

No. 753,807.

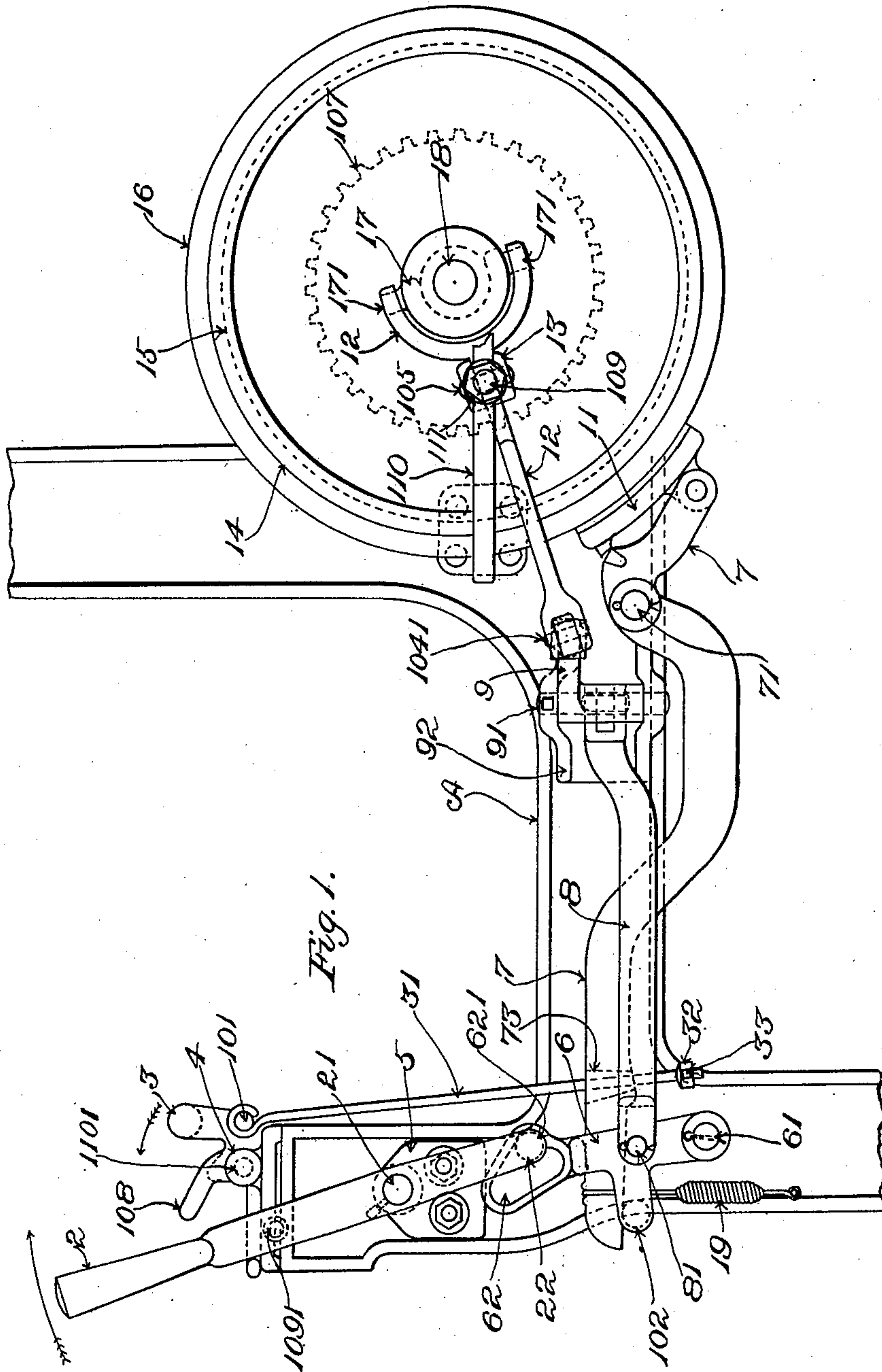
PATENTED MAR. 1, 1904.

A. R. PATTEN.  
POWER SHIPPING AND BRAKE MECHANISM FOR LOOMS.

APPLICATION FILED OCT. 17, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

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Edith J. Anderson.

Inventor:

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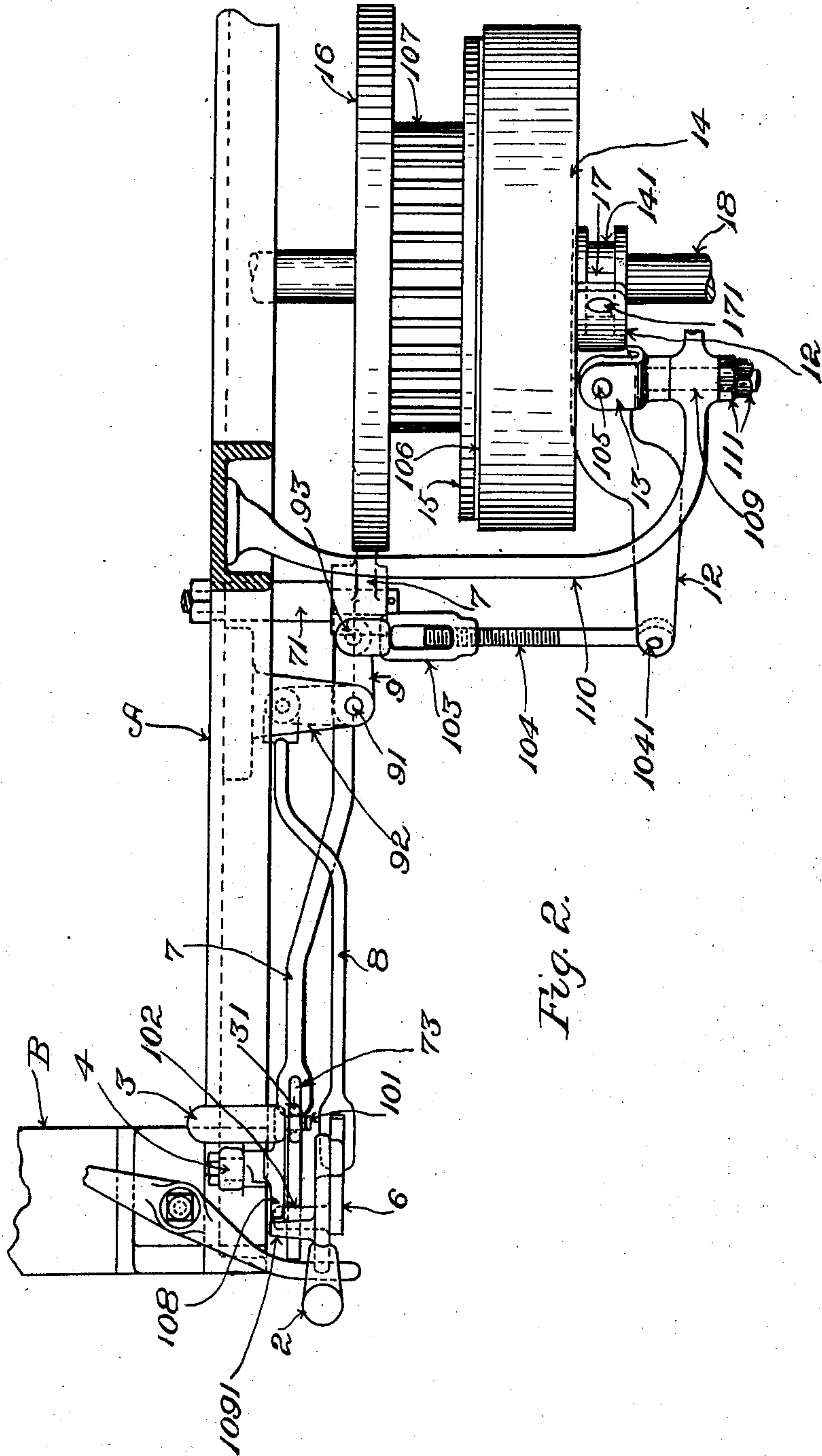


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## POWER-SHIPPING AND BRAKE MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 753,807, dated March 1, 1904.

Application filed October 17, 1902. Serial No. 127,663. (No model.)

*To all whom it may concern:*

Be it known that I, ALONZO R. PATTEN, a citizen of the United States, residing at Hyde Park, in the county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Power-Shipping and Brake Mechanism for Looms, of which the following is a specification, reference being had therein to the accompanying drawings.

In the drawings, Figure 1 is a view in elevation, showing portion of the frame of a loom with the invention applied thereto. Fig. 2 is a view in plan, showing the parts of Fig. 1.

Having reference to the drawings, at A is indicated portion of one side or end of a loom-frame, and at B portion of the breast-beam.

At 18 is indicated portion of the crank-shaft of the loom.

At 16 is a brake-wheel of usual character fast upon the said crank-shaft 18, at 107 a gear fast on said shaft and serving to transmit movement to the cam-shaft of the loom, and at 15 a friction-plate secured to the gear 107 and provided with a friction-surfacing 106, of leather or the like.

14 is a friction-pulley mounted to turn loosely upon the crank-shaft 18 and cooperating with the friction-plate 15 and its frictional facing 106 in driving the loom as usual in the case of a friction-clutch.

7 is a brake-lever mounted upon a pivotal stud 71, projecting from the loom-frame and provided with a brake-shoe 11 for engagement with the periphery of the brake-wheel 16.

12 is a shipper-fork having its fulcrum on the pin 105 in the swivel-fork 13, the hub of the latter being tapped to fit the screw-threaded rod 109, which rod is supported by means of the bracket or stand 110, only a portion of which is shown. The said rod 109 is adjusted in the direction of its length by means of the nuts 111 111 for the purpose of adjusting the shipper-fork, so as to cause the friction-pulley 14 to be clamped against the frictional surfacing 106 of the friction-plate 15 with more or less pressure.

17 is a small yoke swiveled at 171 to the

fork 12 and working in the groove 141 of the hub of the friction-pulley 14.

The foregoing parts are or may be substantially as heretofore.

The brake-lever and shipper-fork are operated by means of the devices which will now be described.

At 2 is the shipper-handle or shipper-lock, it being pivoted to the side frame A, near the breast-beam upon the stud 21, which is carried by the stand or bracket 5, that is bolted to the said side frame. The lower arm of the shipper-handle or shipper-lock 2 is provided with the stud or pin 22.

At 6 is the lock-lever, which cooperates with the said shipper-handle or shipper-lock. The lock-lever 6 is in operative control of the brake-lever and shipper-fork, as presently will appear. It is pivoted below the shipper-handle or shipper-lock upon the stud 61, projecting from the side frame A and is formed in its upper portion with the slot 62, in which the pin 22 of the shipper-lock or shipper-handle 2 works, the said slot having the locking-recess or offset portion at 621, in which the pin 22 engages when the upper arm of the shipper-handle or shipper-lock 2 is drawn forwardly into the position in which it is represented in the drawings. Movement of the shipper-handle or shipper-lock in the direction opposite that indicated by the arrow places the lock-lever in the position in which it is represented. The lock-lever 6 is provided with a forwardly-extending arm having a lug or pin 102, which projects under the brake-lever 7. As the lock-lever is moved by means of the shipper-handle or shipper-lock rearwardly into the position which is represented in the drawings this lug or pin carried by the lock-lever acts against the under side of the lever 7 and raises the forward arm of the said lever against the tension of the spring 19, which is connected with said arm, thereby removing the pressure of the brake-shoe 11 from the brake-wheel. The said pin holds the said arm raised so long as the shipper-handle or shipper-lock and lock-lever re-



main in the illustrated position. The lock-lever 6 is in operative connection with the shipper-fork and actuates the latter to ship the driving power on and off, as required in the working of the loom. A stud or pin 81 projects from the lock-lever 6, and with the said pin is engaged the forward extremity of a rod or connection 8, which latter at its rear extremity is joined to one arm of a bell-crank 9, the latter being pivoted at 91 in a stand or bracket 92, projecting from the side frame A. To the other arm of the bell-crank 9 is pivotally connected at 93 one end of the swivel 103, the opposite end of the latter being tapped to engage with the threaded extremity of the rod 104, which rod at its opposite end is connected pivotally, as at 1041, with the shipper-fork 12. By disconnecting the parts at either 93 or 1041 and turning one member of the swivel connection 103 104 relatively to the other the length of the said swivel connection may readily be adjusted, and in this manner the action of the shipper devices in operating the friction-pulley 14 may be readily regulated.

Movement of the shipper-handle or shipper-lock 2 in the direction indicated by the arrow in Fig. 1 will carry the locking-pin 22 of the lower arm of the said lever forward, disengaging said locking-pin from the locking notch or recess of lock-lever 6, which will unlock the lock-lever 6 and permit the upper extremity of the same to move forwardly in the loom under the influence of the spring 19, transmitted through the brake-lever 7. This movement of lock-lever 6 will permit the brake-shoe 11 to be pressed by the action of the spring 19 against the face of the brake-wheel 16. The said movement of the lock-lever also transmits movement through the connection 8, bell-crank 9, and swivel connection 103 104 to the shipper-fork 12, so as to cause the latter to shift the friction-pulley 14 in the proper direction to separate the same from the frictional facing 106 of the friction-plate 15, thereby opening or separating the members of the friction-clutch.

The foregoing constitutes a simple, compact, and efficient construction of power-shipping and braking mechanism for looms.

For the purpose of enabling the pressure of the brake to be removed after the loom has been stopped by the unshipping of the power and the application of the brake in the manner above described, as when it is desired to turn the loom by hand, the independent brake-handle 3 is provided. It is pivoted at 1101 upon the stand or bracket 4, which is mounted upon the side frame A and the adjacent end of the breast-beam B. This independent brake-handle 3 is provided with a stud 101, to which is applied the eye at the upper extremity of a depending rod 31. The lower portion of this rod passes through a hole formed at 73 vertically through the brake-lever 7 and has ap-

plied to the same below the said brake-lever the set-collar 32, which last is secured adjustably in position upon the said rod by the set-screw 33. In the position which the independent brake-handle 3 and connected rod 31 occupy in the drawings the set-collar 32 is far enough below the brake-lever 7 to be entirely clear of the latter, leaving the brake-lever free to be depressed by the action of its spring 19 in case the shipper-handle or shipper-lock 2 is moved to release the brake and unship the power. If after the brake has been released and been applied by the action of spring 19 the brake-handle 3 is turned forward in the direction of the arrow near the same in Fig. 1, the resulting movement of the rod 31 upward will cause it to lift the forward arm of the brake-lever by means of the engagement of the set-collar 32 with the under side of the said brake-lever, thereby turning the said brake-lever so as to remove the pressure of the brake-shoe from the brake-wheel 16. The shipper-handle or shipper-lock 2 is provided with a pin or stud 1091, projecting laterally therefrom, and the brake-handle 3 is provided with a finger 108. In the position which is occupied by the shipper-handle 2 while the power is unshipped this pin or stud 1091 will be at the rear of the finger 108 if the brake-handle 3 has been turned forward to relieve the pressure of the brake. If the brake-handle is not thrown backward by hand prior to drawing the shipper-handle forward, the forward movement of the upper portion of the shipper-handle will cause the pin or stud 1091 to act against the finger 108, so as to turn the brake-handle 3 rearward sufficient to carry the point of connection 101 of the rod 31 with the said handle to the rear of the axis of the pivot 110 of the said brake-handle, whereupon the weight of the parts will restore the brake-handle and rod 31 to their normal positions as represented in the drawings.

What is claimed is—

1. The improved power-shipping and brake mechanism for looms comprising, in combination, the shipper-handle or shipper-lock, the lock-lever having the lateral projection or pin, the shipper connected with the said lock-lever, the brake-lever extending above the said projection or pin of the lock-lever and supported thereby in the locked position of the lock-lever, and the spring tending to depress the said arm of the brake-lever, substantially as described.

2. The improved power-shipping and brake mechanism for looms comprising, in combination, the shipper-handle or shipper-lock, the lock-lever having the lateral projection or pin, the connection 8 engaging by its forward portion with the lock-lever, the bell-crank with which the rear portion of the said connection engages, the adjustable swivel connection, the shipper joined with said bell-crank by the said



swivel connection, and the brake-lever extending above the said projection or pin of the lock-lever, substantially as described.

3. The combination in a loom with the brake, the shipper-handle, and operative connections through which the shipper-handle controls the said brake, of the independent brake-handle operated by hand and adapted to be restored to its normal inoperative position by the movement of the shipper-handle in setting on the loom.

4. The combination in a loom with the brake, the shipper-handle, and means under control of the shipper-handle to automatically apply the brake when the shipper-handle is moved to stop the loom, of the independent brake-handle separately connected with the brake and adapted to be restored to its normal inoperative position by the movement of the shipper-handle in setting on the loom.

5. The improved power-shipping and brake mechanism for looms, comprising, in combination, the shipper-handle or shipper-lock, the

lock-lever having the lateral projection or pin, the connection 8 engaging by its forward portion with the lock-lever, the bell-crank with which the rear portion of the said connection engages, the adjustable swivel connection, the shipper joined with said bell-crank by the said swivel connection, the brake-lever extending above the said projection or pin of the lock-lever, and the independent brake-handle operatively connected with the brake-lever to enable the pressure of the brake to be relieved thereby, and actuated by the shipper-handle in the movement of the latter in setting on the loom to return the brake-handle to its normal position and release the brake, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALONZO R. PATTEN.

Witnesses: .

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WILLIAM A. COPELAND.