

No. 777,918.

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J. POISSON.

STOP MOTION FOR RING SPINNING FRAMES.

APPLICATION FILED APR. 26, 1904.

NO MODEL.

Fig. 1.

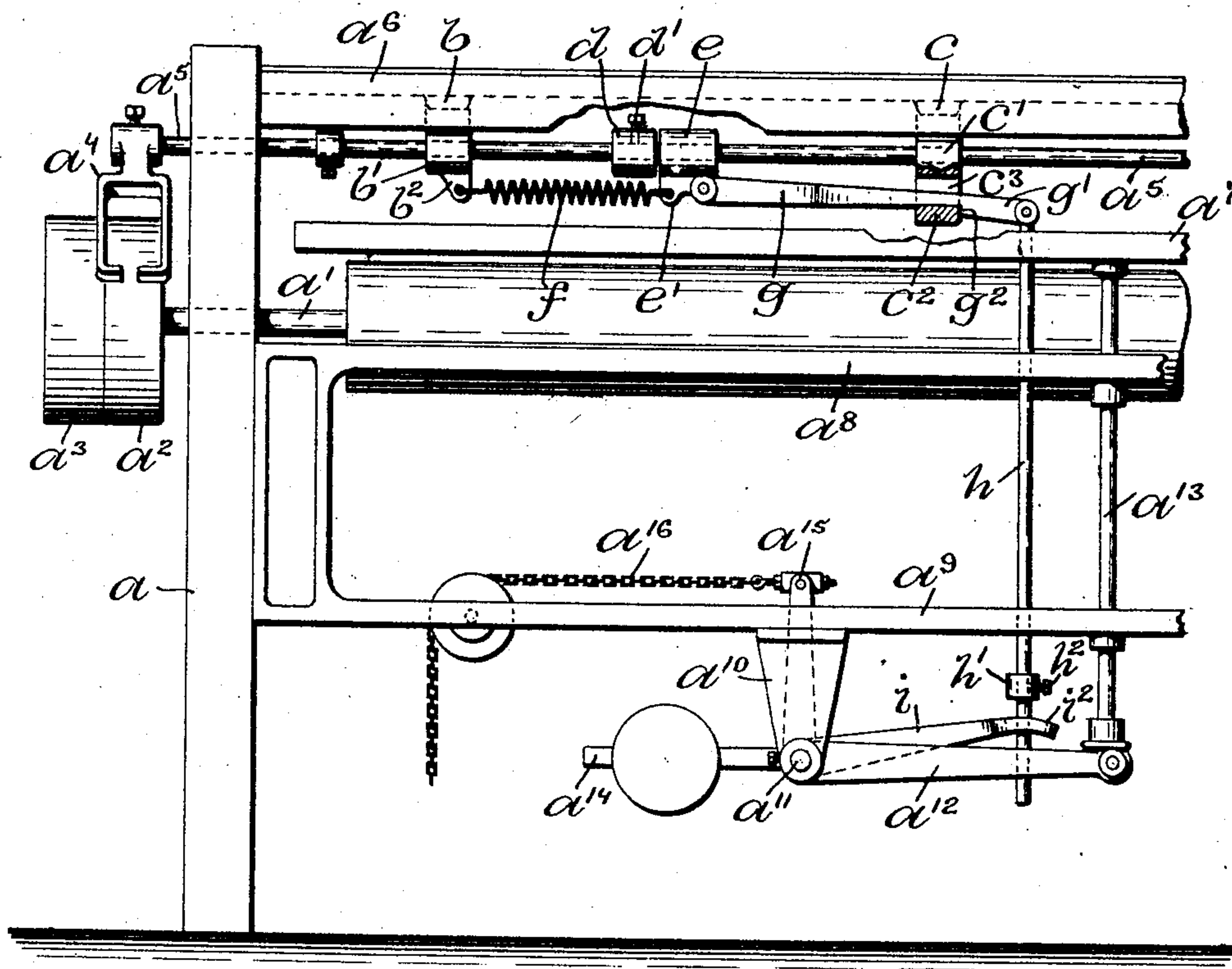


Fig. 2.

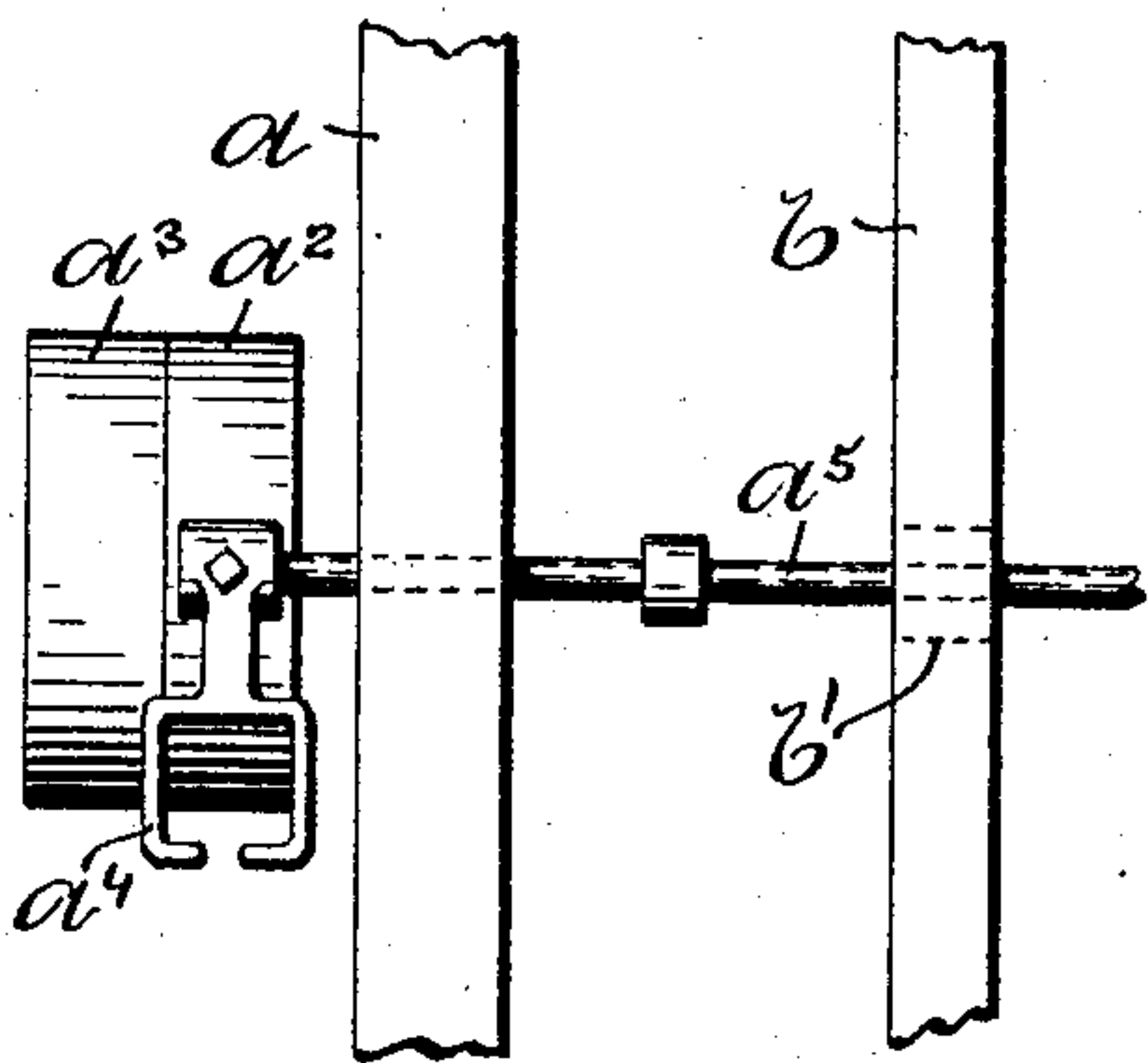
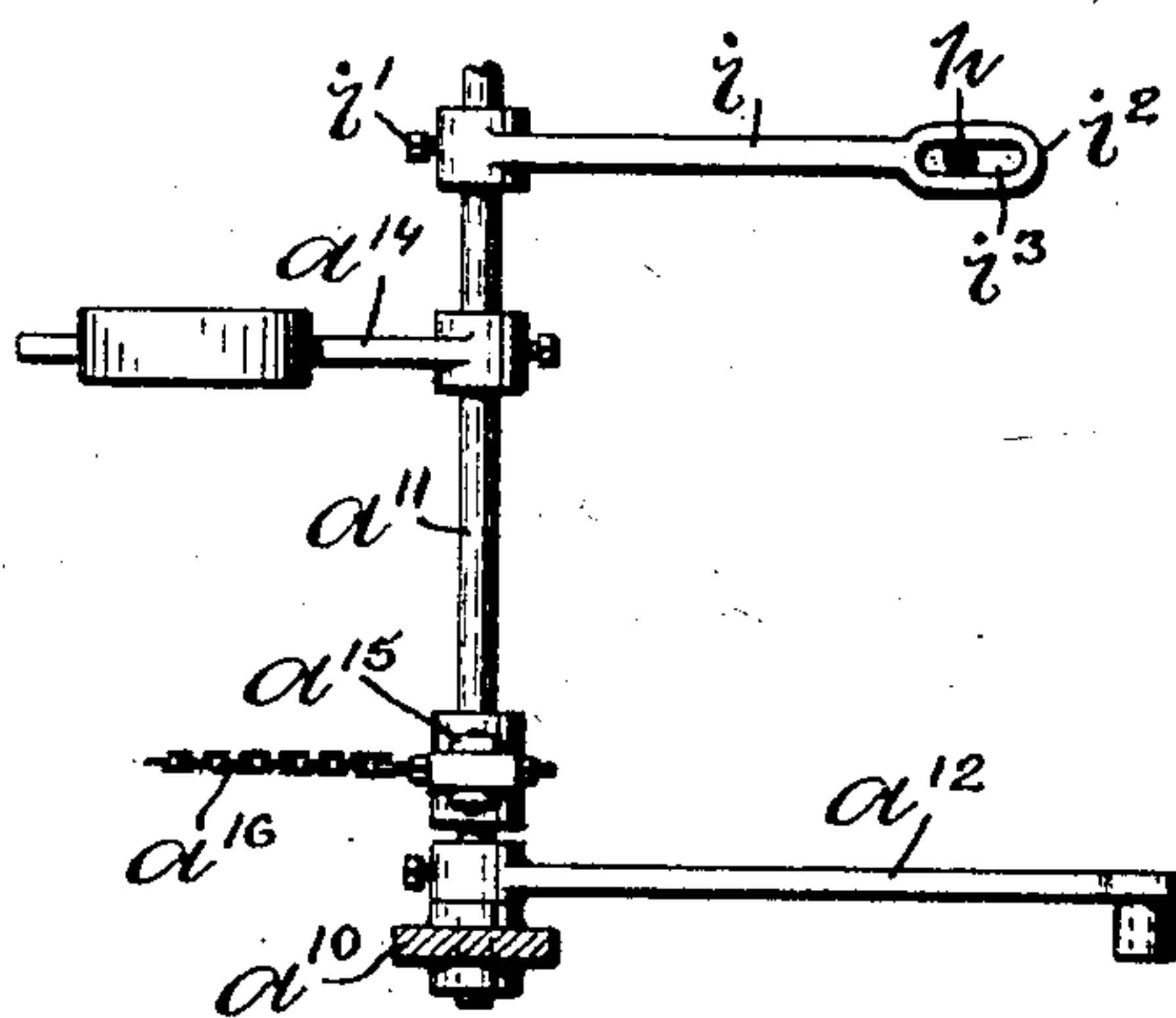


Fig. 3.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

JOSEPH POISSON, OF FALL RIVER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HARRY C. LANCASTER, OF FALL RIVER, MASSACHUSETTS.

## STOP-MOTION FOR RING-SPINNING FRAMES.

SPECIFICATION forming part of Letters Patent No. 777,918, dated December 20, 1904.

Application filed April 26, 1904. Serial No. 204,972.

*To all whom it may concern:*

Be it known that I, JOSEPH POISSON, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Stop-Motions for Ring-Spinning Frames, of which the following is a specification.

This invention has reference to an improvement in ring-spinning frames, and more particularly to an improvement in stop-motions for ring-spinning frames.

Builder-motions of spinning-frames as constructed are liable to build the thread on the bobbins beyond the top of the bobbins before stopping the frame, thus causing loss in time and waste of material.

The object of my invention is to positively and automatically stop the spinning-frame when the builder-motion has built the threads on the bobbins to the required height, and I accomplish this object by the use of my improved stop-motion, which is operated indirectly by the builder-motion to throw the belt-shipper of the machine.

A further object of my invention is to provide an adjustable stop-motion whereby the stop-motion is easily and quickly adjusted for different heights or lengths of bobbins.

My invention consists in the peculiar and novel construction of a stop-motion for ring-spinning frames, said stop-motion consisting of a fixed collar and a sliding collar on the shipper-rod, a coiled spring attached to the sliding collar and to a fixed part of the machine, an arm pivotally secured to the sliding collar and having a notch adapted to catch on a fixed part of the machine and hold the sliding collar in its normal position against the tension of the coiled spring, a vertical rod pivotally secured to the free end of the notched arm, an adjustable stop on the vertical rod, and a lever secured to a rock-shaft in a position for its free end to engage with the adjustable stop on the vertical rod, said lever having a movement coinciding with the rock-shaft lifter-arm and the ring-rail and other details of construction, as will be more fully set forth hereinafter.

Figure 1 is a front view of a ring-spinning frame provided with my improved stop-motion, showing the greater portion of the machine on the right broken away to clearly show my invention. Fig. 2 is a detail plan view of the shipper-rod, shipper, driving-pulleys, and the adjacent portion of the frame and cross-strut; and Fig. 3 is a detail plan view of one of the rock-shafts of the machine to which my improved stop-motion is operatively connected.

In Fig. 1 the essential elements of a ring-spinning frame with which my improved stop-motion coöperates are shown. These consist of the end frame *a*, the main shaft *a'*, the fast pulley *a''*, the loose pulley *a'''*, the shipper *a''''*, the shipper-rod *a'''''*, the top rail *a''''''*, the ring-rail *a'''''''*, the bolster-rail *a''''''''*, the lower side rail *a'''''''''*, the bracket *a''''''''''*, the rock-shaft *a'''''''''*, the rock-shaft lifter-arm *a''''''''''*, the lifting-rod *a'''''''''*, the weighted arm *a''''''''*, the operating-arm *a'''''''''*, and the chain *a''''''''''*, operatively connected with the arm *a'''''''''*, and the usual builder-motion. (Not shown.)

In applying my improved stop-motion to a ring-spinning frame the cross-struts *b* and *c* are secured to the top rail *a''''''*. The strut *b* has the bearing *b'* for the shipper-rod *a'''''* and the lug *b''*. The strut *c* has the bearing *c'* for the shipper-rod and the lower extension *c''*, in which is the opening *c'''*, as shown in Fig. 1. The fixed collar *d* is adjustably secured to the shipper-rod *a'''''* by the set-bolt *d'*, intermediate the struts *b* and *c*. The sliding collar *e* is supported on the shipper-rod intermediate the fixed collar *d* and the strut *c*, adjacent the fixed collar, and has the lug *e'*, connected to the lug *b''* by the coiled spring *f*. The arm *g* is pivotally secured to the lug *e'* on the sliding collar *e* and extends through the opening *c'''* in the lower extension of the bearing *c'*. The free end *g'* of the arm *g* has the notch *g''*, adapted to engage with the lower edge of the opening *c'''* in the extension *c''* and hold the sliding collar *e* in its normal position against the tension of the coiled spring *f*. The vertical rod *h* is pivotally secured at its upper end to the free end of the arm *g* and has on its lower end the stop *h'*, which is adjustably



secured to the rod by the set-bolt  $h^2$ . The lever  $i$  is secured to the rock-shaft  $a^{11}$  by the bolt  $i'$  and has in its free end  $i^2$  the slot  $i^3$ , through which the lower end of the vertical rod  $h$  extends, with the stop  $h'$  above the free end of the lever  $i$ .

In the operation of my improved stop-motion for ring-spinning frames the stop  $h'$  is adjusted and set on the vertical rod  $h$  for the height of bobbins used. The rock-shaft  $a^{11}$  is operated through the chain  $a^{16}$  by the builder-motion in the usual way. The lever  $i$  moves in unison with the lifter-arm  $a^{12}$ , the lifting-rod  $a^{13}$ , and the ring-rail  $a^7$ . When the threads are built on the bobbins to the required height, the free end  $i^2$  of the lever  $i$  engages with the stop  $h'$  and lifts the rod  $h$  and the free end of the arm  $g$  and raises the notch  $g^2$  out of engagement with the lower edge of the opening  $c^3$ . The sliding collar  $e$ , by the tension of the spring  $f$ , engages with the fixed collar  $d$  on the shipper-rod and moves the shipper from the fast to the loose pulley and stops the machine. The operation of starting the spinning-frame by moving the belt onto the fast pulley in the usual way moves the parts of the stop-motion back into their normal or operative position.

By the use of my improved stop-motion on ring-spinning frames any length of bobbin may be used in the frame without reference to the complicated mechanism of the builder-motion, waste of material in overbuilding the threads on the bobbins is eliminated, and a better result is attained in the completed bobbins than has heretofore been done.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a spinning-machine, the combination with a belt-shipper, a shipper-rod, a collar secured to the shipper-rod, a sliding collar supported on the shipper-rod, a spring connecting the sliding collar to a fixed part of the ma-

chine, an arm pivotally supported on the sliding collar and provided with a notch adapted to engage with a fixed part of the machine, of the builder rock-shaft, a lever secured to the builder rock-shaft, and a connection between the arm and lever adapted to release the arm at a predetermined time, as described.

2. A stop-motion for spinning-frames having a fixed collar and a sliding collar on the shipper-rod, a coiled spring attached to the sliding collar and to a fixed portion of the machine, an arm pivotally secured to the sliding collar, a notch in the arm adapted to catch on a fixed part of the machine and hold the sliding collar against the tension of the coiled spring, a vertical rod pivotally secured to the free end of the notched arm, an adjustable stop on the rod, a builder rock-shaft, and a lever secured to the builder rock-shaft in a position to engage with the stop on the rod, as described.

3. The combination with a spinning-frame of a stop-motion consisting of a cross-strut  $b$  having the bearing  $b'$  and the lug  $b^2$ , a cross-strut  $c$  having the bearing  $c'$  and the lower extension  $c^2$  in which is the opening  $c^3$ , a fixed collar  $d$  having the set-bolt  $d'$ , a sliding collar  $e$  having the lug  $e'$  connected to the lug  $b^2$  by the coiled spring  $f$ , an arm  $g$  pivotally secured to the lug  $e'$  and having the free end  $g'$  in which is the notch  $g^2$ , a vertical rod  $h$  pivotally secured to the arm  $g$  and having the adjustable stop  $h'$  with the set-bolt  $h^2$ , and a lever  $i$  having the set-bolt  $i'$  and the free end  $i^2$  in which is the slot  $i^3$ , as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH POISSON.

Witnesses:

J. A. MILLER, Jr.,  
ADA E. HAGERTY.