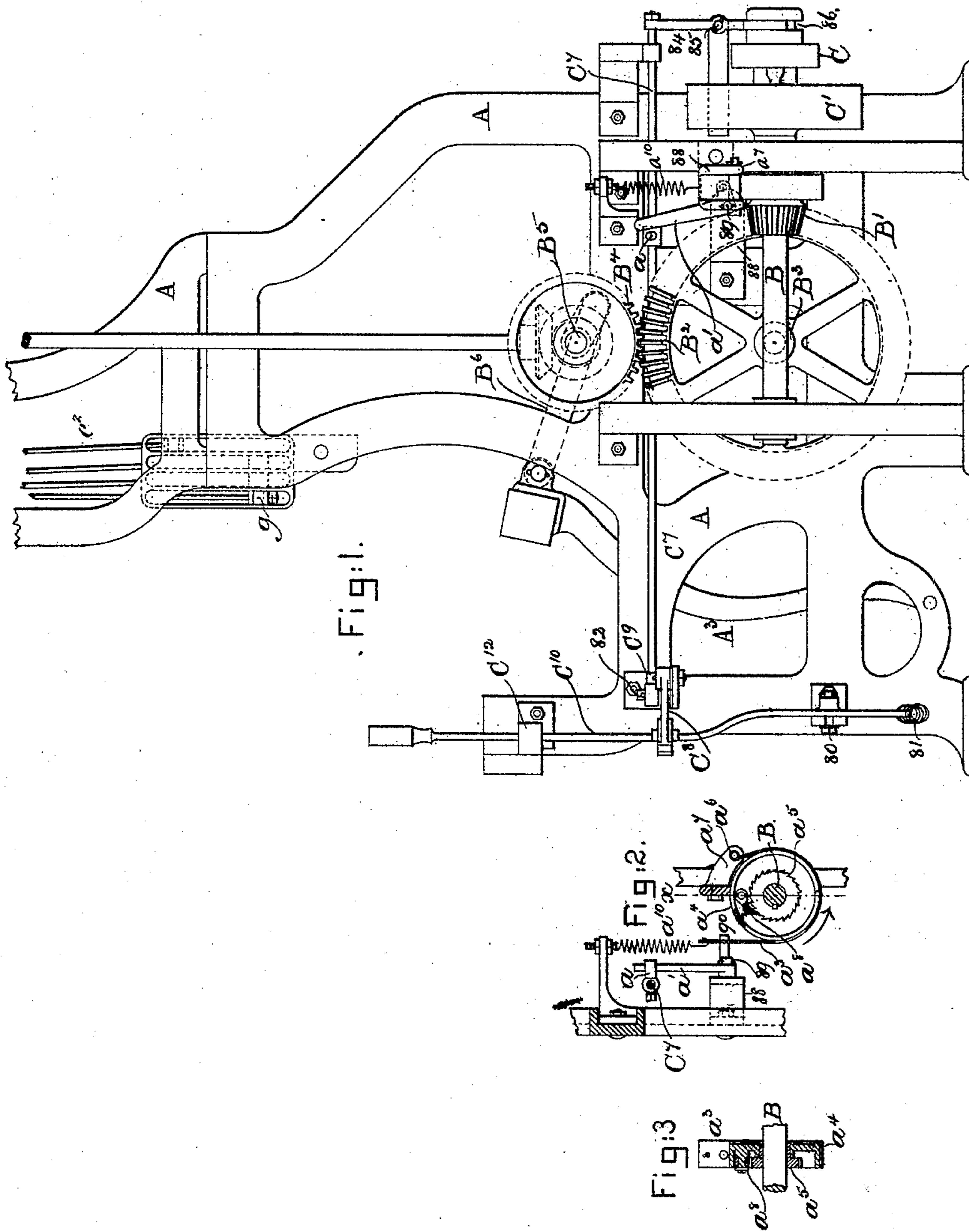


(No Model.)

H. WYMAN.
LOOM.

No. 444,789.

Patented Jan. 13, 1891.



Witnesses
Howard F. Eaton.
Frank L. Emery

Inventor
Horace Wyman,
by Leroy H. Hargrove
Att'y

UNITED STATES PATENT OFFICE.

HORACE WYMAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE CROMPTON LOOM WORKS, OF SAME PLACE.

LOOM.

SPECIFICATION forming part of Letters Patent No. 444,789, dated January 13, 1891.

Application filed July 25, 1888. Serial No. 280,971. (No model.)

To all whom it may concern:

Be it known that I, HORACE WYMAN, of Worcester, county of Worcester, State of Massachusetts, have invented an Improvement in Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention in looms has relation more especially to improvements in means for stopping and starting the loom, said means being under the control of the usual shipper-handle.

Figure 1, in side elevation, represents a sufficient part of a loom with my improvement added to enable my invention to be understood; Fig. 2, a detail of the friction device or brake co-operating with the power-shaft, and Fig. 3 a section of Fig. 2 in the line α .

The loom-frame A, the lay A^3 , the power-shaft B, the beveled pinion B' thereon, the large bevel-gear B^2 , the cam or picking shaft B^3 , to which the said gear is attached, the gear B^4 , the crank-shaft B^5 , and the lay-connecting rods B^6 , the friction-pulley C C' , the shipper-rod C^7 , shipper-lever C^{10} , and elbow-lever between it and the shipper-rod are and may be all as in United States Patent No. 402,001, dated April 23, 1889, wherein like letters are employed to designate like parts.

The shipper-handle C^{10} , having its fulcrum at 80, has attached to its lower end a spring 81, which acts to draw the lower end of the handle in toward the loom side and throw the upper end of the said handle outwardly when released from the usual holding-notch in the usual notched plate C^{12} , such movement of the shipper-handle causing it to act upon the elbow-lever C^8 , having its fulcrum on the stud C^9 , causing the rod C^7 , connected to the pin 82 at the opposite end of the lever C^8 , to move the rod C^7 to the left in Fig. 1.

The rod C^7 is connected to a lever 84, pivoted at 85, and forked to enter an annular groove 86 in the hub of a part of the friction-clutch pulley common to the said patent, No. 402,001.

The shaft B has keyed upon it a ratchet-wheel α^5 , the teeth of which are engaged by

a pawl α^8 , pivoted on a friction-pulley α^4 , loose on the shaft B. This friction-pulley is surrounded by a friction-strap α^3 , preferably of steel, the said strap being connected at one end to a fixed stud α^6 , carried by an extension α^7 from the frame, and at its other end to a strong spring α^{10} , the normal tendency of which is to cause the strap to hug the said pulley, which the strap is permitted to do, except when the shaft-handle is held in the usual notch of the plate C^{12} and the loom running. The loom has a stand 88, on which is pivoted at 89 a releasing-lever α' , having a projection 90, (see Fig. 2,) which enters a hole in the strap α^3 .

The rod C^7 , as herein shown, has a projection α , which, as the rod is moved to the right in Fig. 1, as when the loom is to be started by engaging the two parts C C' of the friction or clutch pulley, acts upon the said lever α' and causes it, through the projection 90, to effect the release of the strap α^3 , extended about the brake-pulley α^4 ; but when the shipper-handle is released and the rod C^7 is moved to the left in Fig. 1 this projection α is drawn from the lever α' , permitting the spring α^{10} to draw the friction-strap against the friction-pulley to thus stop the loom, the movement of the rod, as stated, having at the same time unclutched the pulley C C' .

The teeth of the ratchet-wheel in engagement with the pawl causes the friction-pulley α^4 to rotate in unison with the shaft B when the friction-strap acts; but if the operator should desire to turn the shaft B and crank-shaft in a reverse direction he can do so while the friction-strap yet engages the friction-pulley.

I claim—

1. The combination, with the power-shaft B, its ratchet α^5 , and the loose friction-pulley α^4 , having a pawl to engage the said ratchet, of the lever α' , means to operate it, and the friction strap and spring, substantially as described.

2. The lay, the crank-shaft, the connecting-rods, the gears B^4 and B^2 , shaft B^3 , shaft B, and gear B' , and the ratchet-wheel α^5 , combined with the pulley α^4 , loose on the said shaft B, the pawl, and the spring-controlled

friction strap and lever and means to actuate them, substantially as described.

3. In a loom, the power-shaft B, its ratchet a^5 , and the loose friction-pulley a^4 , having the
5 pawl to engage the said ratchet, combined with the rod C⁷, the lever a' , and friction strap and spring, to operate substantially as described.

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

HORACE WYMAN.

Witnesses:

JUSTIN A. WARE,
J. B. SYME.