

No. 704,690.

Patented July 15, 1902.

J. L. SAILLET.

AUTOMATIC THREAD FEEDER FOR SEWING MACHINES.

(Application filed June 7, 1901.)

(No Model.)

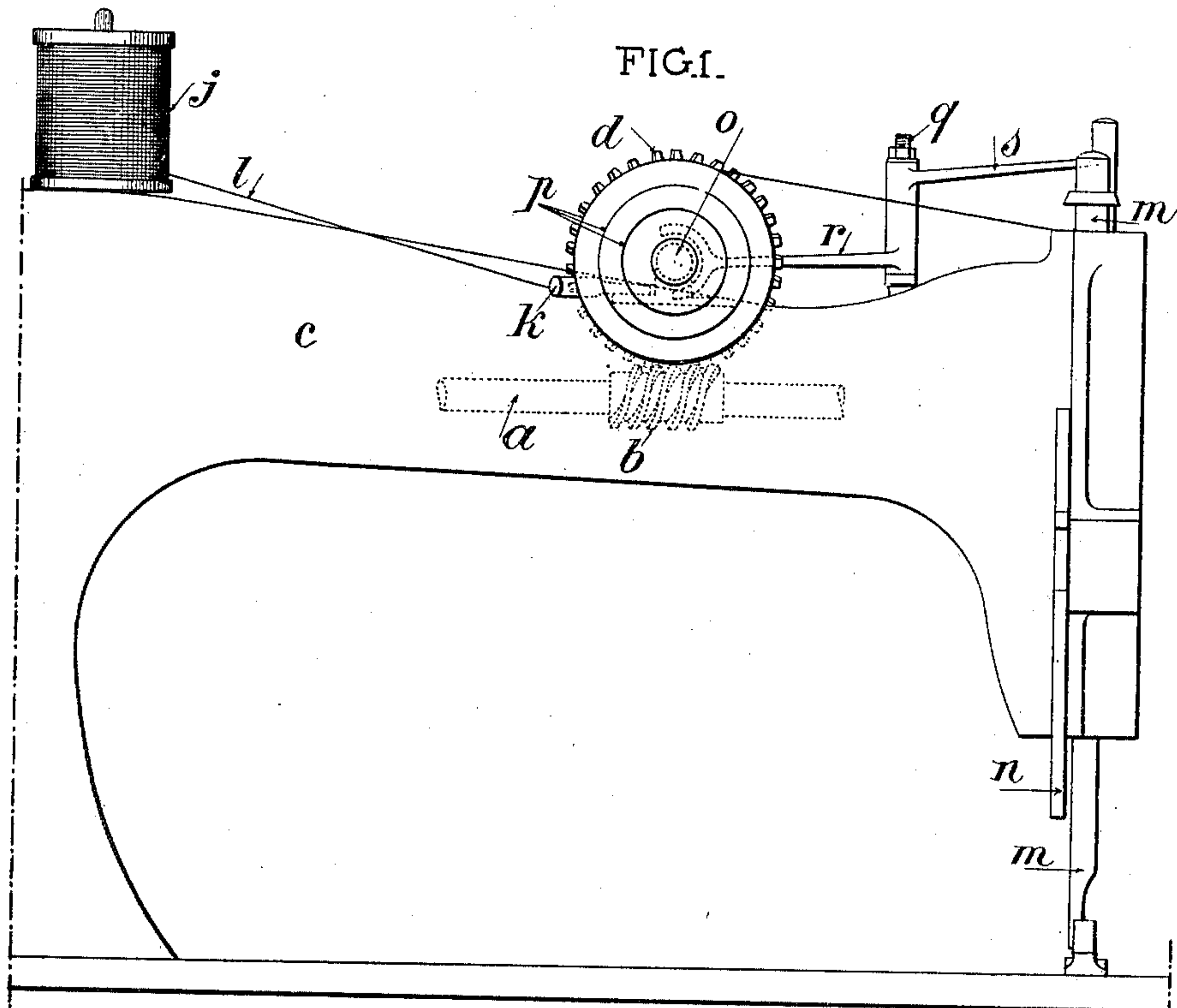


FIG. 2.

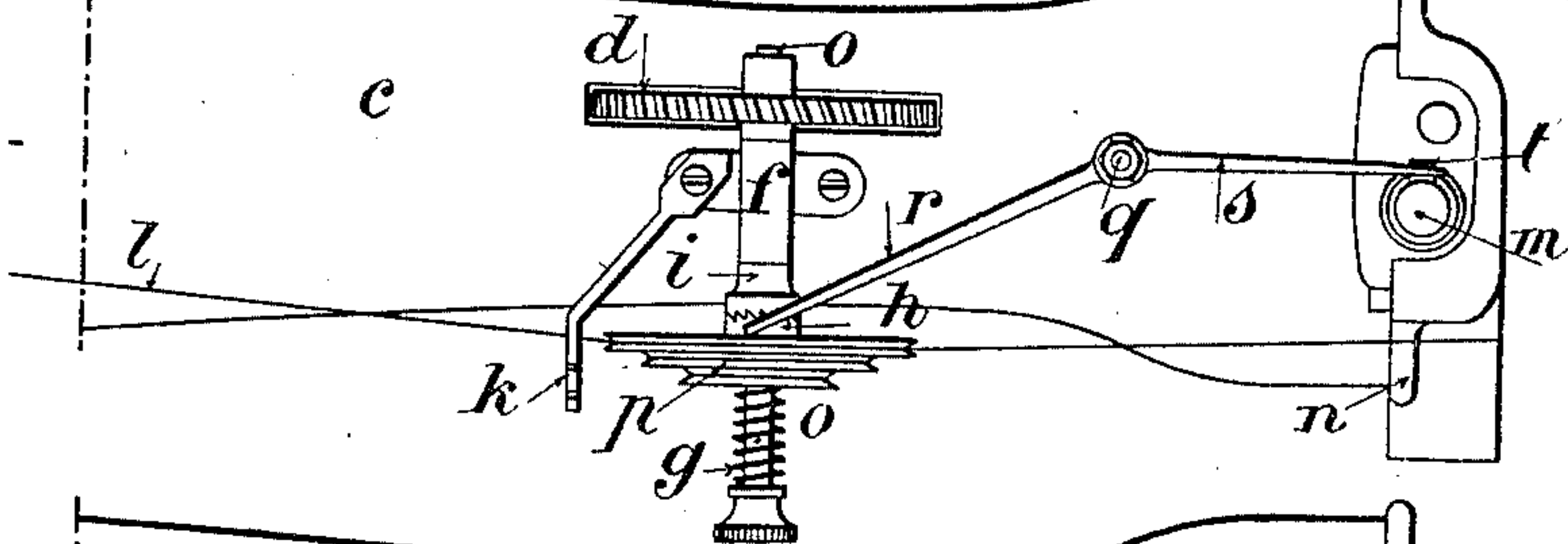
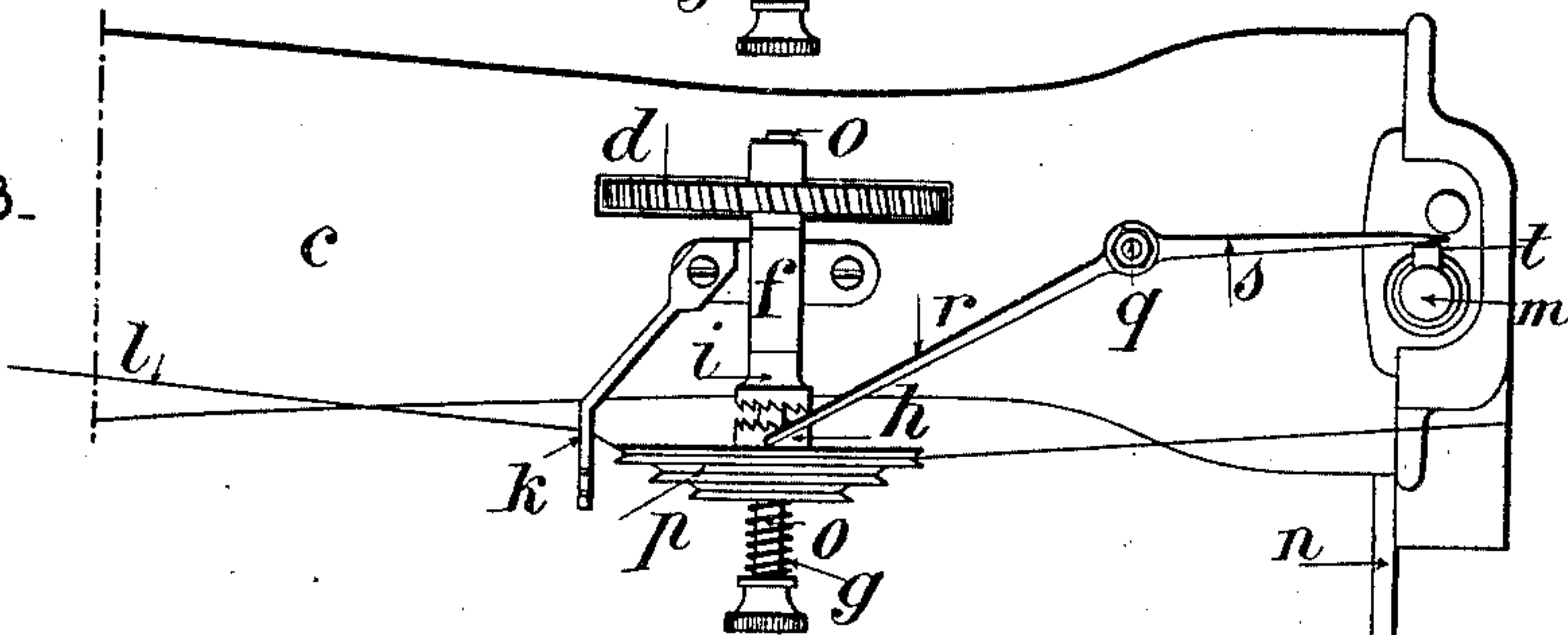


FIG. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JULES LOUIS SAILLET, OF PARIS, FRANCE.

## AUTOMATIC THREAD-FEEDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 704,690, dated July 15, 1902.

Application filed June 7, 1901. Serial No. 63,645. (No model.)

*To all whom it may concern:*

Be it known that I, JULES LOUIS SAILLET, a citizen of the Republic of France, and a resident of No. 16<sup>ter</sup> Rue Censier, Paris, in the Republic of France, have invented a certain new and useful Automatic Thread-Feeder for Sewing-Machines, of which the following is a specification.

My invention relates to an automatic thread-feeder for sewing-machines which allows of supplying for each needle-stroke only a quantity of thread rigorously determined according to the length of the stitch, thereby preventing the formation of eyes beneath the tissue, whatever may be the resistance of said tissue.

The invention comprises, besides, a device which automatically loosens the thread-feeder as soon as the presser-foot of the machine is raised after the breaking of the thread or when it is desired to change the work, which allows then of pulling with the hand any quantity of thread from the reel.

The accompanying drawings represent my invention applied to a sewing-machine of Singer's system.

Figure 1 is an elevation view of the machine. Fig. 2 is a partial plan view of same at work. Fig. 3 is a corresponding plan view of same at rest when the presser-foot is raised.

My automatic thread-feeder is constituted as follows:

On the shaft *a* of the machine, which commands the upward-and-downward motion of the needle-holder, is keyed a worm *b*. Opposite this screw the framing *c* of the machine is cut off in order to leave a passage free for a worm-wheel *d*, which engages with the endless screw *b*. This worm-wheel *d* is keyed on a small cross-axle *o*, which is journaled in a bracket *f*, fixed to the framing. On said axle *o* is loosely mounted a pulley with several sheaves *p*, which has a toothed hub *h*, constantly kept in engagement by means of a spiral spring *g* with the toothed sleeve *i*, keyed on the axle *o*.

The thread *l* goes from the ordinary reel *j* which turns loosely on its axle to one of the sheaves of the pulley *p* after having passed through the guide *k*, it makes one or several turns around this pulley and goes then to the needle by passing through suitable guides. When the machine is at work, the toothed hub of the pulley *p* is engaged with the toothed

sleeve *i*, so that the pulley *p* is connected to the axle *o* and forms a whole with it. At each rotation of the main shaft *a* the worm-wheel *d* and consequently the pulley *p* rotate a fraction of turn, which is always the same, supplying thereby to the needle the length of thread necessary for making a stitch. Each diameter of the pulley *p* corresponds to a different stitch, so that when it is desired to change the stitch, the thread *l* is passed from one sheave to the other.

The auxiliary device, which allows to disengage the feeder and to loosen thus the pulley *p* when the presser-foot is raised, comprises an oscillating lever pivoted on a stationary axle *q*, carried by the framing. One of the arms of said lever has a forked end *r*, which embraces the toothed hub of the pulley *p* and bears against the inner face of said pulley, while the other arm *s* bears against an inclined-plane nose *t*, formed at the end of the presser-foot rod. When the work of the machine is finished or when the thread breaks, the presser-foot *m* is raised, as usual, by means of the handle *n*. The inclined-plane nose *t* as it raises forces the lever *s r* to oscillate, and the forked end *r*, pressing on the pulley *p*, disengages it. The pulley *p* being then loose on its axle any quantity of thread may be pulled with the hand from the reel. When the presser-foot is lowered, the nose *t* releases the arm *s* of the lever and the spiral spring *g* brings the pulley *p* into engagement with the toothed sleeve *i*.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

In combination with the sewing-machine, a shaft journaled in the frame thereof, a worm-wheel and worm for driving the same, a stepped pulley loose on said shaft over which said thread passes, a clutch-face on said shaft, a spring pressing said pulley into engagement with said clutch-shaft, a bell-crank lever having one arm bearing against said pulley, and a cone on the claw-rod for contacting with the other arm, substantially as described.

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

JULES LOUIS SAILLET.

Witnesses:

ANTOINE LAVOIR,  
EDWARD P. MACLEAN.