No. 816,534. PATENTED MAR. 27, 1906.

R. CROMPTON.

BRAKE MECHANISM FOR LOOMS.

APPLICATION FILED AUG. 24, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

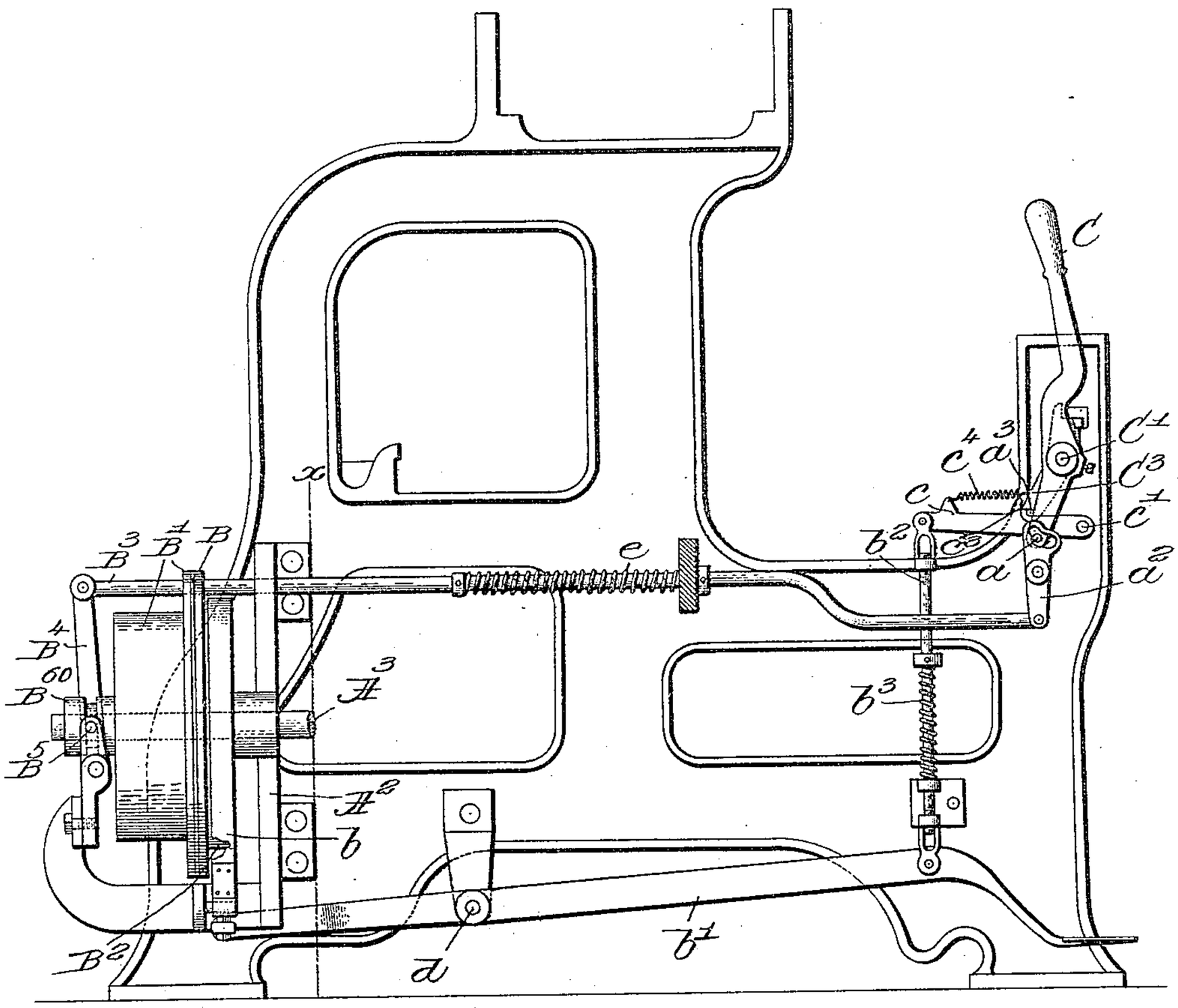

Fig. 2.

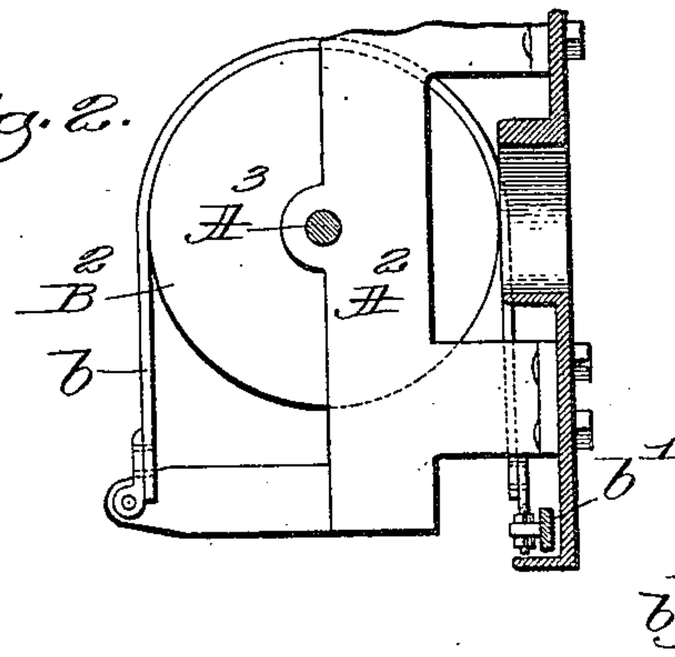

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Fig. 3.

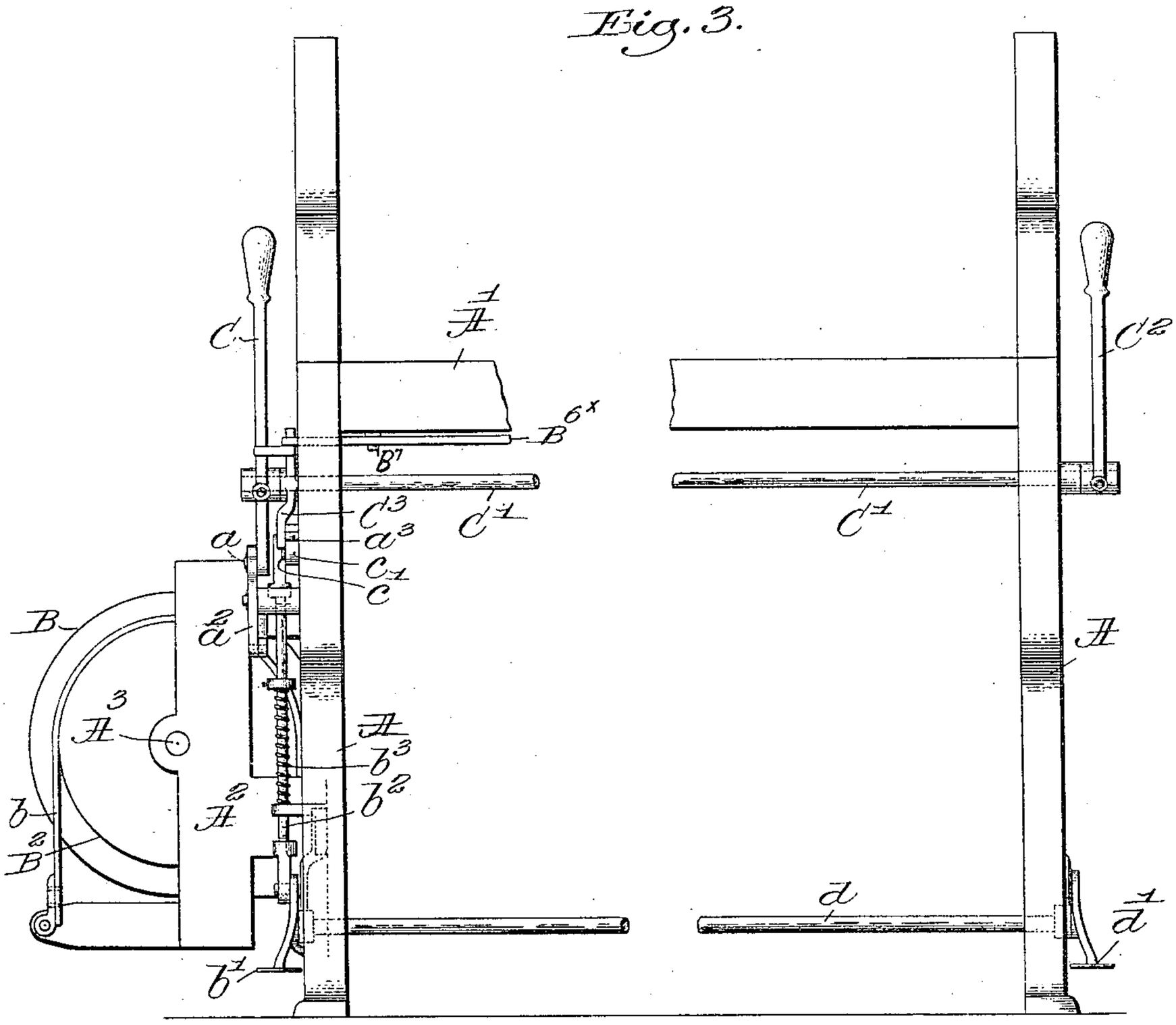
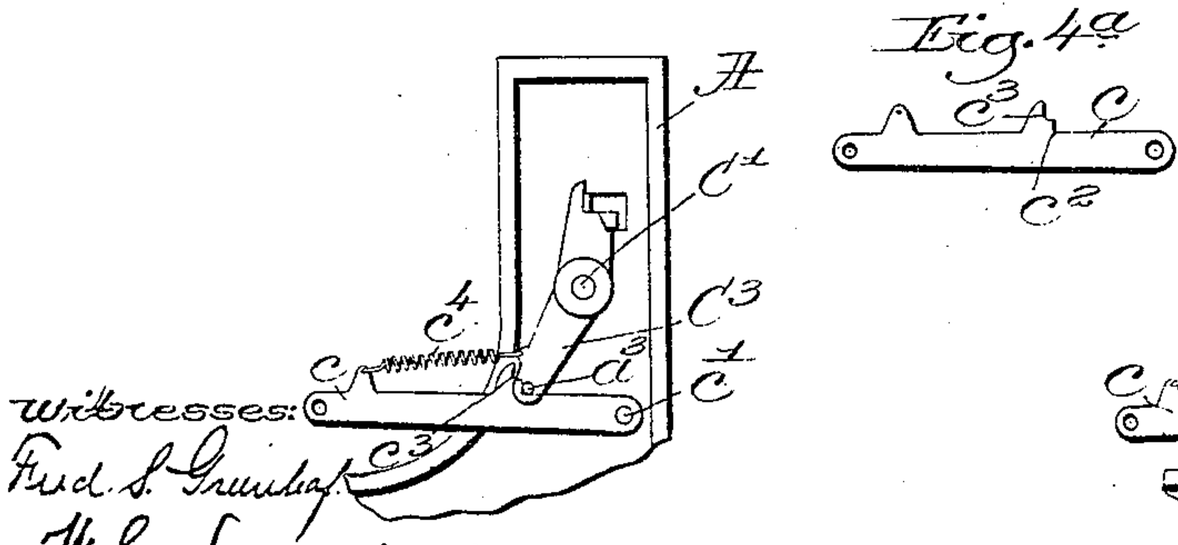


Fig. 4. Fig. 5.

Fig. 4a



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BRAKE MECHANISM FOR LOOMS.

No. 816,534. Specification of Letters Patent. Patented March 27, 1906.

Application filed August 24, 1904. Serial No. 221,936.

To all whom it may concern:

Be it known that I, RANDOLPH CROMPTON, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improvement in Brake Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide a loom with means to release the brake at either end of the loom when it is desired to start the loom.

Figure 1 is an end view of a loom having clutch driving-pulleys, a shipper-lever for operating the driving-pulleys, and a brake and means for applying the brake to stop the power-shaft when the pulleys are separated. Fig. 2 is a section to the left of the dotted line *x*, Fig. 1, showing the friction-pulley and brake-band, the friction-disk being omitted for simplicity of showing. Fig. 3 is a front view of a loom shown in Fig. 1. Fig. 4 is a detail showing some of the parts in the positions they will occupy when the brake is on, and Fig. 4^a shows lever *c* detached. Fig. 5 shows the same parts in the position with the brakes off.

The loom-frame A, breast-beam A′, stand A^2, sustaining power-shaft A^3, having usual pulleys and disks, the one B′ being loose thereon, while the one B is fast thereon, said shaft driving in usual manner the cam-shaft of the loom, the brake-pulley B^2 on the shaft A^3, the shipper mechanism, including the rod B^3, the lever B^4, having a stud B^5, that enters an annular groove in the hub B^6 of the loose pulley, the knock-off lever B$^\times$, pivoted at B^7 at the under side of the breast-beam and adapted to be struck by the dagger when the shipper mechanism is to be operated to release the pulleys and apply the brake to stop the loom, are and may be all as usual.

The shipper-handle C, fast on rod C′, extended across the loom under the breast-beam and having at its lower end a stud *a*, entering a cam-slot in a lever *a*^{2}, forming part of the shipping mechanism, said rod at its opposite end having a second handle C^2 and the auxiliary knock-off lever C^3, having as its center of motion said rod, said lever having a stud *a*^{3}, the brake-band *b*, the connected lever *b*′, rod *b*^{2}, and spring *b*^{3}, surrounding said rod, are and may be all substantially as represented in Patent No. 779,997, dated January 10, 1905. In this present application I connect with the upper end of the rod *b*^{2} a holding-lever *c*, pivoted at *c*′, and having a lug provided with a cam *c*^{2} and a notch *c*^{3} above said cam. The lever *c* has a second lug, with which is attached a spring *c*^{4}, the opposite end of which is connected with the lower arm of the auxiliary brake-lever C^3. I have mounted the brake-lever on the shaft *d*, extended across the loom, and to the opposite end of said shaft, outside the opposite side of the loom, I have attached a second lever *d*′, which is extended toward the front of the loom and is shaped as shown by the lever *b*′, the front end of said lever presenting a treadle.

Viewing Fig. 1, it will be seen that the shipper-handle and the main and auxiliary knock-off levers occupy a position in which the stud *a* at the lower end of the shipper-handle C has freed the lever *a*^{2}, forming part of the shipping mechanism, and the spring *e*^{3} on the rod connected with said lever has acted through the lever B^4 to release the friction, and the stud *a*^{3} of the auxiliary knock-off lever has been put in a position by the main knock-off lever to enable the spring *b*^{3} on the rod *b*^{2} to act and lift the outer end of the lever *b*′ to tighten the brake-band *b* on the brake-pulley B^2. Now, before starting the loom either to turn it over backwardly, if need be, or to start it forwardly it is necessary to release the brake. The weaver, standing at the left-hand side of the loom, may put her foot on the front end of the lever *b*′, depress it to cause the brake-band to release the brake-pulley, and in so doing the spring *c*^{4}, connected with the auxiliary knock-off lever will move the same from the position Fig. 4 into the position Fig. 5, in which latter position the stud *a*^{3}, engaging the notch *c*^{3}, holds the lever *c* depressed against the action of the spring *c*^{4} and holds the lever *b*′ in a position to retain the brake-band out of stopping contact with the brake-pulley. Should the weaver be at the right-hand side of the loom and desire to take off the brake, she has only to press her foot on the lever *d*′, and through the rock-shaft *d* the outer end of the lever *b*′ will be depressed, causing the rod *b*^{2} to be drawn down, when

the spring c^4 will pull the lower end of the auxiliary knock-off lever with it and cause its stud a^3 to be moved from the position Fig. 4 into the position Fig. 5. In this way it will be understood that the brake may be taken off from either side of the loom.

The two levers b' and d' constitute what I shall designate a "foot-controlled" means, acting with the brake mechanism. I have shown the brake as a band; but my invention is not to be limited to the use only of a band as the device to contact with the brake-pulley, and instead of the band I may employ any other usual brake-surface. The loom may be started by engaging either of the handles C or C^2.

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

1. In a brake mechanism for looms, the combination of a shaft, a fast and a loose pulley on said shaft, means operable from either side of the loom for frictionally connecting said pulleys in driving relation, a brake-pulley and a brake member, devices normally acting to apply the brake foot-controlled means at opposite sides of the loom to release the brake member from said pulley, and means for maintaining the brake member in said released relation with the brake-pulley when the foot-controlled means is freed from the action of the foot while the loom remains at rest.

2. In a brake mechanism for looms, the combination of a driving-shaft, a driving member thereon, a friction member also on said shaft, a friction-band for acting on said friction member, main shipping devices disposed at opposite sides of the loom for connecting and disconnecting the driving-shaft and driving member, foot-controlled means independent of the shipping device and disposed at opposite sides of the loom for releasing the brake-band from the friction member when starting or turning back, a holding-lever, connections between said lever and said foot-controlled means and locking devices for said holding-lever.

3. In a brake mechanism for looms, the combination of a driving-shaft, a driving member thereon, a friction member also on said shaft, a friction-band for acting on said friction member, main shipping devices disposed at opposite sides of the loom for connecting and disconnecting the driving-shaft and driving member, the auxiliary knock-off lever, means independent of the shipping devices and disposed also at opposite sides of the loom for releasing the brake-band from the friction member in starting or turning back, a holder-lever, yielding connections between the holding-lever and the auxiliary knock-off lever, and means for locking the holding-lever by the knock-off lever to maintain the said releasing means in released position.

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

RANDOLPH CROMPTON.

Witnesses:
JOHN C. EDWARDS,
MARGARET A. DUNN.

Correction in Letters Patent No. 816,534.

It is hereby certified that in Letters Patent No. 816,534, granted March 27, 1906, upon the application of Randolph Crompton, of Worcester, Massachusetts, for an improvement in "Brake Mechanisms for Looms," an error appears in the printed specification requiring correction, as follows: In line 61, page 2, the compound word "holder-lever" should read *holding-lever;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 10th day of April, A. D., 1906.

[SEAL.]

F. I. ALLEN,

Commissioner of Patents.