

(No Model.)

J. POLLEYCUTT.  
CIRCULAR KNITTING MACHINE.

No. 410,854.

Patented Sept. 10, 1889.

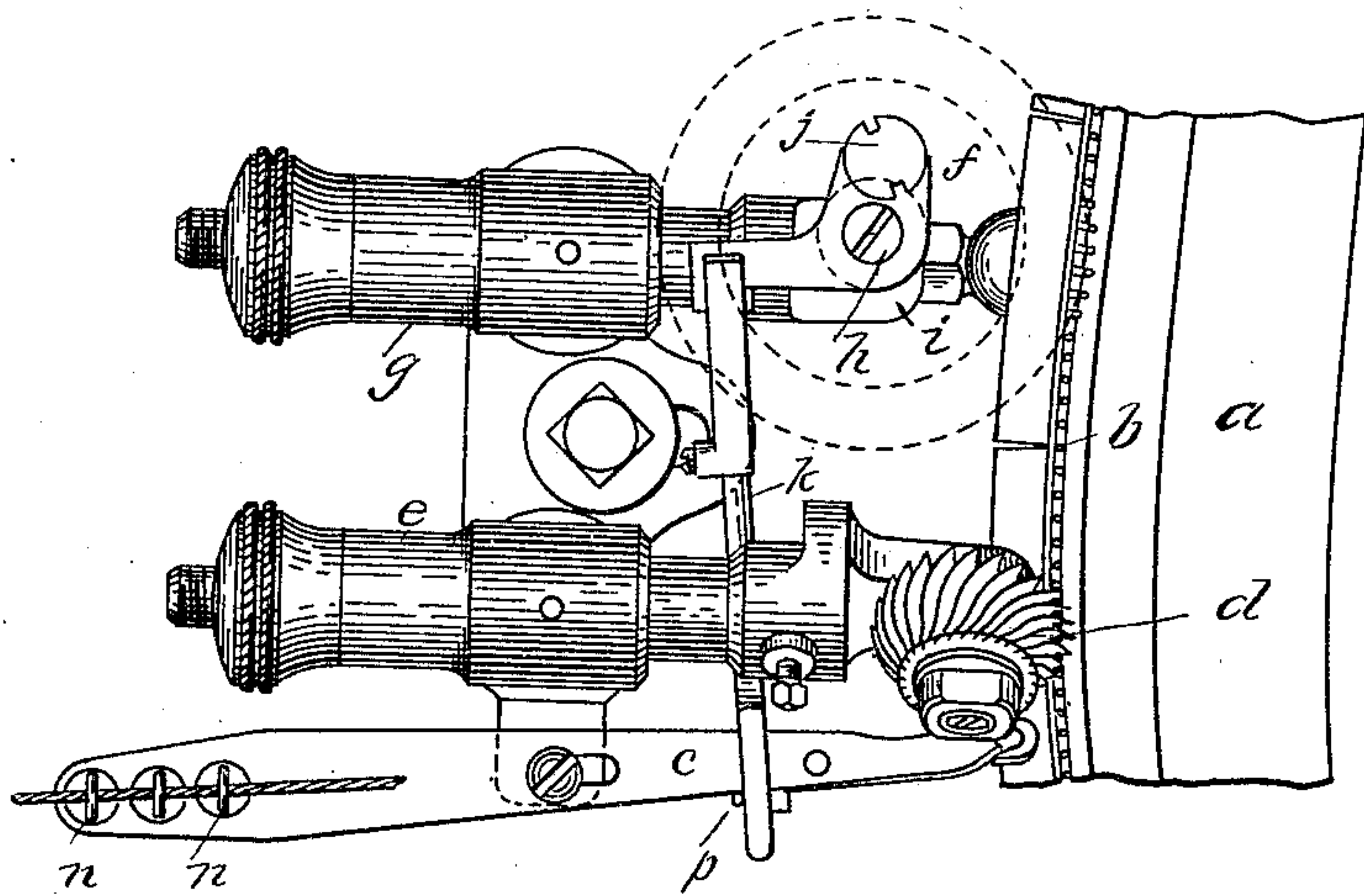


FIG-1-

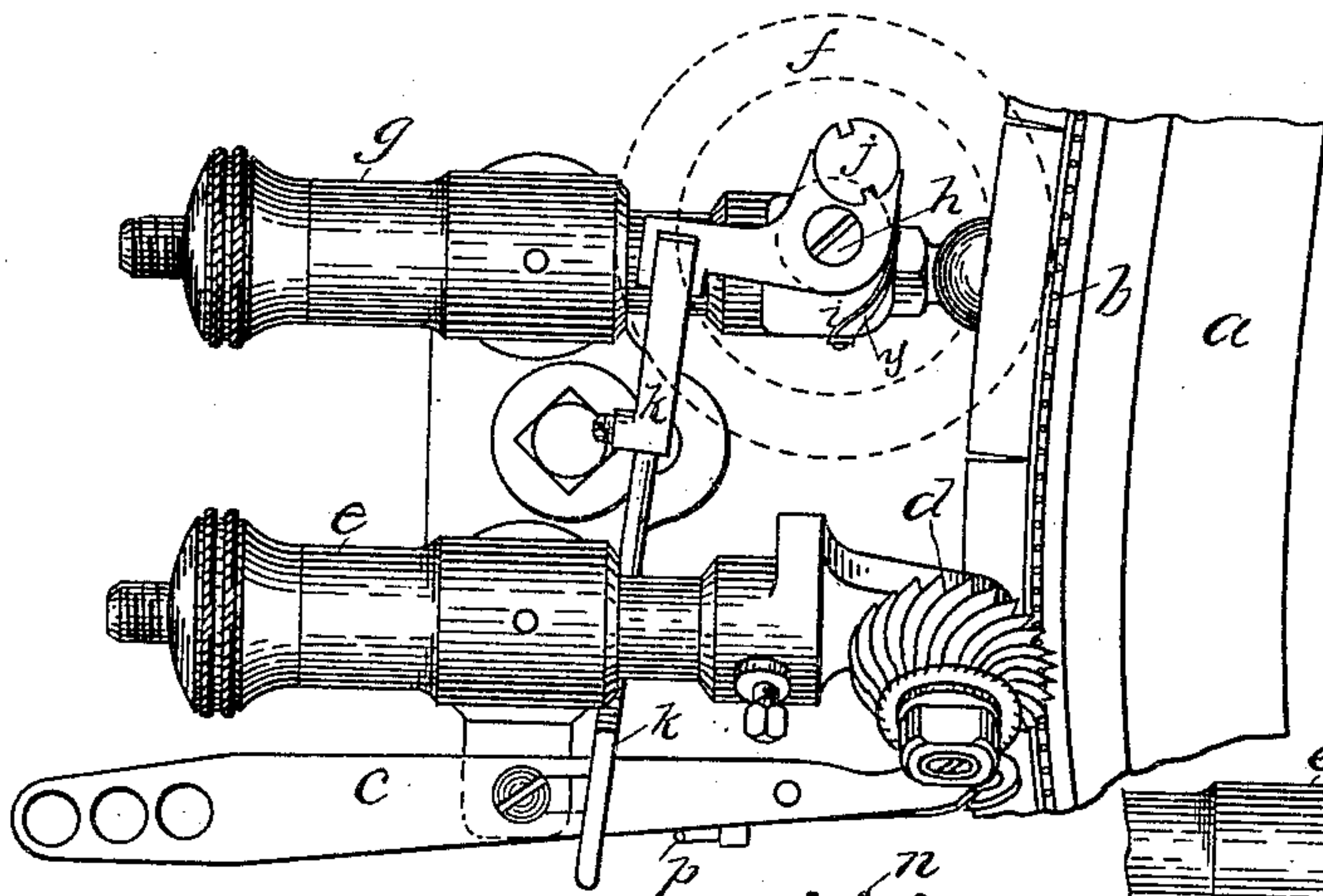


FIG- 2.

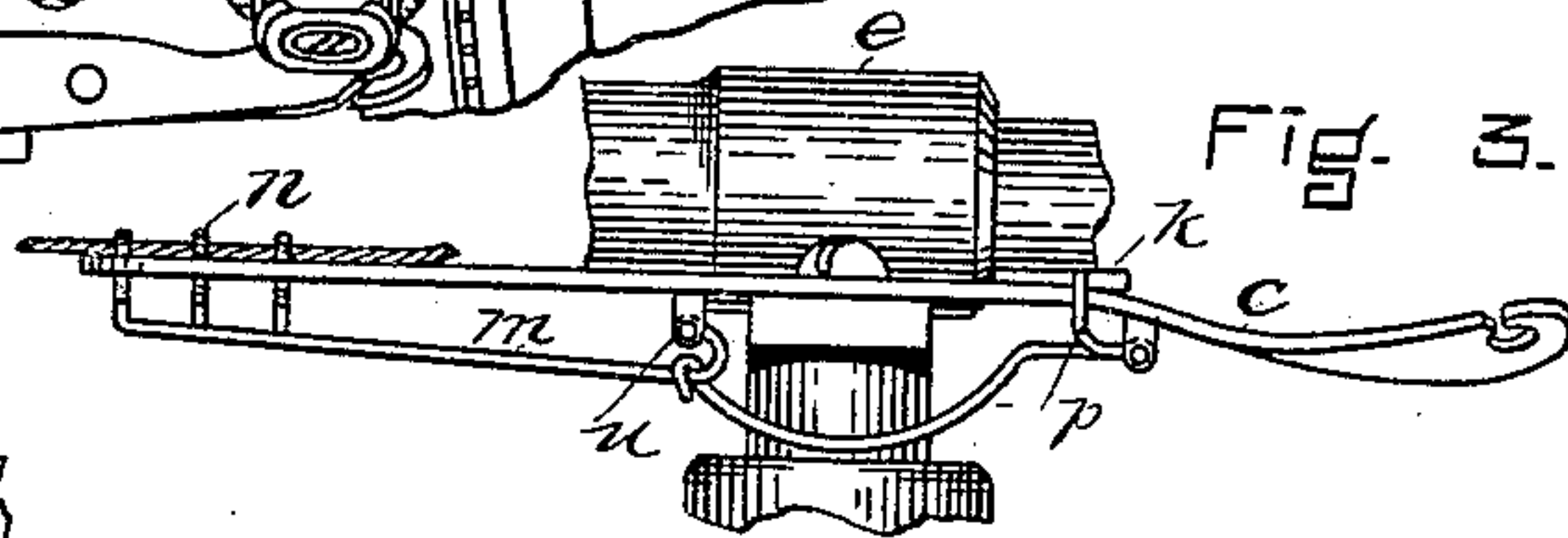


FIG. 3.

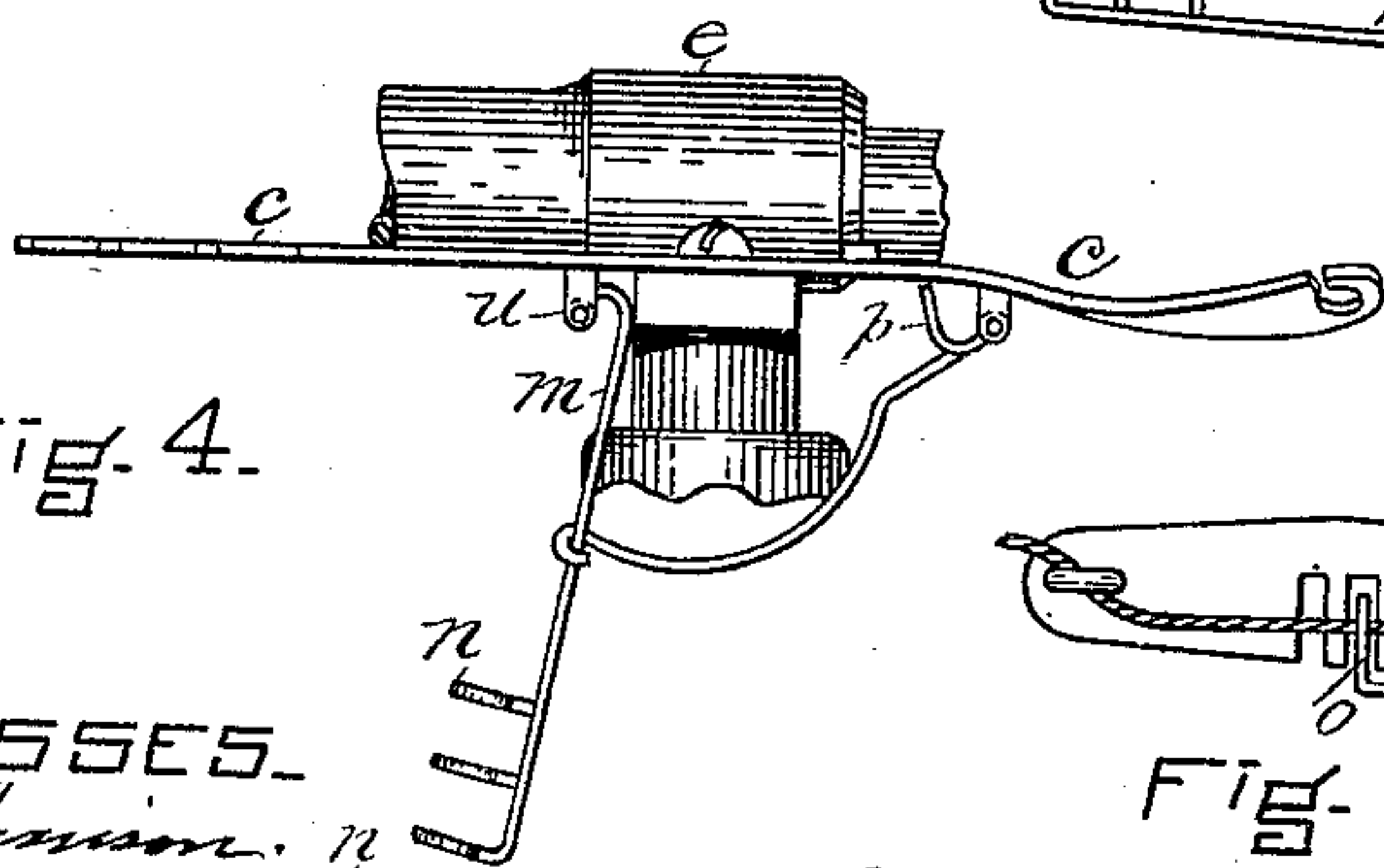


FIG-4-

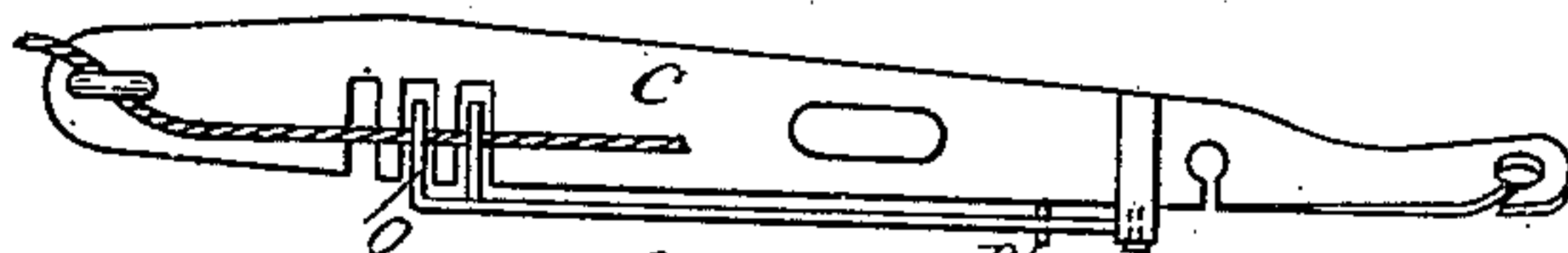


FIG- 5.

INVENTOR.

WITNESSES.

A. D. Harrison.

W. B. Ramsay.

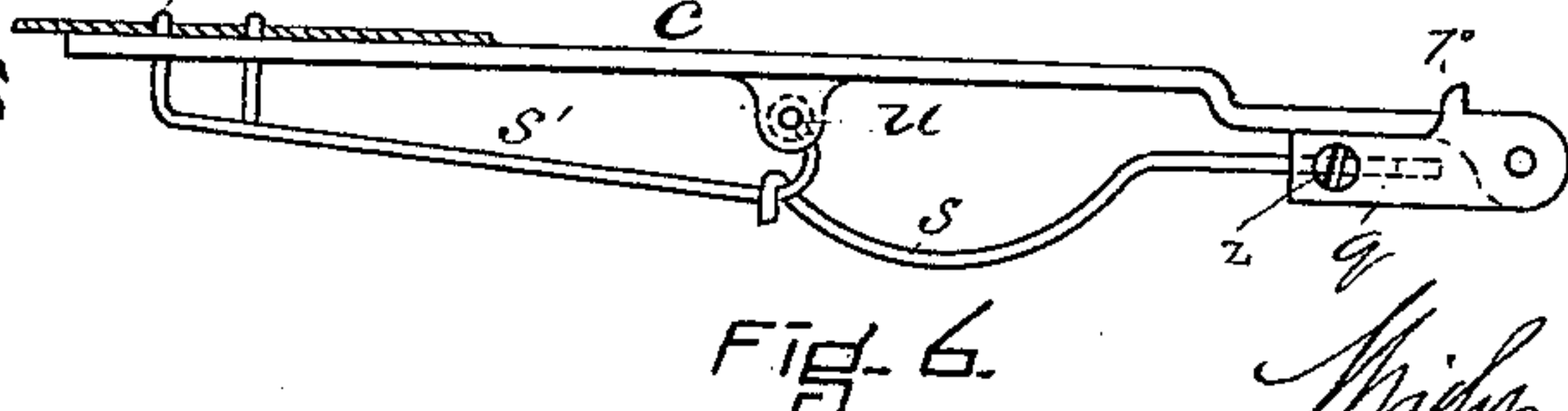


FIG-6-

J. Polleycutt.

By  
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# UNITED STATES PATENT OFFICE.

JAMES POLLEYCUTT, OF STOUGHTON, MASSACHUSETTS.

## CIRCULAR-KNITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,854, dated September 10, 1889.

Application filed April 29, 1889. Serial No. 308,913. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES POLLEYCUTT, of Stoughton, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Circular-Knitting Machines, of which the following is a specification.

My invention has relation particularly to spring-beard-needle knitting-machines; and it is the object of the improvements comprised in said invention to provide simply-constructed and thoroughly-efficient means, whereby so long as the yarn or thread being fed to the needles remains intact the presser-wheel will be maintained in operative engagement with the needles, so that knitting may be performed; but the instant the yarn breaks or its end is reached on the bobbin the presser-wheel will be thrown out of operative engagement with the needles, so that the loops on the latter cannot be "landed" or "knocked over" by the landing and knocking-over wheels, and the work will be prevented from running off the needles and the regular knitting operations arrested.

My invention consists in fixing the spindle or stud upon which the presser-wheel turns upon a crank-arm or lever and connecting a rod or lever with said crank-arm, making the former practically an extension of the latter, which rod extends to the yarn-guide or equivalent part of the machine, and is adapted to be moved and latched in position, so as to hold the presser-wheel against the beards of the needles to press the same inward against their stems, and to be unlatched or released, so that the presser-wheel may move back from engagement with the needle-beards. The latch adapted to operate upon and release the said rod forms a part of or is connected to a drop-wire constructed and arranged to be operated upon by the yarn being fed to the needles, so that so long as the yarn remains intact the latch will be held up, locking the said rod and its adjuncts in what is termed "operative position;" but the instant the yarn breaks or runs out the latch or drop-wire will fall, permitting the presser-wheel to be moved back from the needles, as aforesaid.

Reference is to be had to the accompanying drawings, and to the letters of reference

marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur, of which drawings—

Figure 1 is a top plan view of so much of a knitting-machine as it has been considered necessary to show in order to fully explain my improvements, the presser-wheel being represented as transparent and as in operative engagement with the needles. Fig. 2 is a top plan view somewhat similar to Fig. 1, showing the presser-wheel moved back out of operative engagement with the needles. Fig. 3 is a side elevation of a portion of Fig. 1. Fig. 4 is a side elevation of a portion of Fig. 2. Fig. 5 is a top plan view of a modified form of yarn-guide and drop-wire. Fig. 6 is a modification hereinafter explained.

Referring to the drawings, let it be supposed that *a* designates a needle-cylinder, and *b* the needles, of a knitting-machine employing spring-beard needles, and which machine is equipped with all of the appliances requisite to the production of a knit fabric—such, for example, in addition to what is herein shown, as a push-back, dividing, landing, and knocking-over wheels, and operative means for the cylinder.

*c* designates the yarn-guide, and *d* the stitch-wheel, the support *e* of which is adjustable toward and from the needles, as heretofore has been common.

*f*, in dotted lines in Figs. 1 and 2, designates the presser-wheel, adapted to operate against the beards of the needles, as before explained, the remote support *g* of which presser-wheel is adjustable toward and from the needles, as has heretofore been common. The stud *h*, upon which the presser-wheel turns, is connected with a crank-arm or lever *i*, fulcrumed at *j* upon the support *g*. To the free end of the arm *i* is pivoted a rod *k*, which extends over the yarn-guide *l*.

*m* designates a drop-wire pivoted on the yarn-guide, though it is obvious that it might as well be pivoted on some other stationary part of the machine, which drop-wire is provided with loops or eyes *n*, as shown in Figs. 1, 3 and 4, though they may be laterally-projecting fingers *o*, as shown in Fig. 5, or other equivalent means, adapted to be raised



through slots or holes in the yarn-guide above the surface of the latter, so that the yarn may pass between said eyes or fingers and the upper surface of the yarn-guide as the  
5 said yarn passes to the stitch-wheel *d*.

In the drawings, Figs. 3 and 4, I have shown the drop-wire *m* as constructed in the form of a compound lever, though it will be manifest to those skilled in the art that it might be  
10 formed in one piece as a simple lever, as shown in Fig. 5. Connected with the drop-wire is a latch-pin *p*, extending, as shown, up along the side of (though it might be through a hole or slot in) the yarn-guide, over  
15 which, when the pin *p* is in position, as represented in Fig. 3, the rod *k* may be placed, so as to move the crank-arm *i* on its fulcrum *j*, so as to bring the presser-wheel into operative engagement with the needles, as shown  
20 in Fig. 1, and which latch-pin may be drawn down when the drop-wire falls, so as to release the rod *k*, permitting the crank-arm *i* and the presser-wheel *f* to move similarly, and the latter to pass out of operative en-  
25 gagement with the needles, as shown in Fig. 2.

Little if any further description is necessary to explain the manner of using my improvements. It being desired to start the machine, the drop-wire *m* will be raised, and  
30 the yarn led to the stitch-wheel by the yarn-guide will be passed through the eyes *n* or beneath the fingers *o*, and so will serve to hold the drop-wire and its attached pin *p* in raised position, when the rod *k*, by means of its piv-  
35 oted connection with the crank-arm *i*, may be placed in front of the pin *p*, and so will carry the presser-wheel *f* to and hold it in operative engagement with the needles, as shown in Fig.

1. The instant the yarn runs out the drop-  
40 wire will fall, drawing the pin *p* down and allowing the presser-wheel *f* to be moved back by the resilient force of the needles out of operative engagement with the latter, as shown in Fig. 2.

45 In some instances I have employed a spring in connection with crank-arm *i*, as indicated at *g*, Fig. 2, to operate with a tendency to move the latter backward from the needles; but I find in most instances that the resiliency  
50 of the needles is sufficient for this purpose.

It is manifest that changes may be made in the form and arrangement of parts comprising my improvements without departing from the nature or spirit of the invention. For ex-

ample, I may fulcrum a block *q* on the for- 55 ward end of the yarn-guide support, which block is provided with a latch-pin or lug *r*, having the functions of the pin *p*, with which block the part *s* of the drop-wire, when con-  
60 structed as a compound lever, is adjustably connected, so that the opposite end of said lever may have the point at which it is con-  
65 nected with the part *s'* adjustable with respect to the fulcrum-point *u* of the said parts *s'*, thereby varying the force or leverage of the part *s'* on the yarn. If strong yarn is be-  
70 ing used, the leverage of the drop-wire thereon may be increased; but if the yarn be tender the leverage will be diminished. A skilled mechanic will at once see that many ways  
75 may be devised to effect this longitudinal adjustment of one part of the drop-wire with respect to the other; hence I do not confine myself to any particular means for effecting  
80 such adjustment. As here shown, I have formed a deep socket in the block *q*, in which the forward end of the part *s* is inserted and secured by a set-screw *z*. By inserting the  
85 part *s* in said socket more or less deeply I am enabled to effect the adjustment mentioned.

Having thus described the structural character of my invention and explained the manner in which the same may be used, I declare what I claim is—

1. The spring-beard needles, combined with 85 the presser-wheel and the stud or spindle on which it turns, a crank arm or lever to which said stud is affixed, a rod connected with said arm, the yarn-guide, and a fulcrumed drop-wire provided with a latch-pin co-operating 90 with said yarn-guide, as set forth.

2. The spring-beard needles, combined with the presser-wheel and its stud and movable stud-support, a rod connected with said sup- 95 port, a yarn-guide, a fulcrumed drop-wire provided with a latch-pin, said drop-wire being constructed as a compound lever, and means for adjusting one part of the drop-wire with respect to the other, as set forth.

In testimony whereof I have signed my name 100 to this specification, in the presence of two subscribing witnesses, this 20th day of April, A. D. 1889.

JAMES POLLEYCUTT.

Witnesses:

ARTHUR W. CROSSLEY,  
C. F. BROWN.