

(No Model.)

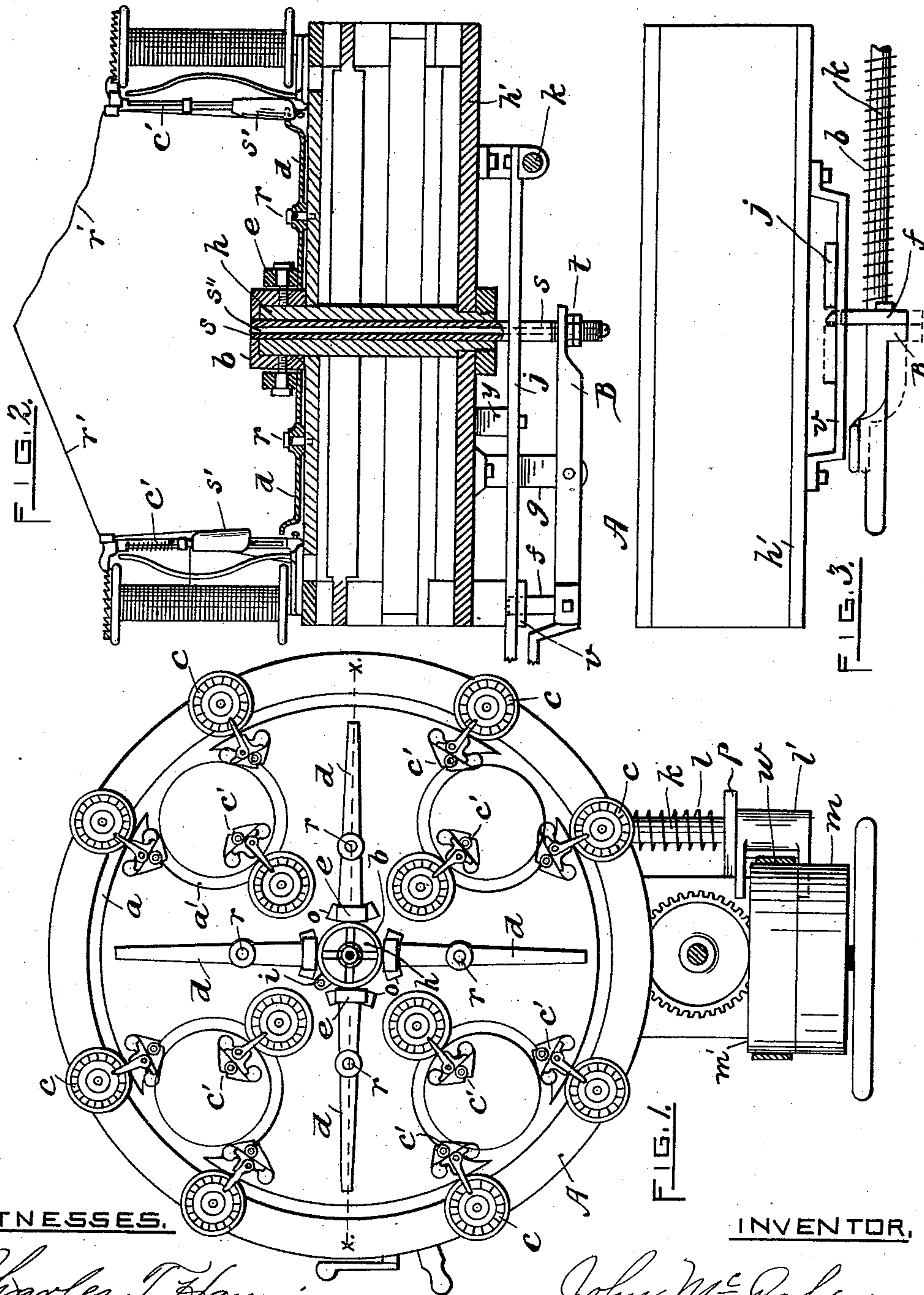
2 Sheets—Sheet 1.

J. McCAHEY.

STOP MOTION FOR CORDAGE AND BRAIDING MACHINES.

No. 563,295.

Patented July 7, 1896.



WITNESSES.

*Charles T. Hannigan*  
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INVENTOR.

*John McCahey*  
*By Benj. Arnold*  
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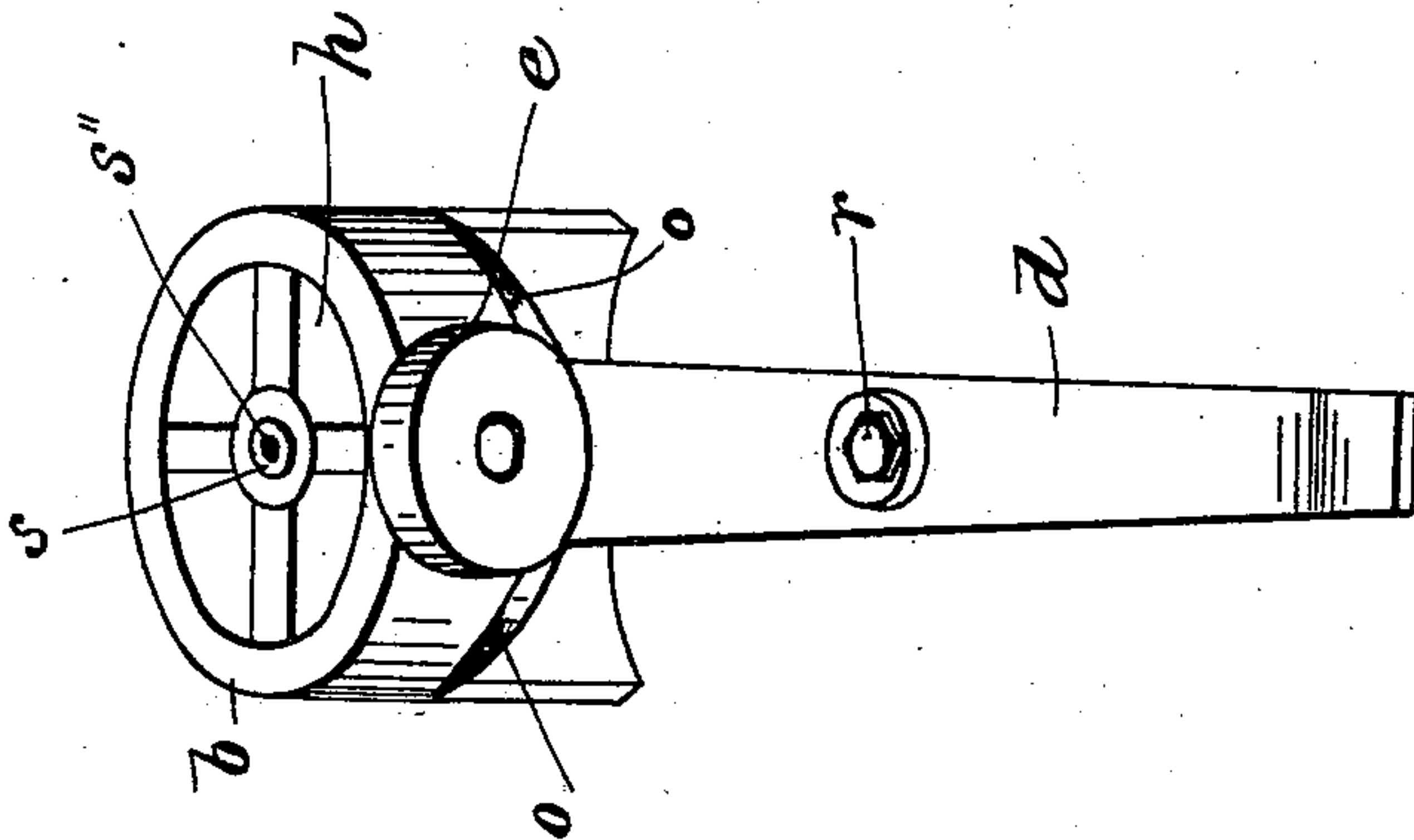


FIG. 5.

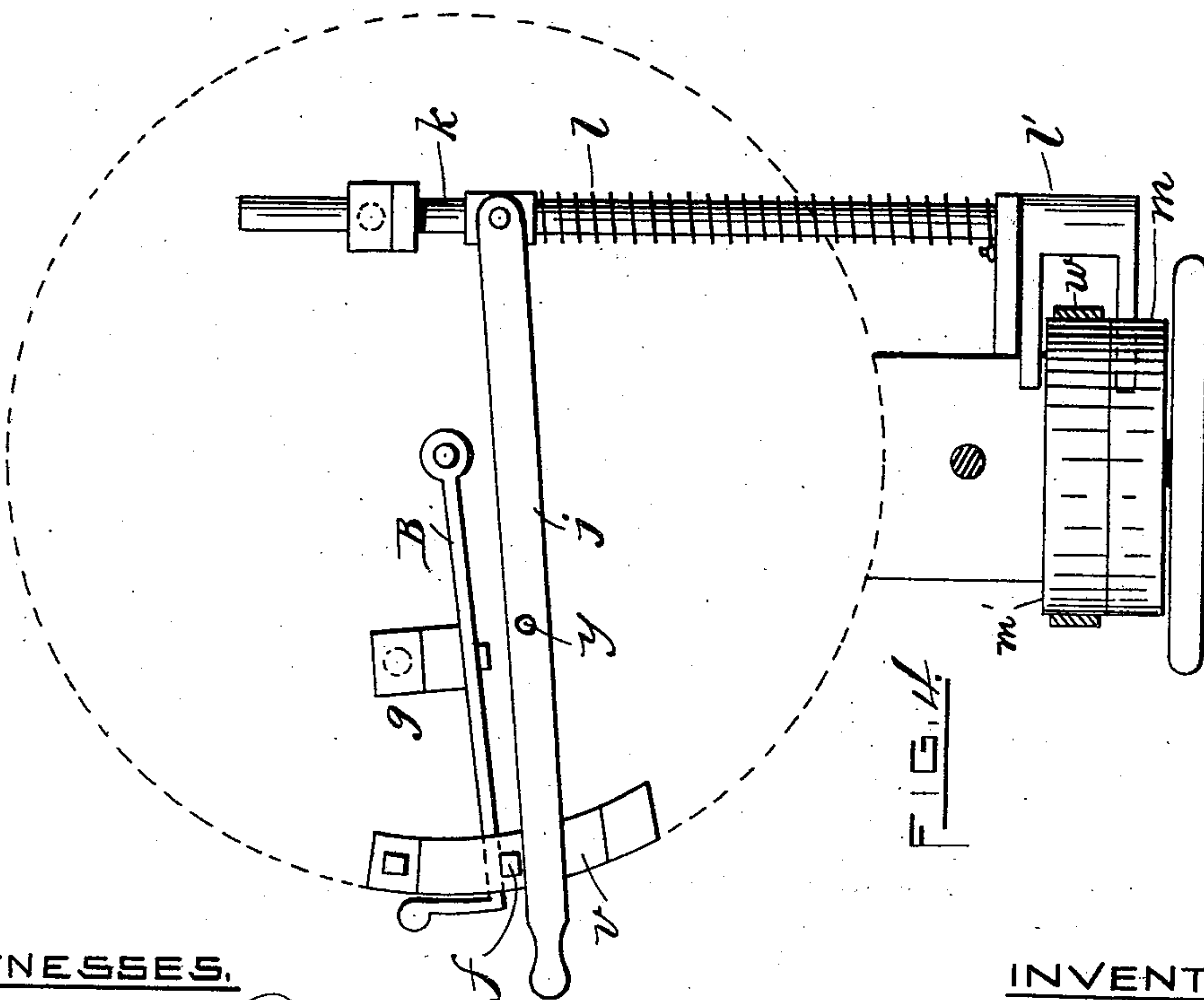


FIG. 6.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN McCahey, of Providence, Rhode Island, Assignor to the New England Butt Company, of same place.

## STOP-MOTION FOR CORDAGE AND BRAIDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 563,295, dated July 7, 1896.

Application filed November 25, 1895. Serial No. 570,032. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN McCahey, of Providence, in the county of Providence and State of Rhode Island, have invented certain  
5 new and useful Improvements in Stop-Motions for Cordage and Braiding Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying  
10 drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to cordage and braiding machines, more especially to the stop-  
15 motions used on such machines to automatically stop them upon the running out or breaking of one of the strands of which the cord is made.

It is fully explained and illustrated in this  
20 specification and the accompanying drawings.

Figure 1 is a top view of the machine and the parts of the stop-motion thereon. Fig. 2 is a vertical section of the same, taken on line  
25 *xx* in Fig. 1. Fig. 3 is a front elevation of the machine on the side to the left in Fig. 1. Fig. 4 is a diagram showing the arrangement and connections of the levers, &c., of the stop-motion on the under side of the machine.  
30 Fig. 5 is an enlarged perspective view of one of the operating-levers and the cap on the stud in the center of Fig. 1.

The object of the invention is to make a center stop-motion for this class of machines  
35 that shall operate more readily and be less in the way than the usual outside stop-motions. Its construction is as follows:

A is the top plate of the machine, having the usual outer raceway *a* and the transfer-  
40 raceways *a'* *a'*.

*c' c'* are carriers with spools *c* of strand-yarn, the machine being what is called a  
"twelve-strand" one.

Four radial levers *d d* are held, two in line  
45 with each other and two at right angles to the first ones, on studs *r*, fast in the top plate A.

A cap *b* is fitted to slide vertically on the upper end of the central stud *h*, upon which the machine rotates (or upon a hub on the  
50 top plate) and which is held fast in the bottom plate *h'*.

Four rollers *e e* are held on studs in the sides of the cap *b*, a roller over the inner end of each lever *d*.

In Fig. 5 one of the levers *d* is shown in  
55 perspective with the cap *b* and a roller *e*. The cap is made to rotate with that part of the plate A that is inside the raceway *a* by a pin *i*, that passes down through an ear on one side of the cap and is fast in the plate A, so  
60 that when a lever *d* is swung to one side on its stud *r* one of the inclined sides *o* of the lever will raise the roller *e* and with it the cap *b*. This cap is connected by a rod *s*, that passes down through the center of the stud  
65 *h* and connects with a horizontal lever B, held to swing vertically on a stud in a bracket *g*, which is bolted fast on the plate *h'*. The lever B has a bolt *f* fastened to one side of it near its outer end, which slides vertically  
70 through a plate *v*, attached to the plate *h'*, and intercepts the motion of a lever *j*, held to move horizontally on a stud *y*, fast in the lower plate *h'*. The inner end of the lever *j* is connected to a shipper-rod *k*, that controls  
75 the belt that runs the machine. An open spiral spring *l* is held on the rod *k*, having one end bearing against the lever *j* and its other end bearing against the arm *p*, through which the rod slides. This spring *l* is ar-  
80 ranged to push the lever *j* from the arm *p* and cause the forks *l'* of the shipper to throw the belt *w* onto the inner or loose pulley *m'* and stop the machine when the bolt *f* is not raised to prevent the lever *j* from moving.  
85

The operation is as follows: Only that part of the plate A inside of the raceway *a* revolves, and with it turn the levers *d* and cap *b*. The spool *c* and carriers *c'* are stationary with their weights on the inner side, when in  
90 the raceway *a*, and are picked up and carried in around the transfer-raceway *a'* to another spot in the raceway *a*. By looking at Fig. 2 it will be seen that the taut strand *r'* holds the tension-weight *s'* on the left hand up, so  
95 the lever *d* will not strike it when carried by on the plate A, but when the strand *r'* runs out or breaks it becomes loose, as in the carrier on the right hand, and lets the weight *s'* drop, so that one of the levers *d* will be struck  
100 by it, and the lever will be swung one side on its pivot, so that one of the inclines *o* on the



inner end of the lever will raise the cap *b*, by the roller *e*, over the inner end of the lever. The raising of the cap *b* will draw up the rod *s* and raise the inner end of the lever *B*, causing its outer end to draw down the bolt *f* and allow the lever *j* to be swung around by the spring *l* on the shipper-rod *k*, and thus throw off the belt and stop the machine. The rod *s* passes loosely through the end of the lever *B*, so that that lever can be operated by a handle on its outer end to draw down the bolt *f*, without moving the rod and cap *b*, when it is desired to stop the machine by hand. The rod *s* has a screw-thread made on its lower end and a nut and check-nut *t* fitted on it, so that when the rod *s* is drawn up by the cap *b*, as described, the rod will lift the lever *B*. The lever *j* also has a handle on its outer end by which the lever is operated to start the machine by throwing the belt *w* onto the outer or fast pulley. The rod *s* has a hole *s''* down through its center to allow of the passage of a central or filling strand to pass up to the cord as it is laid.

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

1. In a stop-motion for cordage and braid-

ing machines the combination of a raceway-plate, one or more radial levers journaled thereon, a central stationary stud, a cap fitted to slide vertically on said stud, a connection between said cap and the inner ends of the radial levers, a hollow rod connected with said cap, and sliding vertically down through the center of the machine, a lever connected with said rod and means operated thereby for casting off the driving-belt, with spool-carriers and tension-weights, substantially as described.

2. In a stop-motion for cordage and braiding machines a raceway-plate, spool-carriers and tension-weights, in combination with a hollow rod sliding vertically down through the center of the machine, a vertically-moving lever connected to said rod, a horizontal cast-off lever controlled by said vertically-moving lever, and a shipper-rod connected to said horizontal lever having arms to control the belt, and a spiral spring on said shipping-rod to throw off the belt, substantially as described.

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Witnesses:

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