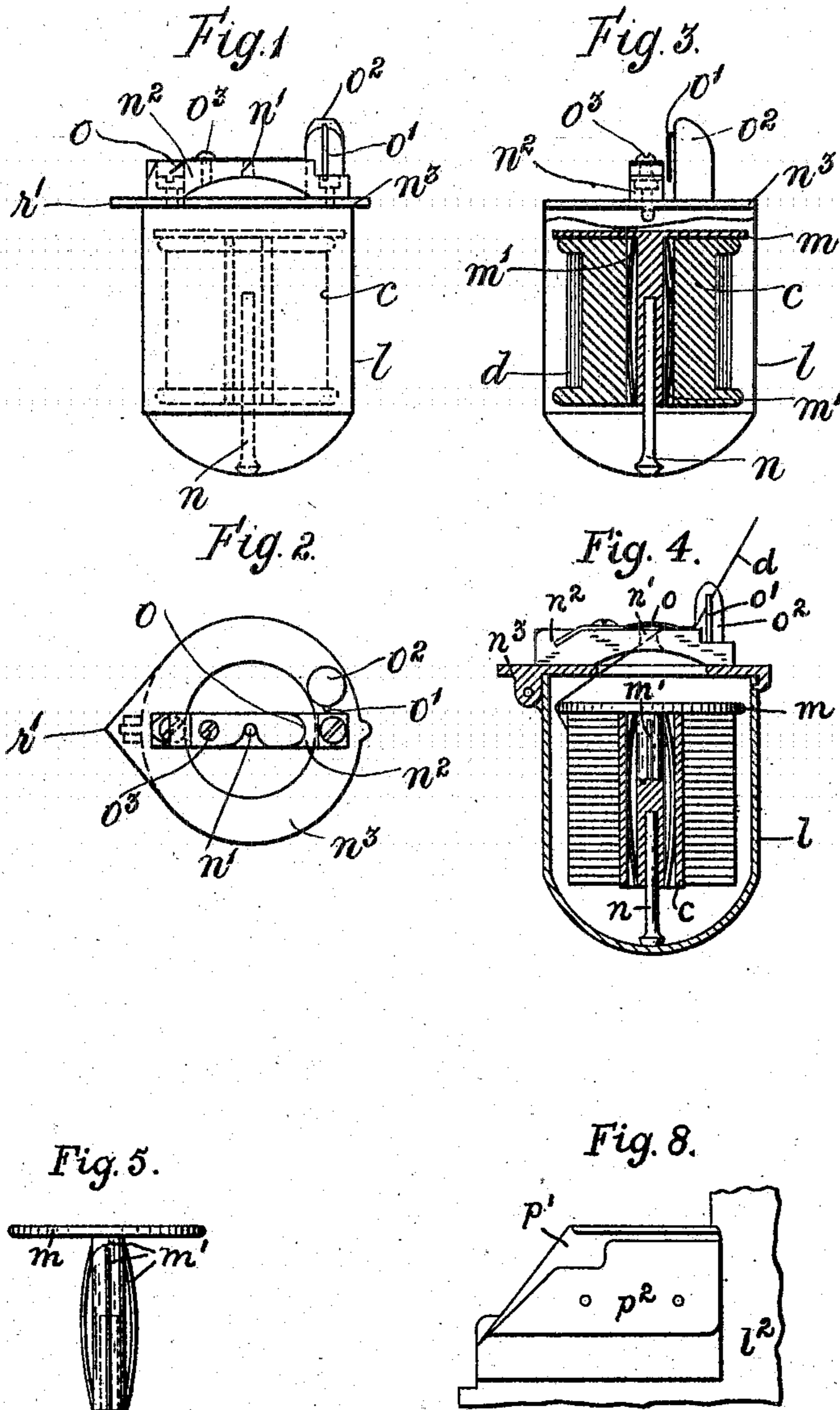


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TWO REEL SEWING MACHINE.  
APPLICATION FILED MAR. 16, 1907.

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Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.



WITNESSES

W. P. Burke  
Edw. D. Spring.

INVENTOR

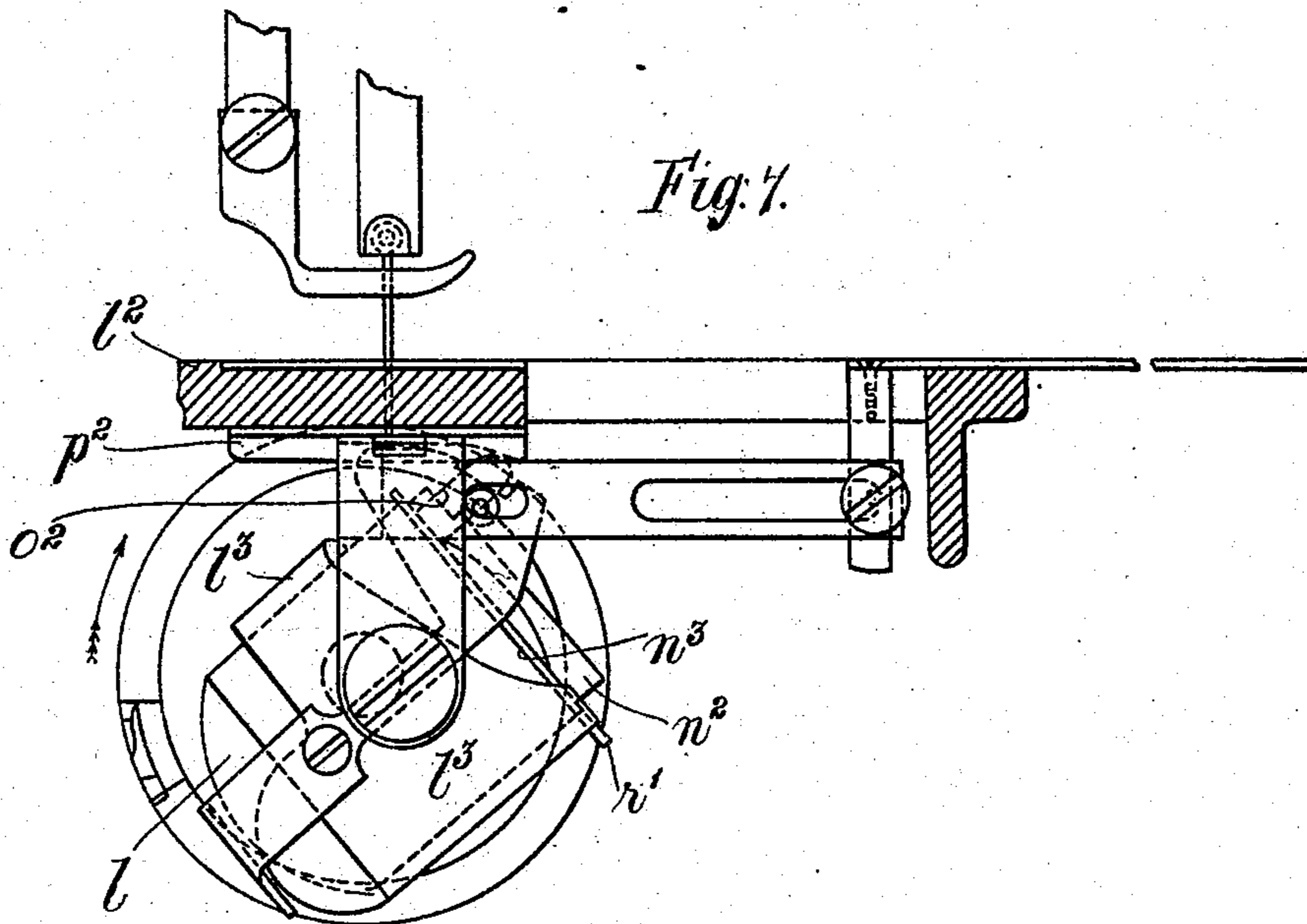
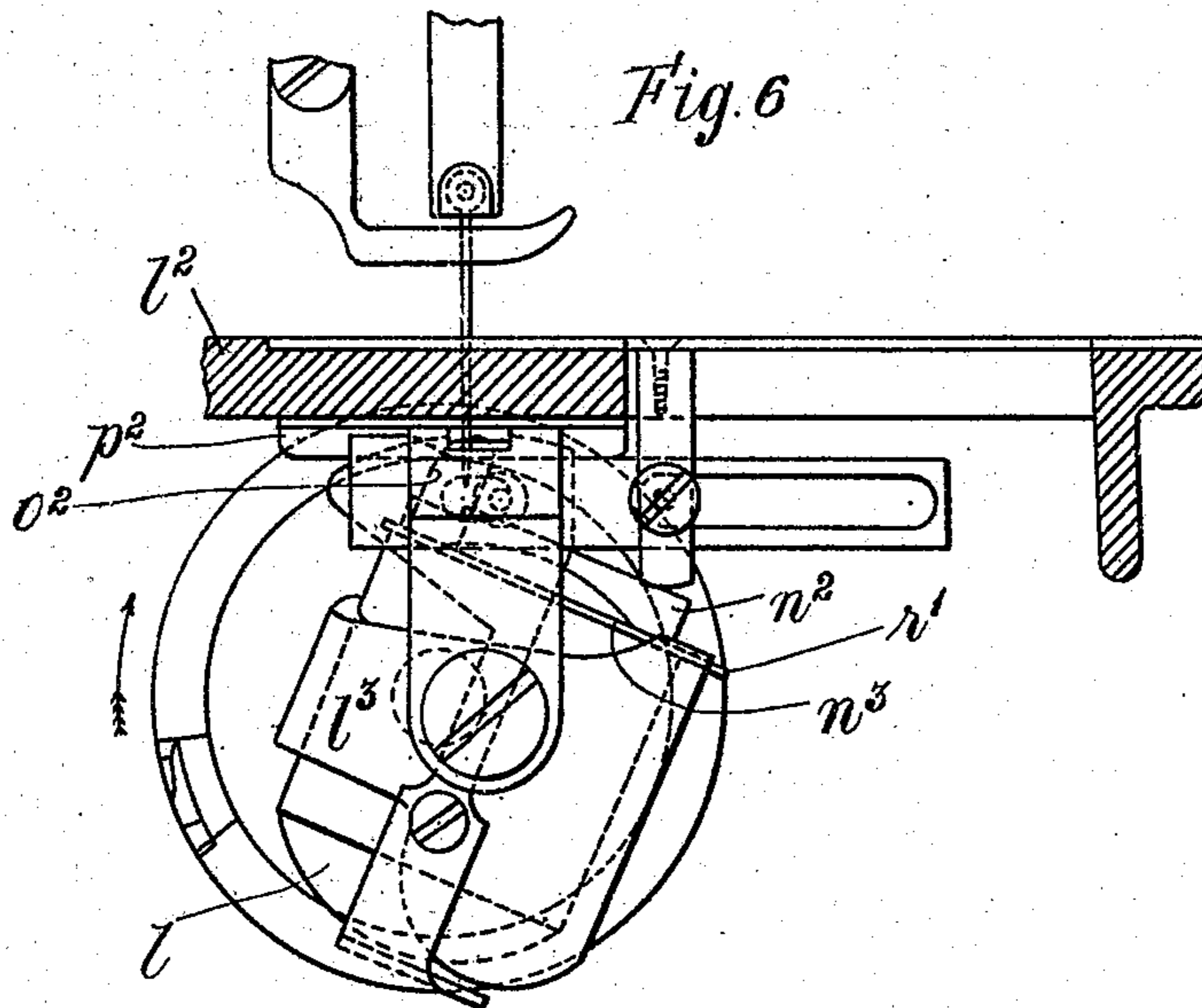
Denis Flanagan  
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INVENTOR

Dennis Flanagan  
*[Signature]*  
ATTY.

# UNITED STATES PATENT OFFICE.

DENIS FLANAGAN, OF CLAYTON-LE-MOORS, ENGLAND.

## TWO-REEL SEWING-MACHINE.

No. 908,083.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed March 16, 1907. Serial No. 362,770.

*To all whom it may concern:*

Be it known that I, DENIS FLANAGAN, a subject of the King of Great Britain, residing at Clayton-le-Moors, in the county of Lancaster, England, have invented certain new and useful Improvements in Two-Reel Sewing-Machines, of which the following is a specification.

This invention relates to improvements in two-reel sewing machines and especially to the type of machine described in my prior United States Patents No. 820,354 and No. 820,355 both of May 1906 respectively, and to other pending United States applications, the object of the present invention being to provide improved means for controlling the tension and manipulation of the under-thread so as to render the machine more efficient in operation and to enable it to run at a greater speed.

A further object is to provide means to enable cross-wound "cheeses" of thread, such as those wound on the "Leeson" system, as described in his British Patent No. 6497 of April 5, 1892, to be employed, if required in place of ordinary reels, such means being specially adapted to enable the thread to be withdrawn from said cheeses under perfect control.

The means referred to may also be advantageously used for cheeses or cops wound on any other system than that specifically described and while being also useful in connection with ordinary reels.

My invention will be fully described with reference to the accompanying 2 sheets of drawings in which—

Figure 1 is a front elevation of the reel case with my improved under thread controlling and tension devices. Fig. 2 is a plan of Fig. 1. Fig. 3 is a sectional side elevation of Fig. 1. Fig. 4 is a similar view to Fig. 3 but with a "cheese" or "cop" in the reel case. Fig. 5 is an elevation of a portion of the device shown in Figs. 3 and 4. Fig. 6 is an elevation of the reel case in its operative position and part of the bed of the machine which is shown in section. Fig. 7, a somewhat similar view to Fig. 6, but showing the reel case in position for being withdrawn from the machine. Fig. 8 an inverted plan of a detail hereafter referred to.

In the drawings  $l$  denotes the reel case for the under thread;  $n^3$  the hinged cover of the same;  $n$  a spindle secured to the interior of the reel case;  $c$  a bobbin;  $d$  thread wound

upon the bobbin;  $m$  a disk of metal;  $m'$  a bow split spring secured to the disk  $m$ ;  $n^2$  a bridge piece carried by the cover  $n^3$  of the reel case;  $o$  an adjustable spring plate secured to the arm  $n^2$  cut away over the hole  $n'$ ;  $o'$  a wire guide;  $o^2$  an upstanding peg secured to the cover  $n^3$ ; the wire guide  $o'$  being secured preferably to the peg  $o^2$ ;  $p^2$  a plate secured to the under side of the bed  $l^2$  of the machine;  $p'$  a slot cut in the plate  $p^2$  in which the rounded end of the peg  $o^2$  rests;  $r'$  the pointed nose of the reel case cover  $n^3$ ;  $l^3$  the reel case holder, see Figs. 6 and 7. The thread is drawn off the stationary reel or cheese  $d$  between the disk  $m$  and the inside of the reel case through the hole  $n'$  between the top of the bridge piece  $n^2$  and the spring plate  $o$  which can be adjusted by a screw  $o^3$ , and thence under the wire guide  $o'$ .

Fig. 6 represents the reel case  $l$  in its working position supported in the reel case holder  $l^3$ , and Fig. 7 shows the position of these parts when the reel  $d$  is to be changed. These parts are not described as they form no part of my present invention. The peg  $o^2$  which is secured upon the reel case cover  $n^3$  is rounded at its upper end and lies in the recess  $p'$  in the plate  $p^2$ , see Figs. 6 and 8. The arrangement of the peg and plate is such as to allow the peg to have a slight movement in two directions, that is to say, in a direction longitudinally and transversely of the bed of the machine. The loop of needle thread not shown, as it is carried by the looper passes over the pointed nose  $r'$  of the reel case cover  $n^3$  thence down the front of the reel case holder  $l^3$  and round and over the back of the same and over the top of the peg  $o^2$  between the latter and the recessed plate  $p^2$ . The peg  $o^2$  in addition to retaining the reel case  $l$  in its holder  $l^3$  also serves to keep the pointed nose  $r'$  of the cover  $n^3$  in line with the path of the looper.

By means of the devices described the under thread is kept under absolute control and at the desired state of tension and so that there is no possibility of it overrunning.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In a two-reel sewing machine, means for stationarily supporting the under thread reel at an angle to the vertical comprising a stationary reel case, an inclined stud carried by the reel case, a spring tube mounted on the stud, and a disk integral with the tube resting on the reel.

2. In a two-reel sewing machine, means for stationarily supporting the underthread reel at an angle to the vertical comprising a stationary reel case, an inclined stud carried by the reel case, a tube mounted on the stud, longitudinal springs on the outside of the tube and a disk integral with the tube resting on the reel.

3. In a two-reel sewing machine, means for putting tension on the underthread comprising a stationary reel case, a centrally perforated cover, a bridge piece carried by the reel case cover and having a central hole corresponding with the hole in the cover, a spring plate on said arm having a cut-away portion near the hole and a screw for adjusting the pressure of the spring plate on the thread drawn off a stationary reel within the stationary reel case.

4. In a two-reel sewing machine, a reel case means for stationarily supporting the under thread reel or cheese and for putting tension on the thread comprising a stud carried by the reel case, a tube mounted on the stud, longitudinal springs on the outside of the tube and a disk integral with the tube resting on the reel, a perforated reel case cover, an arm carried by the reel case cover having a central hole, a spring plate on said arm having a cut-away portion near the hole and a screw for adjusting the pressure of the spring plate on the thread.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

DENIS FLANAGAN.

Witnesses:

MABEL LEE,  
WILLIAM H. TAYLOR.