

No. 839,988.

PATENTED JAN. 1, 1907.

H. CANE.

SHUTTLE BOX OPERATING MECHANISM.

APPLICATION FILED APR. 10, 1906.

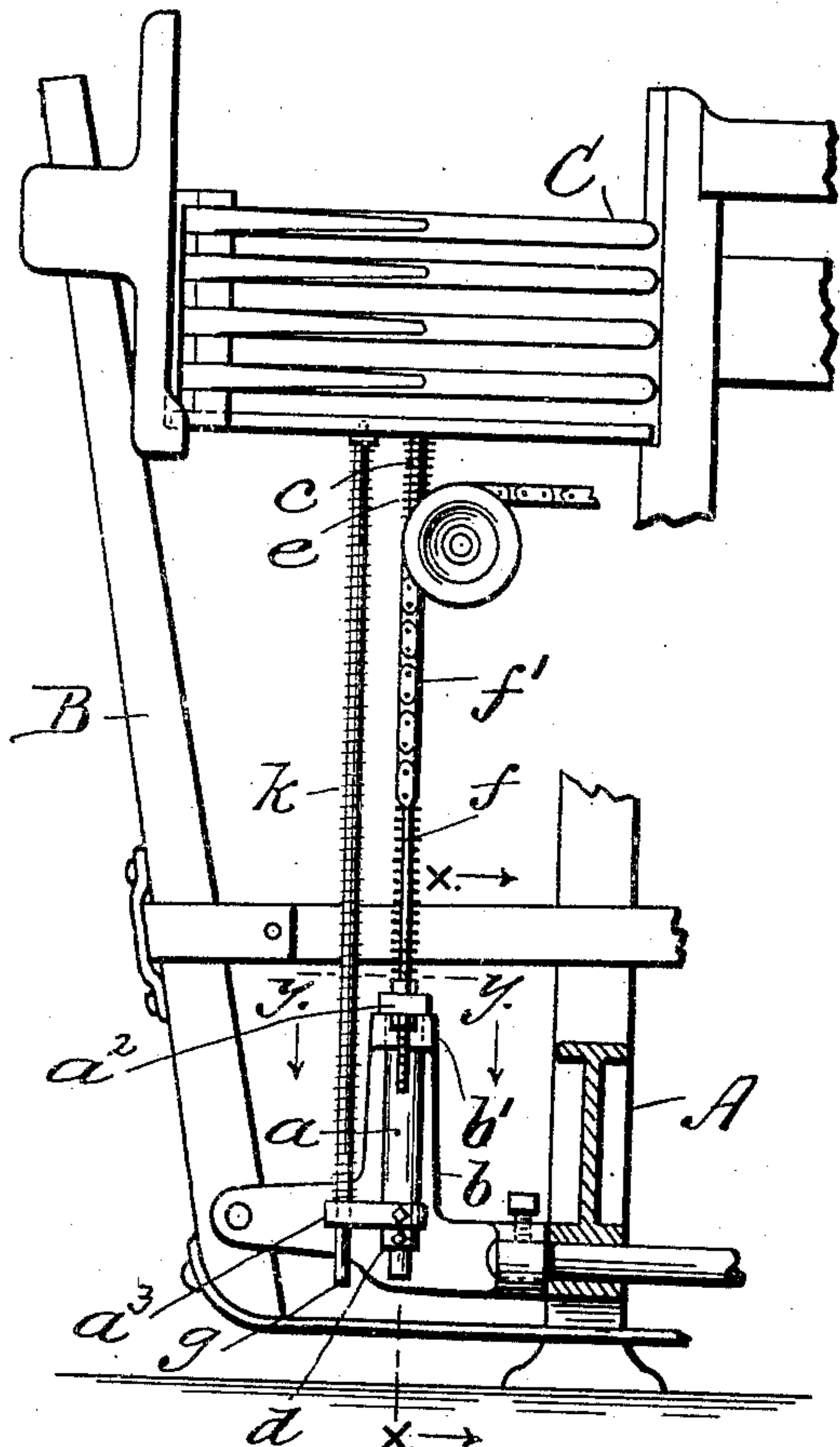


FIG. 2.

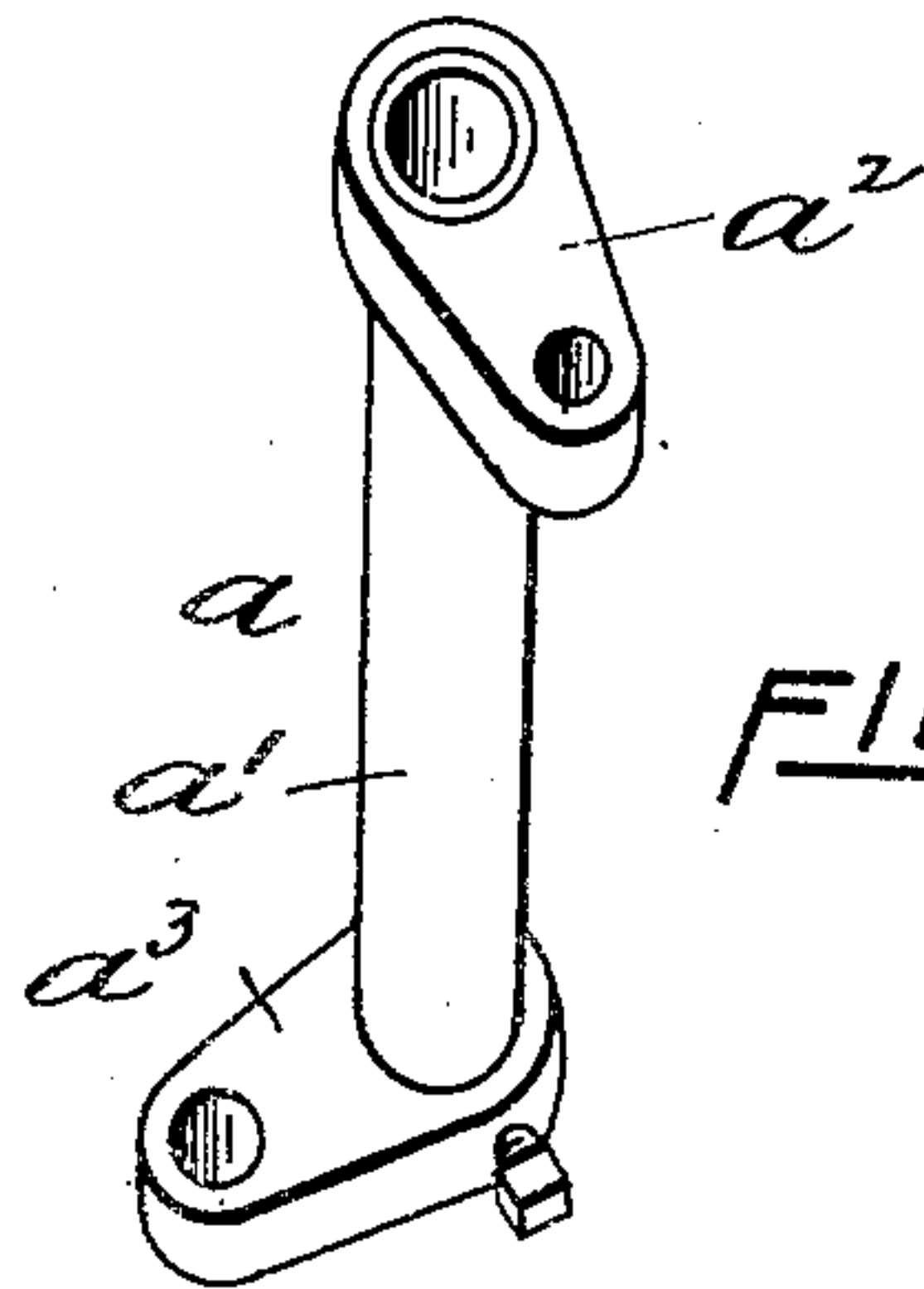


FIG. 1.

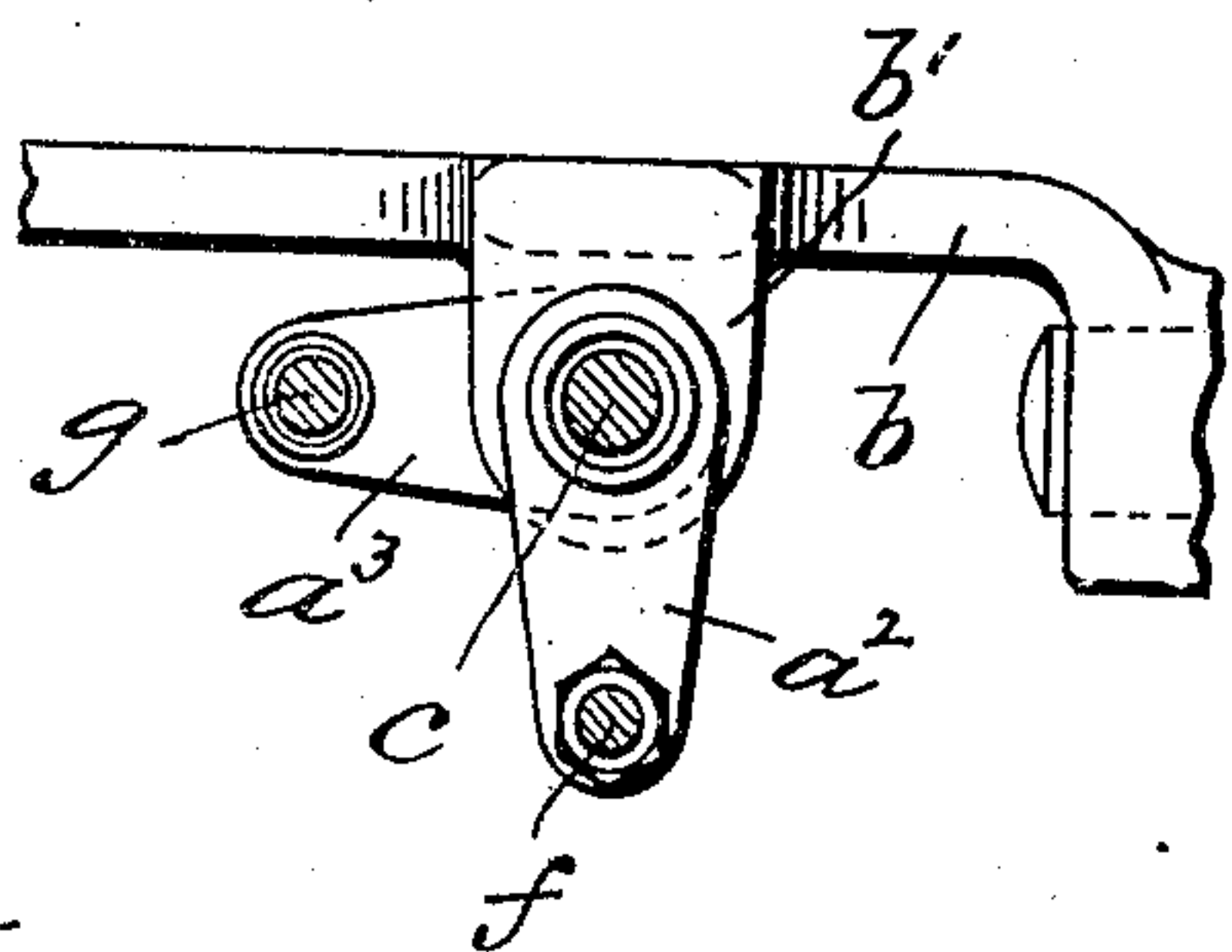


FIG. 4.

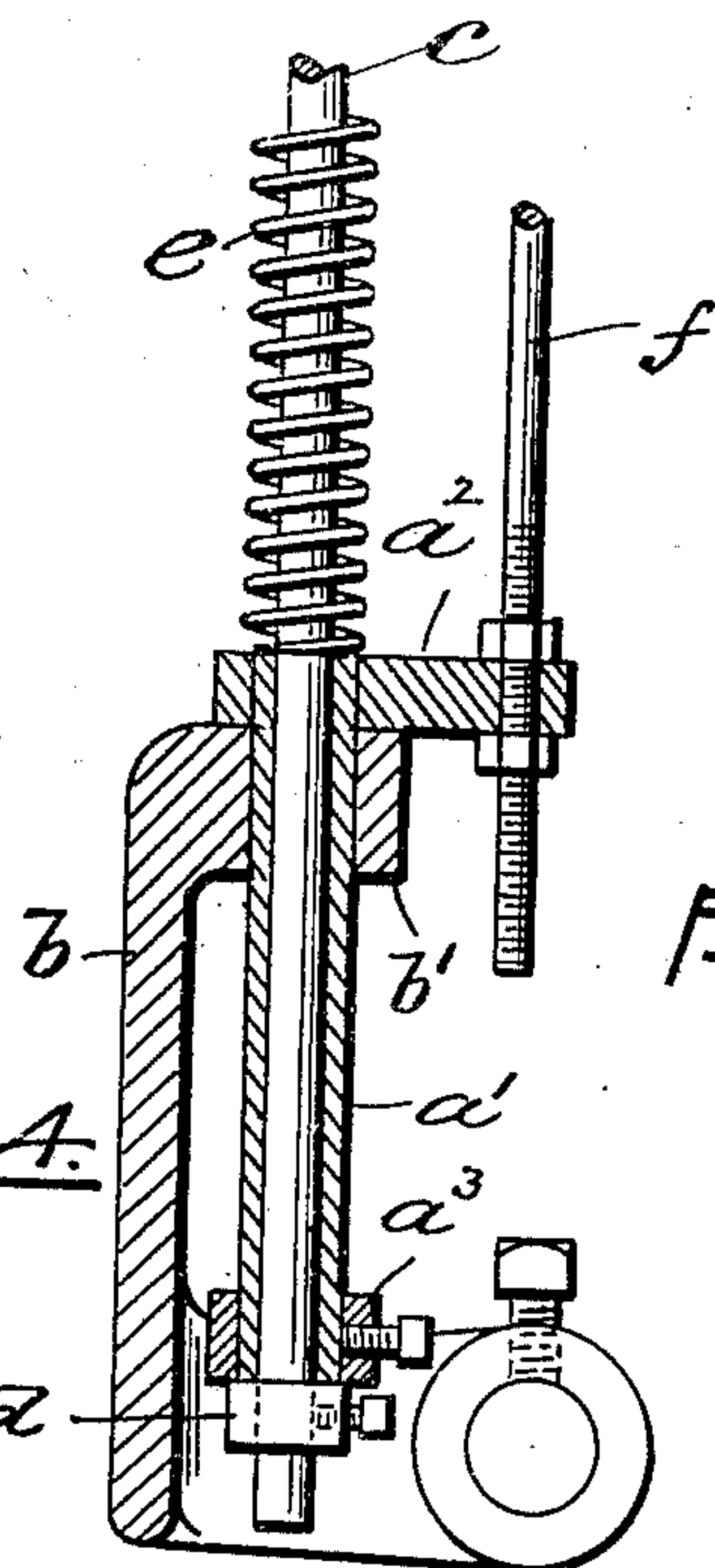


FIG. 3.

WITNESSES.

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SHUTTLE-BOX-OPERATING MECHANISM.

No. 839,988.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed April 10, 1906. Serial No. 310,971.

To all whom it may concern:

Be it known that I, HUGH CANE, a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Shuttle-Box-Operating Mechanism, of which the following is a specification.

This invention relates to box-motion mechanism for looms; and the object is to provide a mechanism by means of which the shuttle-box is brought into alinement with the shuttle-way on the batten more evenly and steadily than by the mechanism now generally employed for the purpose.

A further object of the invention is to provide a construction in which a more gradual and steady operation of the mechanism is effected, and the liability of breaking the picker-sticks thereby avoided.

The invention consists in the novel features of construction and arrangement hereinafter more fully described, particularly pointed out in the claims, and clearly illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the main body portion of my improved mechanism or device to be attached to a loom of the usual construction. Fig. 2 is a view showing the same in position on the loom; Fig. 3, an enlarged sectional view on line $x x$ of Fig. 2, and Fig. 4 a similar view on line $y y$.

Referring now more particularly to the drawings, A designates the frame of the loom, provided with the usual bracket b , in which is journaled the picker-stick B.

The shuttle-box and its adjacent mechanism are indicated at C.

The main body portion a of my mechanism or device, as illustrated in Fig. 1, consists of a hollow tube or sleeve a' , of suitable dimensions, provided upon each end with laterally-extending perforated arms or lugs a^2 and a^3 , disposed at substantially right angles to each other. The upper arm a^2 is preferably brazed on the tube, the lower arm a^3 being adjustably secured in position by means of a set-screw.

Referring now to Fig. 2, the bracket b is formed at its upper end with a laterally-extending perforated lug b' . In positioning my device upon the loom the hollow shank portion a' of the sleeve a is passed through

the perforated bracket-lug b' , the arm a^3 remaining upon the under side thereof and the arm a^2 upon the upper side. In this position the hollow tubular portion a' is adapted to receive and slidably embrace the lower end of the shuttle-box lifter-rod c , the upward movement of which is limited by a collar d , adjustably secured thereon by means of a set-screw. The rod c is provided with a coil-spring e , adapted to be compressed between the under side of the shuttle-box and the arm a^2 . The arm or lug a^2 receives the threaded end of a rod f , carried by the end of a sprocket-chain f' , which is secured to and operated by one of the jacks of the dobby (not shown) or other form of head motion of the loom. The other lug a^3 receives the lower end of the usual spring-pressed rod connection g .

The operation of the mechanism is as follows: When a pull or tension is exerted upon the rod f by reason of the action of the jack to which it is connected, the sleeve a rises, sliding through and guided by the lug b' , until the arm a^3 comes into contact with the under side of said lug. During this operation the shuttle-box and lifter-rod c have lagged behind, as it were, by reason of their inertia, compressing the springs c and k . When the upward movement of the sleeve a ceases by contact of lugs a^3 and b' , the spring c expands and completes the upward movement of the shuttle-box to its proper level with the lay. The shuttle-box is returned to its lowered position upon release of the jack by means of the spring k .

It will be readily seen from the foregoing description that by my improved construction the shuttle-box is raised to its proper level with the lay steadily and evenly and not jerked into position by reason of the necessary quick action of the jack.

My improved mechanism is also capable of a much more delicate adjustment than has been afforded by the construction heretofore employed in such mechanisms.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a loom box-motion mechanism, a stationary guide-rod, a movable box-rod, coiled springs mounted on said rods, a sleeve slidably mounted on the lower end of the box-rod, laterally-extending lugs carried by

the opposite ends of said sleeve, one of said lugs adapted to receive an operating connection, the other lug adapted to slidably engage said stationary guide-rod.

5 2. In a shuttle-box-operating mechanism, the combination with the box-rod and the guide-rod, and coiled springs mounted on said rods, of a sleeve slidably mounted on the lower end of the box-rod provided with laterally-extending lugs upon its opposite ends, 10 one of said lugs adapted to receive an operating connection and the other lug slidably embracing the guide-rod.

3. In a loom, the combination with the 15 picker-stick bracket, the box-rod and stationary guide-rod, of coiled springs mounted on said rods, a sleeve slidably mounted on the lower end of the box-rod and working within a guide on the picker-stick bracket, a 20 stop carried by the box-rod adapted to engage said sleeve, laterally-extending arms carried by the opposite ends of the sleeve, one of said arms having a sliding connection

with the guide-rod and means for operating the box-rod connected to the other of said 25 arms.

4. In a loom box-motion mechanism, the combination with the box-rod, a guide-rod and coil-springs mounted on said rods, of a sleeve slidably mounted on the box-rod and 30 connected to the operating mechanism of the loom, and a lug carried by the sleeve and slidably engaging the guide-rod.

5. In a loom box-motion mechanism, the combination with the box-rod, a guide-rod 35 and coil-springs mounted on said rods, of an attachment slidable on the box-rod and connected to the loom-operating mechanism, and slidably engaging the guide-rod.

In testimony whereof I affix my signature 40 in presence of two witnesses.

HUGH CANE.

Witnesses:

GEO. W. CAMPBELL,
GEO. A. HARRINGTON.