

No. 701,534.

Patented June 3, 1902.

F. BROWN.

PICKER OPERATING MECHANISM FOR SWIVEL LOOMS.

(Application filed Jan. 15, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

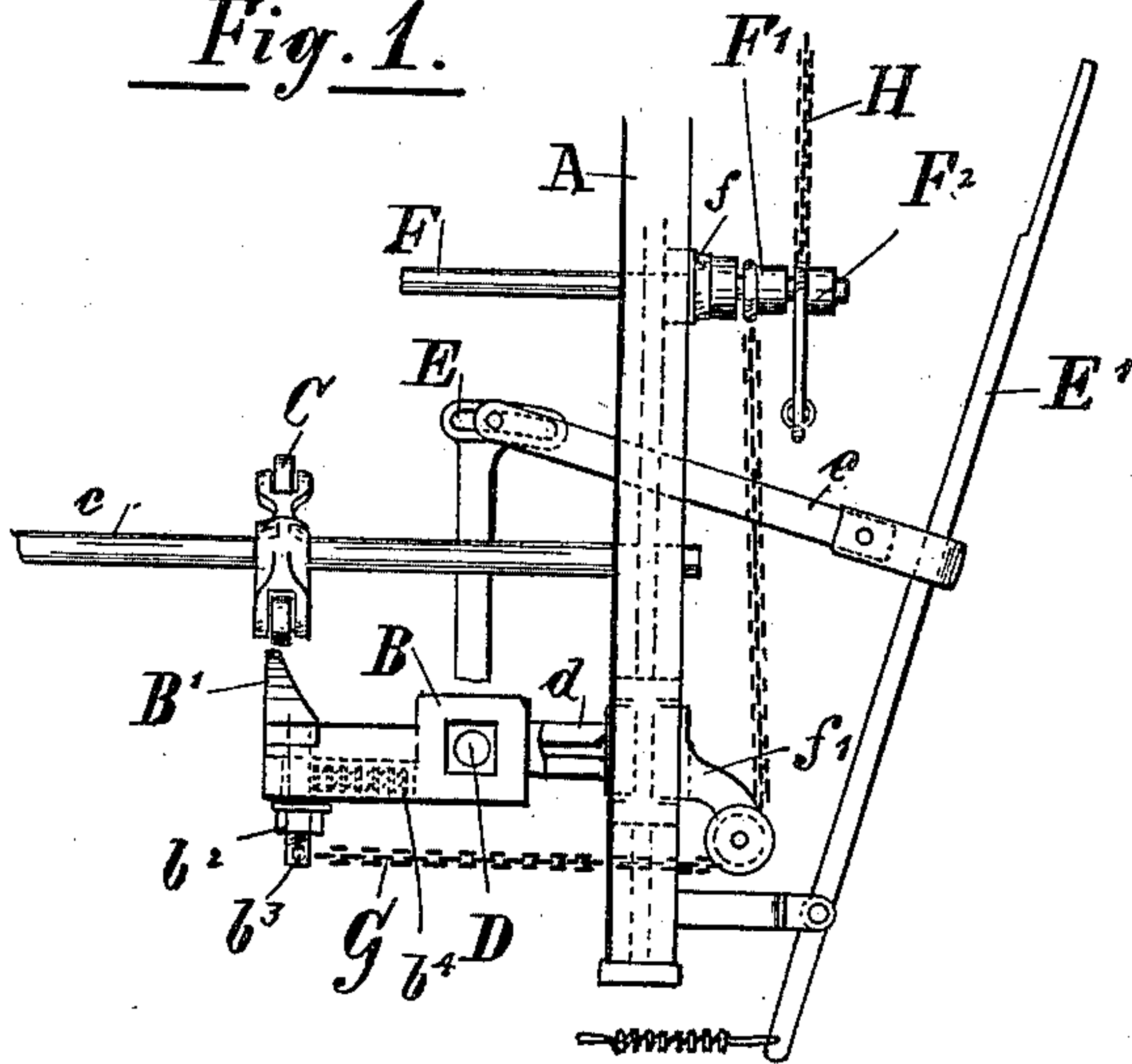


Fig. 2.

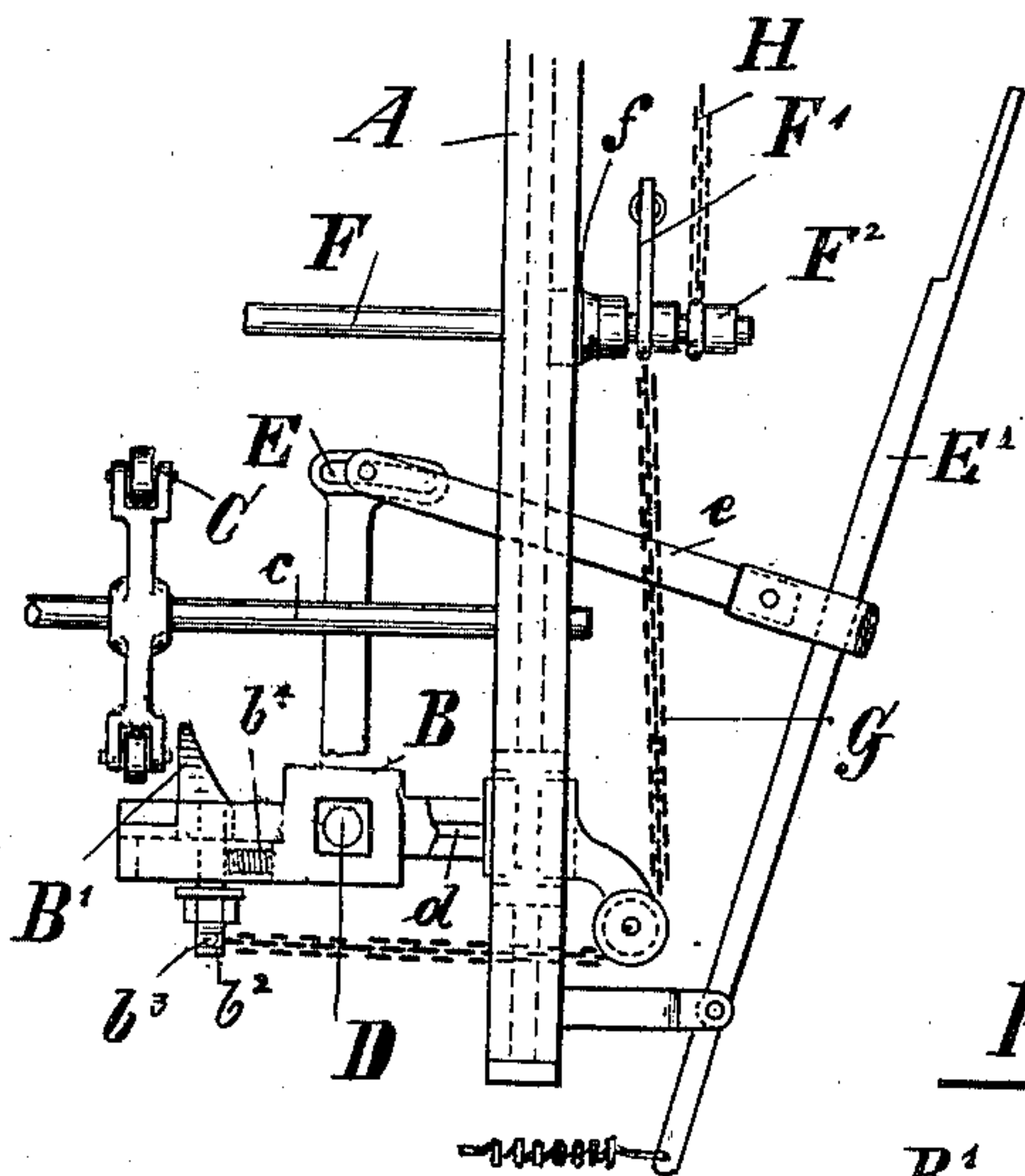


Fig. 3.

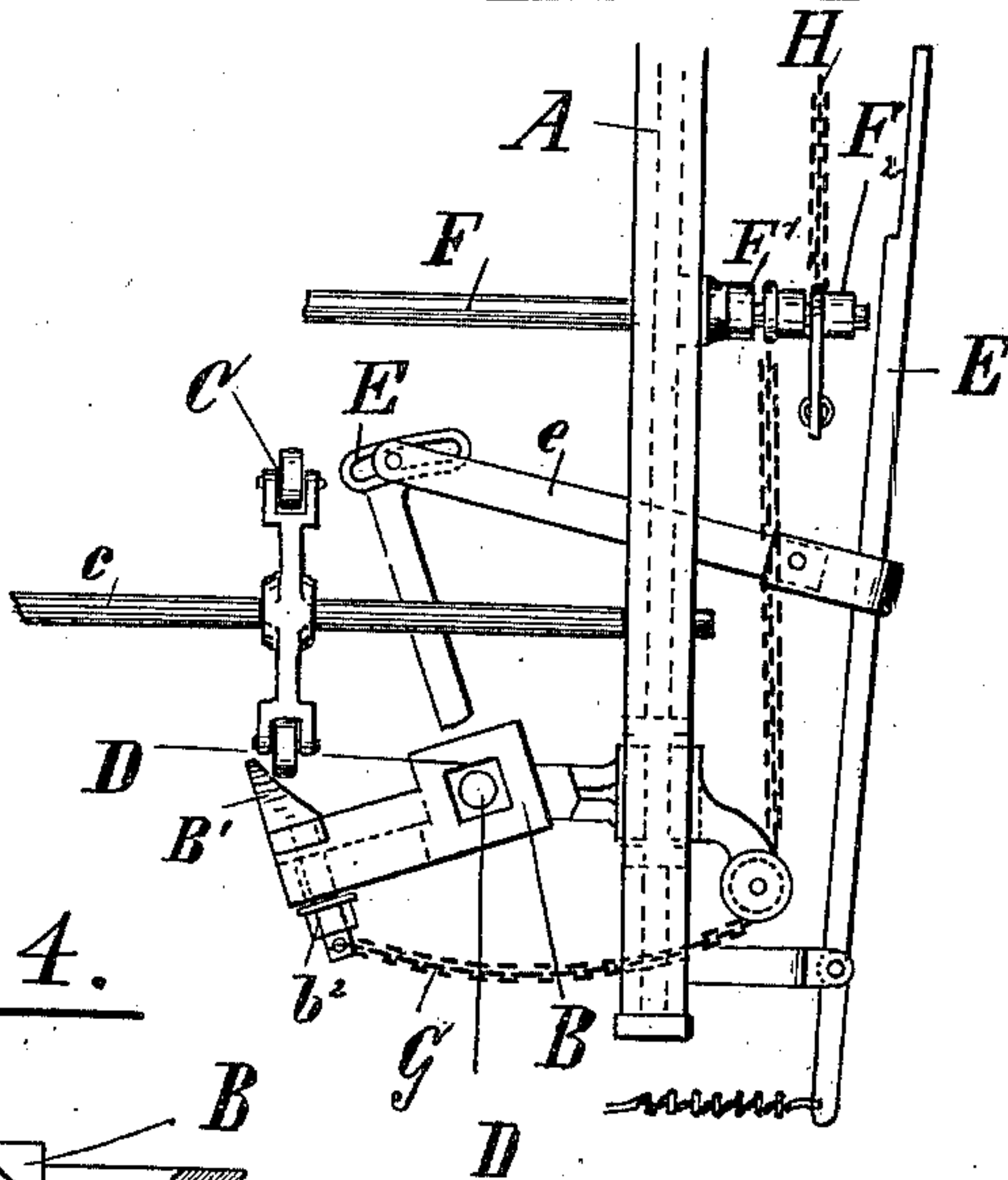
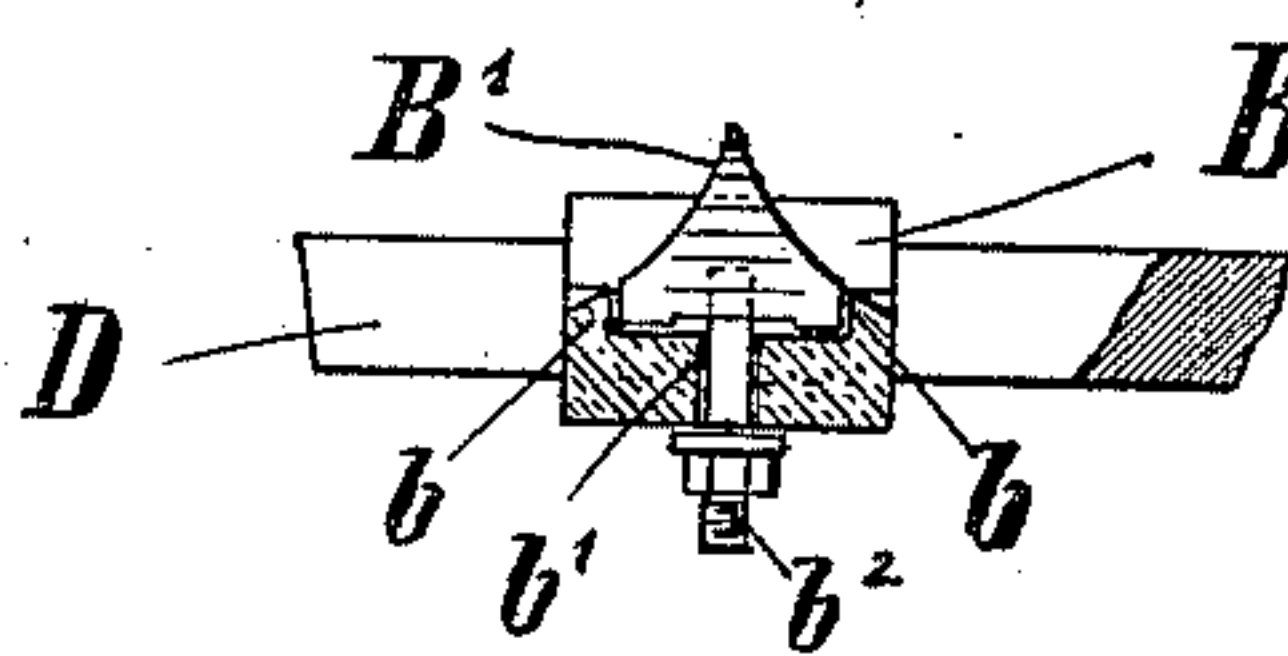


Fig. 4.



WITNESSES:

*C. G. Leers.*  
*L. F. Baier*

INVENTOR.

*Fred Brown*

BY

*John F. Kerr*

ATTORNEY.

**No. 701,534.**

**Patented June 3, 1902.**

**F. BROWN.**

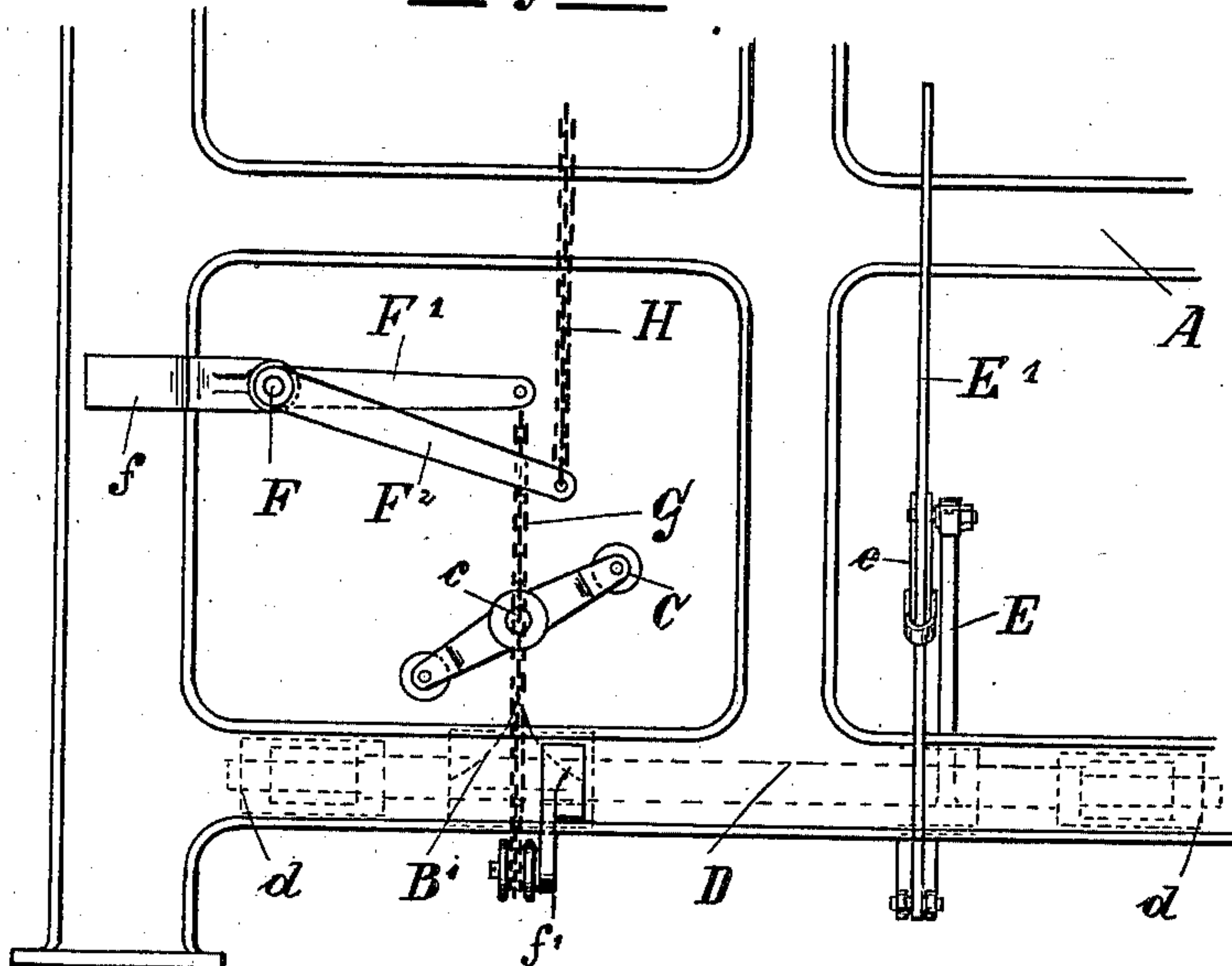
# PICKER OPERATING MECHANISM FOR SWIVEL LOOMS.

(Application filed Jan. 15, 1902.)

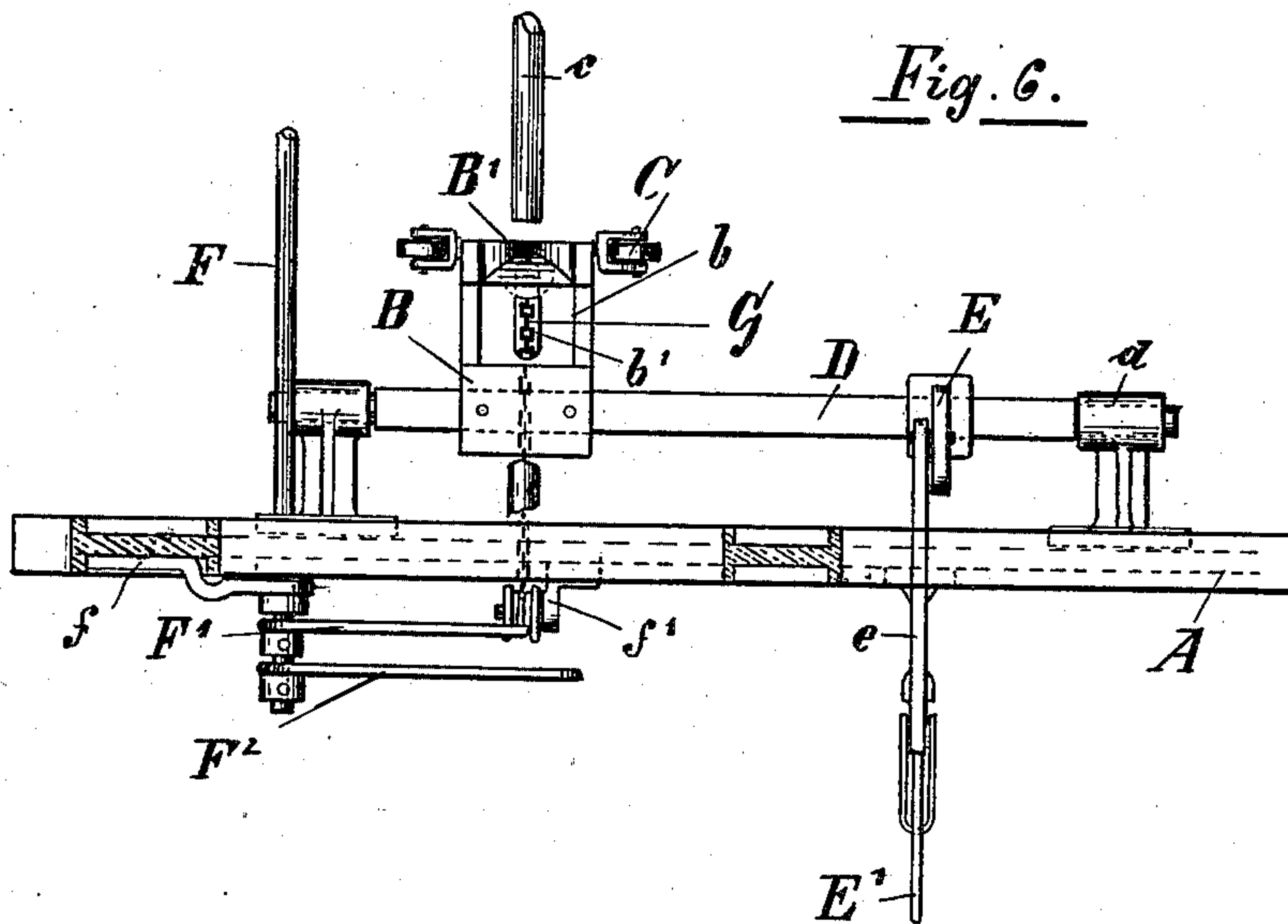
(No Model.)

**2 Sheets—Sheet 2.**

Fig. 5.



*Fig. 6.*



*WITNESSES:*

E. B. Leers.  
L. F. Boice

INVENTOR  
Fred Brown

BY *John F. Kerr*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

FRED BROWN, OF PATERSON, NEW JERSEY, ASSIGNOR TO JOSEPH WADSWORTH, OF PATERSON, NEW JERSEY.

## PICKER-OPERATING MECHANISM FOR SWIVEL-LOOMS.

SPECIFICATION forming part of Letters Patent No. 701,534, dated June 3, 1902.

Application filed January 15, 1902. Serial No. 89,801. (No model.)

*To all whom it may concern:*

Be it known that I, FRED BROWN, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Picker-Operating Mechanism for Swivel-Looms, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to swivel-loom in general, but more particularly to the picking-stick-operating mechanism thereof.

The object of my invention is to provide an automatic and intermittent picking-stick-operating mechanism, whereby the shuttle may be shot through the shed at any desired time or interval during which the swivel-rack is not in operation, the operation of the picking-stick being controlled and regulated from and by the head-motion of the loom. For instance, the shuttle and the rack may be operated alternately, or the shuttle may be made to miss two or more picks during the operation of the rack, according to the number and arrangement of balls in the head-motion.

20 The invention consists of a sliding shoe located normally in the path of the picking-balls and being operatively connected with the picking-stick and operative connections between the sliding shoe and the head-motion of the loom to withdraw the shoe from the path of the picking-balls when required and for any period desired.

35 In the drawings, in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a portion of a loom, showing my improvements applied thereto, the picking-balls being about to engage the shoe to operate the picking-stick, which is shown in its normal position. Fig. 2 is a similar view, but showing the sliding shoe in another position or withdrawn from the path of the picking-balls by the head-motion, to which the shoe is connected, the picking-stick being still in its normal position, the swivel-rack meanwhile being permitted to operate. Fig. 3 is a similar view, but showing the sliding shoe depressed by the engaging picking-balls and operating the picking-stick. Fig. 4 is a view, partly in section, showing the construc-

tion and arrangement of my shoe, the block in which it slides, and the square shaft to which the said block is secured. Fig. 5 is an end elevation of a portion of a loom, showing my invention applied thereto and the construction thereof; and Fig. 6 is a plan view of a portion of a loom embodying my invention.

Enough of the loom is shown, it is thought, to illustrate and explain my invention, certain parts that are old and common in loom constructions being omitted. Any suitable spring attachment may be secured to the picking-stick to hold it in its normal position.

60 In the drawings, A represents a portion of a loom-frame, in which is journaled the shaft F in bearings f, the square shaft D in bearings d, and the picking-shaft c. On the picking-arm of the shaft c are located suitable picking-balls C. On the square shaft D is secured the lever-arm E, which is connected with the picking-stick E' by the lug-strap e. In the shoe-block B, which is mounted on the square shaft D, the shoe B' is fitted to slide and is kept normally in the path of the revolving picking-balls C by means of the expansion-spring b<sup>4</sup>. The picking-balls in rotating engage the curved side of the shoe, depressing the same, thus causing the square shaft D, to which it is secured, to turn in its bearings and by means of the lever-arm E and the lug-strap e to operate the picking-stick E'. In Figs. 1, 2, and 3 the lever E, which is secured to the rock-shaft D, as shown in Fig. 6, is shown broken away to avoid confusion of lines in said figures. If not so broken off, it would seem to meet the lines of the shoe-block B, in which the sliding shoe B' reciprocates. When the picking-balls engage the sliding shoe, the shoe and the block in which it is mounted are depressed, thus turning the rock-shaft D and by the said lever E actuating the picker-stick E'. It will be seen by reference to Fig. 6 that the said lever E is secured to the square rock-shaft D at quite a distance from the shoe-block B, and if the said lever were not broken away in the first three figures of the drawings that would not appear to be so. On each end of the shaft F is secured a lever F', each of which is connected with a shoe B' by a chain G or some other



suitable device. A lever  $F^2$  is also secured to the shaft  $F$  and is connected with the head-motion of the loom by means of a chain  $H$  or its equivalent, whereby said shaft is caused to turn in its bearings and withdraw the shoe  $B'$  from the path of the picking-balls  $C$ . This is accomplished by the head-motion pulling the chain  $H$  upwardly, the lever  $F^2$  turning the shaft  $F$ , causing the lever  $F'$  to pull on the chain  $G$ , thus causing the shoe  $B'$  to slide in the shoe-block  $B$  until it is out of the path of the picking-balls  $C$ , as shown in Fig. 2 of the drawings.

The chain  $G$  passes from the lever  $F'$  over a pulley device  $f'$  to the shoe, to which it is secured in any suitable manner. In the drawings said chain is shown secured to a hole  $b^3$  in the bolt  $b^2$ , which passes through a slot  $b'$  in the shoe-block  $B$  and into the shoe, where it is held by a washer and nut; but I do not wish to limit myself to these details of construction, as any suitable way of causing the shoe to move in the slide or race  $b$  of the shoe-block  $B$  until it is out of the path of the revolving picking-balls may be adopted without departing from the scope and intent of my invention.

As my sliding shoe is operated by the head-motion of the loom, the operation is automatic and intermittent and the number of balls in the head-motion will regulate the time when and the length of time during which the shuttle and rack, respectively, shall in their proper turn be in operation.

With this description of my invention, what I claim is—

1. In a swivel-loom, the loom-frame, a rock-

shaft mounted therein, a picking-stick pivotally secured to said frame, a lever-arm secured to said rock-shaft and a lug-strap connecting said lever and picking-stick, in combination with a shoe-block also secured to said rock-shaft and having a raceway therein, a shoe adapted to slide therein, a spring to hold said shoe in its normal position, and means for temporarily withdrawing and holding said shoe from and out of its normal position, substantially as set forth.

2. In a swivel-loom, a rock-shaft, a shoe-block secured to same and provided with a raceway therein, in combination with a shoe adapted to slide therein, means therein to hold said shoe normally in the path of revolving picking-balls, and means for temporarily withdrawing and holding said shoe from, and out of its normal position, substantially as set forth.

3. In a swivel-loom, the combination with the picking-shaft, provided with a picking-arm carrying picking-balls, of the rock-shaft, a shoe-block secured thereto having a raceway in it and a sliding shoe adapted to reciprocate therein, means to hold said shoe normally in the path of the picking-balls to rock the rock-shaft and means for temporarily withdrawing and holding said shoe from, and out of its normal position, substantially as set forth.

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

FRED BROWN.

Witnesses:

JOHN F. KERR,  
HUGH SWEENEY.