

No. 753,724.

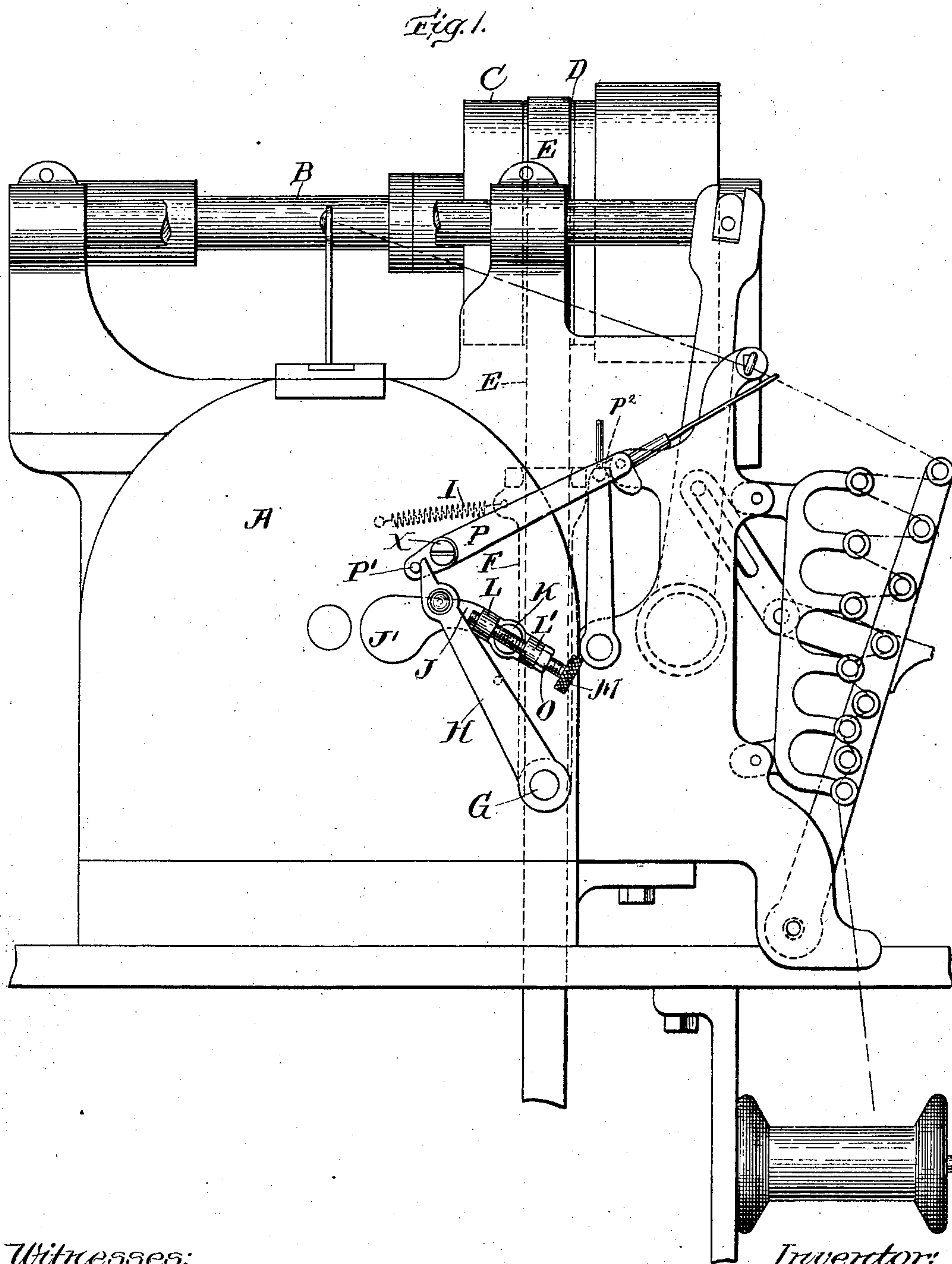
PATENTED MAR. 1, 1904.

J. O. McKEAN.
CONTROLLED SHIPPING DEVICE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

Joseph T. Brannon,
Margaret A. Danaher.

Inventor:
John Oliphant McKean
by Roberts & Mitchell,
Attorneys.

No. 753,724.

PATENTED MAR. 1, 1904.

J. O. McKEAN.
CONTROLLED SHIPPING DEVICE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

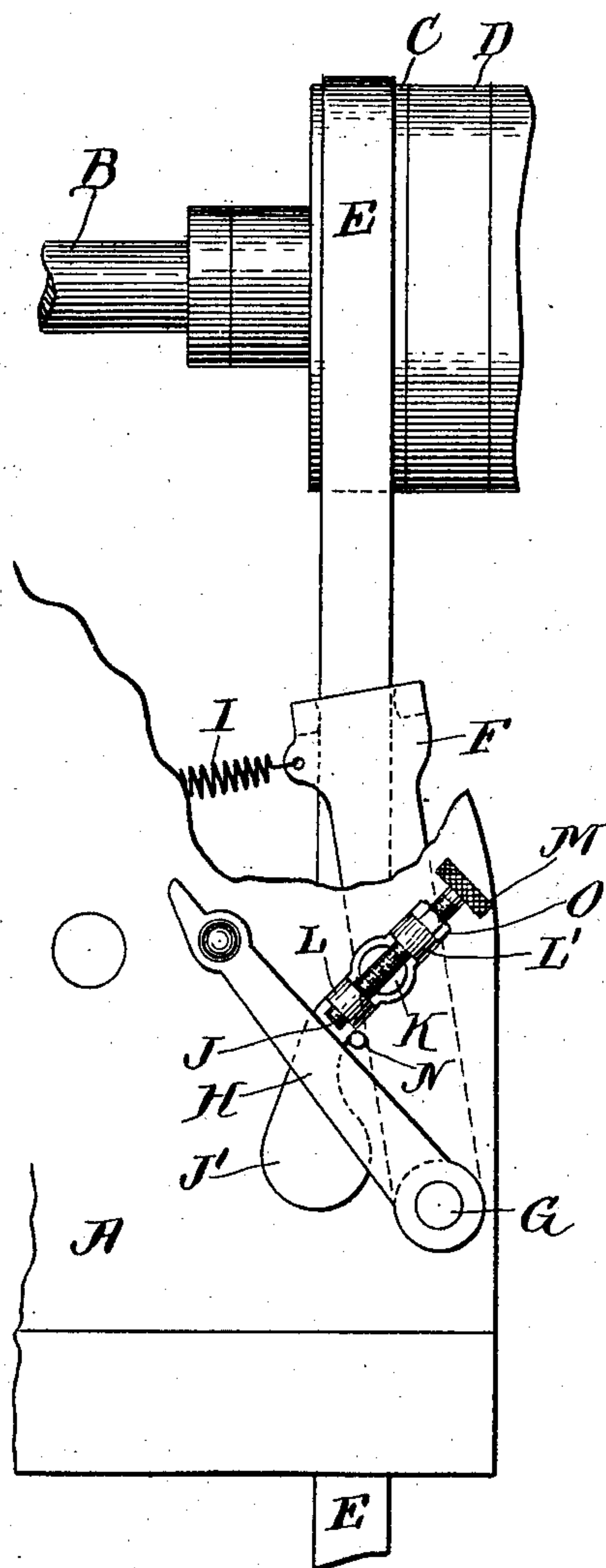


Fig. 2.

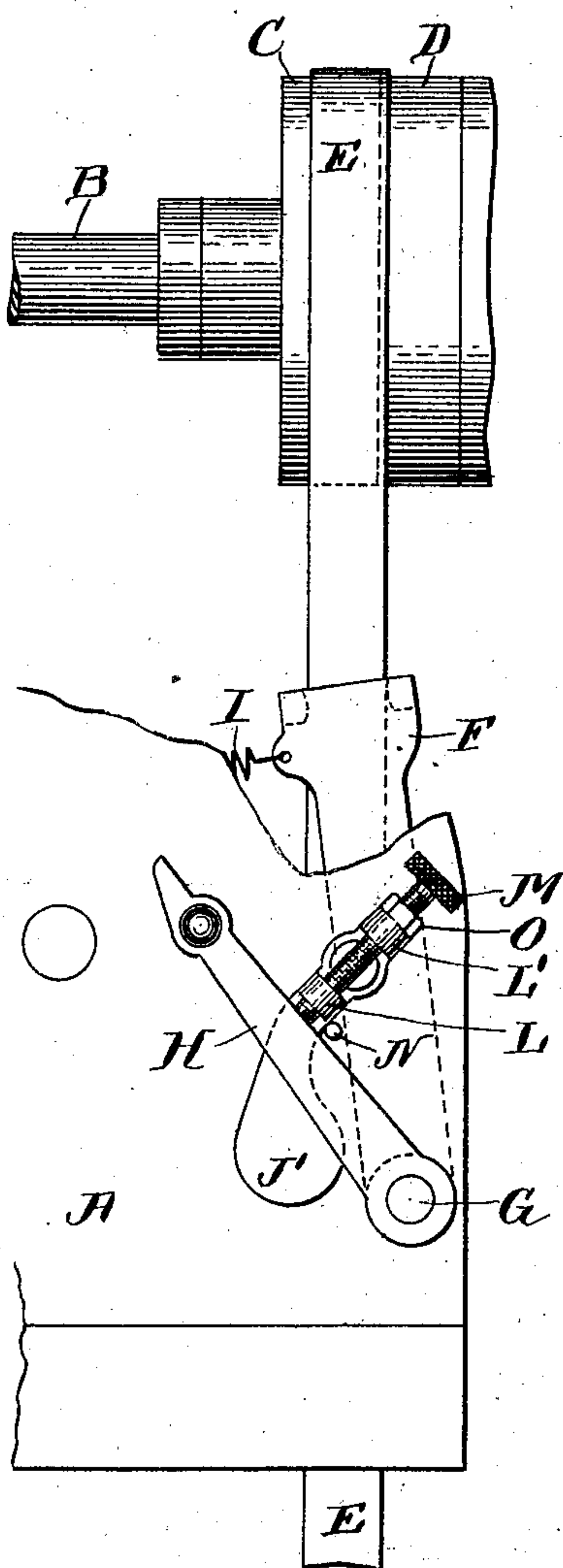


Fig. 3.

Witnesses:

Joseph T. Brennan
Margaret A. Daniker.

Inventor:

John Oliphant McKean
by Roberts & Mitchell
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN OLIPHANT McKEAN, OF WESTFIELD, MASSACHUSETTS, ASSIGNOR
TO FOSTER MACHINE COMPANY, OF WESTFIELD, MASSACHUSETTS, A
CORPORATION OF MAINE.

CONTROLLED SHIPPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 753,724, dated March 1, 1904.

Application filed June 12, 1902. Serial No. 111,260. (No model.)

To all whom it may concern:

Be it known that I, JOHN OLIPHANT McKEAN, a citizen of the United States, and a resident of Westfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Controlled Shipping Devices, of which the following is a specification.

My invention relates to belt-shipping devices, and its object is to provide a controller for the shipper adapted to limit the initial movement of the shipper from its inoperative to its operative position, whereby the belt or other suitable driving means will be shipped over only part way from its inoperative to its operative position, causing the shaft to start up slowly. My controller is then movable out of its operative position to permit the continued or further movement of the shipper in the direction of the latter's operative position, permitting the shaft-driving means to be shipped fully into operative position and the shaft to be driven at full speed.

Other features of my invention will presently be described.

It is frequently desirable to start up a shaft slowly, and so avoid the jar or shock incident to a sudden start. A slow or gradual start of the shaft is especially desirable in winding-machines, spinning-machines, looms, and the like where there is a thread under tension which would be likely to break if the shaft should start suddenly. In an ordinary shaft-driving means, such as a driving-belt adapted to run upon a loose pulley and a tight pulley, a slow start may be attained by shipping the belt over from the loose pulley to the tight pulley slowly or only a short distance, causing only the edge of the belt to run upon the tight pulley; but in the absence of a mechanical controller for the shipper the distance which the belt will be shipped over is left to the manipulation of the operator, which necessarily varies at each operation, thereby varying the starting speed of the shaft and frequently causing the thread to break even when care is used, while almost surely causing it to break when the belt is inadvertently

or carelessly thrown fully over onto the tight pulley, so as to start the shaft suddenly. To positively limit and control the distance which the shipper will be thrown upon starting the machine, I have devised an adjustable controller for said shipper whereby the distance of the initial movement of the shipper may be controlled and regulated at pleasure, said controller being capable of movement out of its operative position to permit the further movement of the shipper toward its fully-operative position after the shaft has attained sufficient speed.

As my invention is peculiarly applicable to winding-machines and machines of like character, I will describe it in connection with a winding-machine. It is to be understood, however, that I do not limit the use of my invention to such machines.

In the accompanying drawings, illustrating an embodiment of my invention, Figure 1 shows in elevation parts of a winding-machine having my improved controlled shipping device, the controller being shown in its inoperative position and the belt running on the tight pulley. Fig. 2 illustrates the shipping parts of said machine, the shipper being shown in its inoperative position and the controller in its operative position; and Fig. 3 illustrates the shipping parts of said machine, the shipper being shown partly shipped over toward its operative position and the controller being shown in operative position.

Like letters of reference are used in all the figures to indicate corresponding parts.

A represents a suitable framework for supporting the various parts.

B is the shaft, carried by said framework and provided with the loose pulley C and the tight pulley D.

E is the driving-belt, which may be driven by any usual means, such as a counter-shaft. (Not shown in the drawings.)

F is a shipper of usual construction pivoted to the frame at G and provided with the shipper-handle H, by means of which the belt may be shipped from the loose pulley to the tight pulley, or vice versa.

I is a spiral spring, one end of which is attached to the shipper F and the other to the frame A, adapted to normally urge the shipper in the direction of the loose pulley C—that is to say, in the direction of its inoperative position. The controller for said shipper, as shown in the drawings, consists of an adjustable stop mounted in a suitable frame or arm, which is pivoted to the frame A, normally adapted to engage with and limit the throw of the shipper-handle H in the direction of the tight pulley and capable of movement out of its normal or operative position to permit the further movement of the shipper-handle H toward its operative position. Said controller, as shown, comprises the arm J, pivoted to the frame A at K and provided with the weighted end J', whereby the controller will by gravity be normally urged toward its operative position, as shown in Figs. 2 and 3. The arm J is provided with two lugs L L', having threaded perforations, in which is the stop M. The stop M, as will be seen, is adjustable toward and from the shipper-handle H and serves to engage with and limit the movement of said shipper-handle when the controller is in its operative position.

The operation of my device is as follows: The shipper F is held by means of the spring I in its inoperative position, as shown in Fig. 2, when the belt E will run upon the loose pulley C. The controller J normally tends to assume its operative position, in which it is supported by a fixed stop-pin N, with stop M in position to partially, as shown in Fig. 2, limit the throw of the shipper-handle H in the direction of its operative position. The shipper-handle H is manually moved in said direction against the tension of spring I until it meets and is stopped by the stop M of the controller, when the belt will be partly shipped over upon the tight pulley D, as shown in Fig. 3, said movement being limited by the adjustable stop M of the controller J. The distance which it is desired to ship over the belt may be regulated by the adjustable stop M, operated by its knurled head. After the stop is properly adjusted the check-nut O may be tightened to hold the stop securely in position. It will be seen that by shipping the belt partly over upon the tight pulley the shaft will start up slowly, and the more the belt is allowed to ship over upon the tight pulley the faster the shaft will start up. After the shaft is started the controller may then be manually swung upward and into its inoperative position, as shown in Fig. 1, and the shipper thrown completely over into its operative position, when the belt will run fully upon the tight pulley D. The shipper may be retained in its fully-operative position by means of the detent presently to be described or in any suitable manner.

Another feature of my invention comprises

means for automatically returning the controller to its operative position when the shipper-handle H is returned to its inoperative position by the operation of a stop-motion, and I will now describe the manner in which my controller coöperates with a stop-motion and automatically resets itself. Herein I have shown handle H as coöperating with a latch P, pivoted at X to frame A and provided with a laterally-projecting pin P' to engage with the end of handle H when belt E is on tight pulley D and through said handle to hold shipper F in full-operative position in opposition to spring I. When the parts are in the position shown in Fig. 1, with the latch P and handle H interlocked, and latch P is disengaged from handle H, spring I shifts shipper F from its operative to its inoperative position, thus moving belt E from pulley D to loose pulley C, carrying handle H away from controller J. As soon as handle H moves away from controller J the latter falls by gravity down against stop N into its operative position.

While I have herein shown my invention as embodied in a belt-shipper, it will be clear that it is applicable also to shipping devices embodying any form of shaft-driving mechanism having means adapted to engage and disengage with said shaft, such as a friction-clutch, without departing from the spirit of my invention.

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

1. In combination a shipper, a retractable controller for limiting the movement of the shipper toward operative position to part of its full stroke when the controller is in operative position, and adapted to permit the completion of that movement when the controller is retracted, and means to automatically move the controller into operative position when the shipper is moved from operative to inoperative position.

2. In combination, a shipper, a pivoted controller for limiting the movement of the shipper toward operative position to part of its full stroke when the controller is in operative position, and adapted to permit the completion of that movement when the controller is swung into retracted position, and means to automatically swing the controller from retracted position into operative position when the shipper is moved from operative to inoperative position.

3. In combination, a shipper; a spring for operating the shipper; a latch for holding the shipper in operative position in opposition to the spring; a retractable controller for limiting the movement of the shipper toward operative position to part of its full stroke when the controller is in operative position and adapted to permit the completion of that movement when the controller is retracted, and means to automatically move the controller into operative position when the latch is freed from

the shipper and the latter is moved by the spring into inoperative position.

4. In combination, a shipper, a pivoted controller for limiting the movement of the shipper toward operative position to part of its full stroke when the controller is in operative position and adapted to permit the completion of that movement when the controller is swung into retracted position, means to hold the controller in retracted position when the shipper is in operative position and to release said controller when the shipper is moved toward in-

operative position, and a weight carried by the controller for automatically swinging the latter from retracted position into operative position when the shipper is moved from operative to inoperative position. 15

Signed by me at Westfield, Massachusetts,
this 2d day of June, 1902.

JOHN OLIPHANT McKEAN.

Witnesses:

A. F. LILLEY,
E. T. FOWLER.