

JOHN DYSON.

Motion for Levers operated by Drop Box Chain.

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PATENTED AUG 1 1871

Fig. 1.

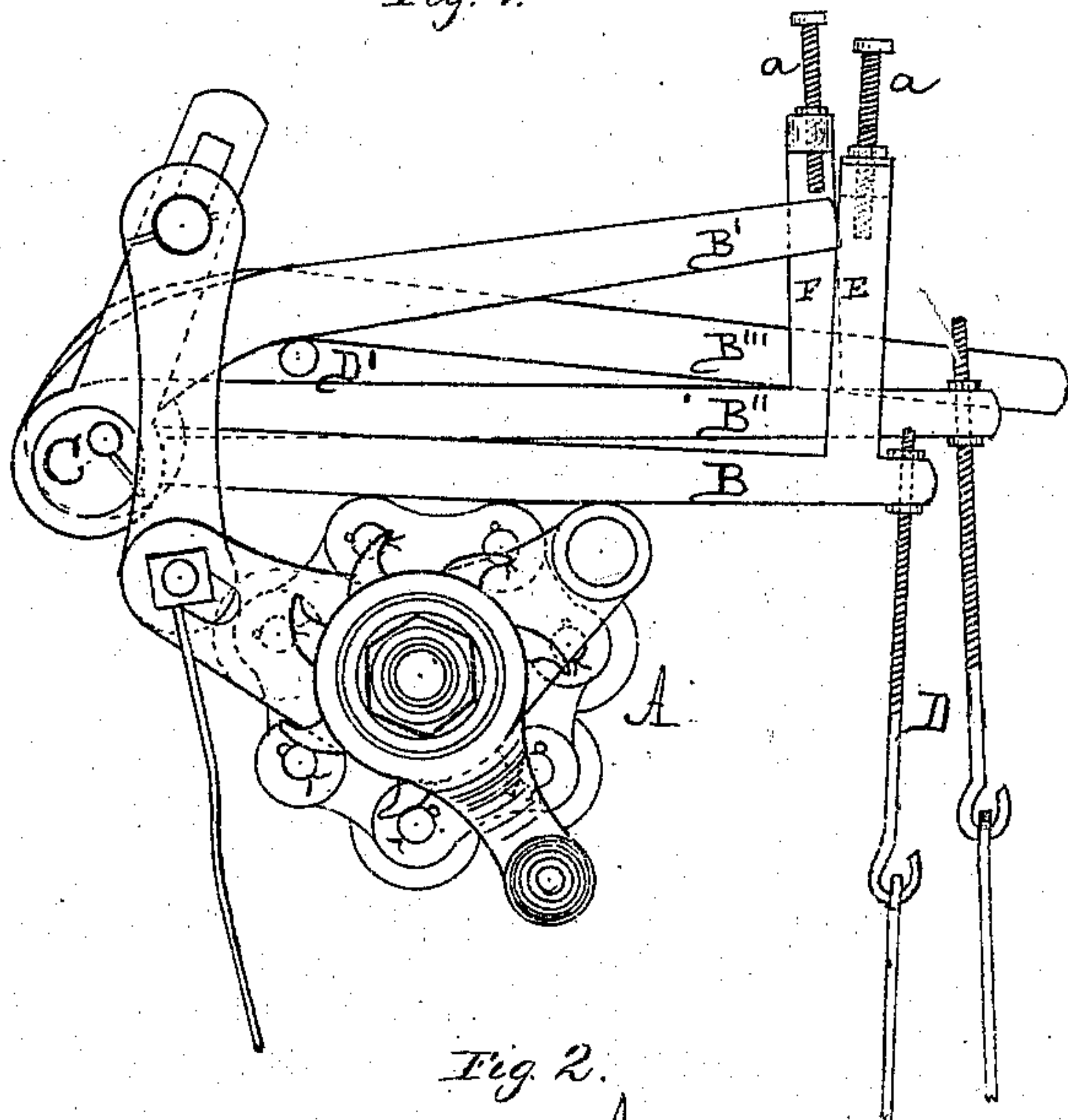


Fig. 2.

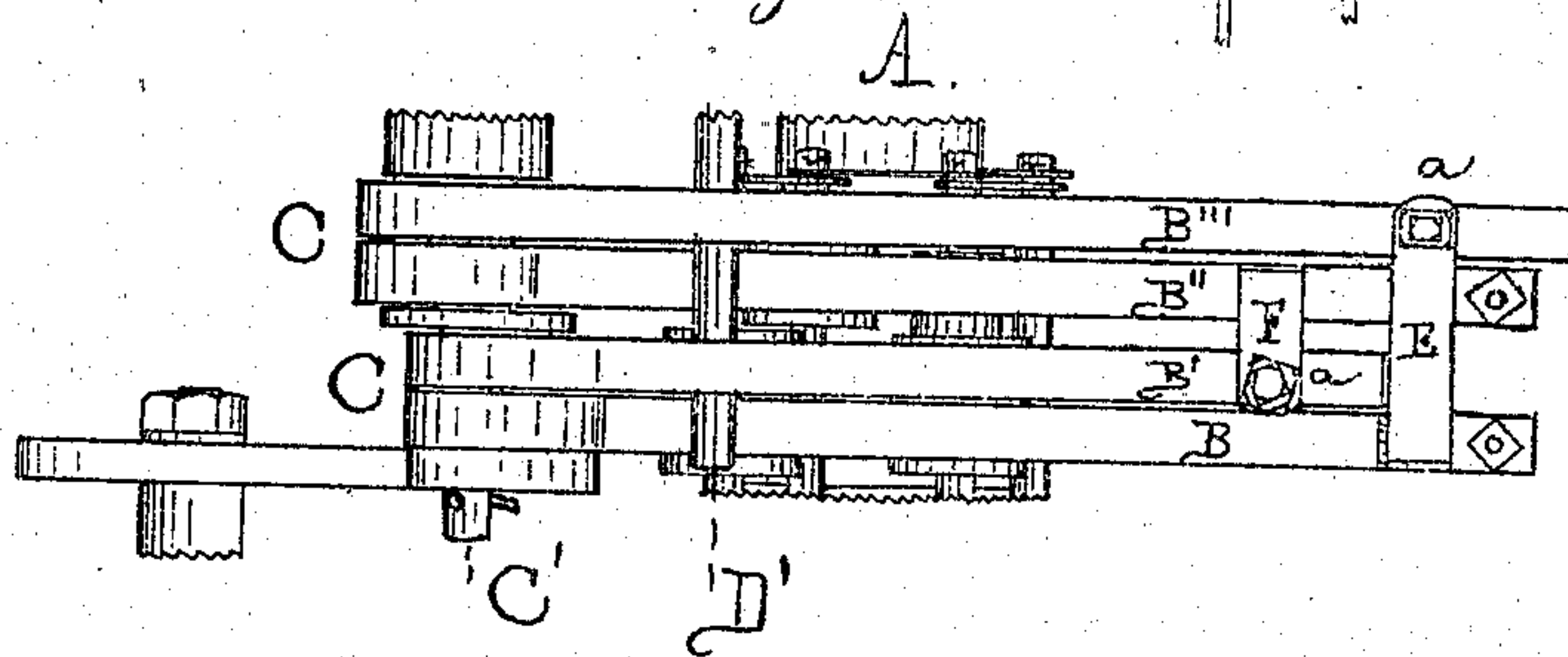
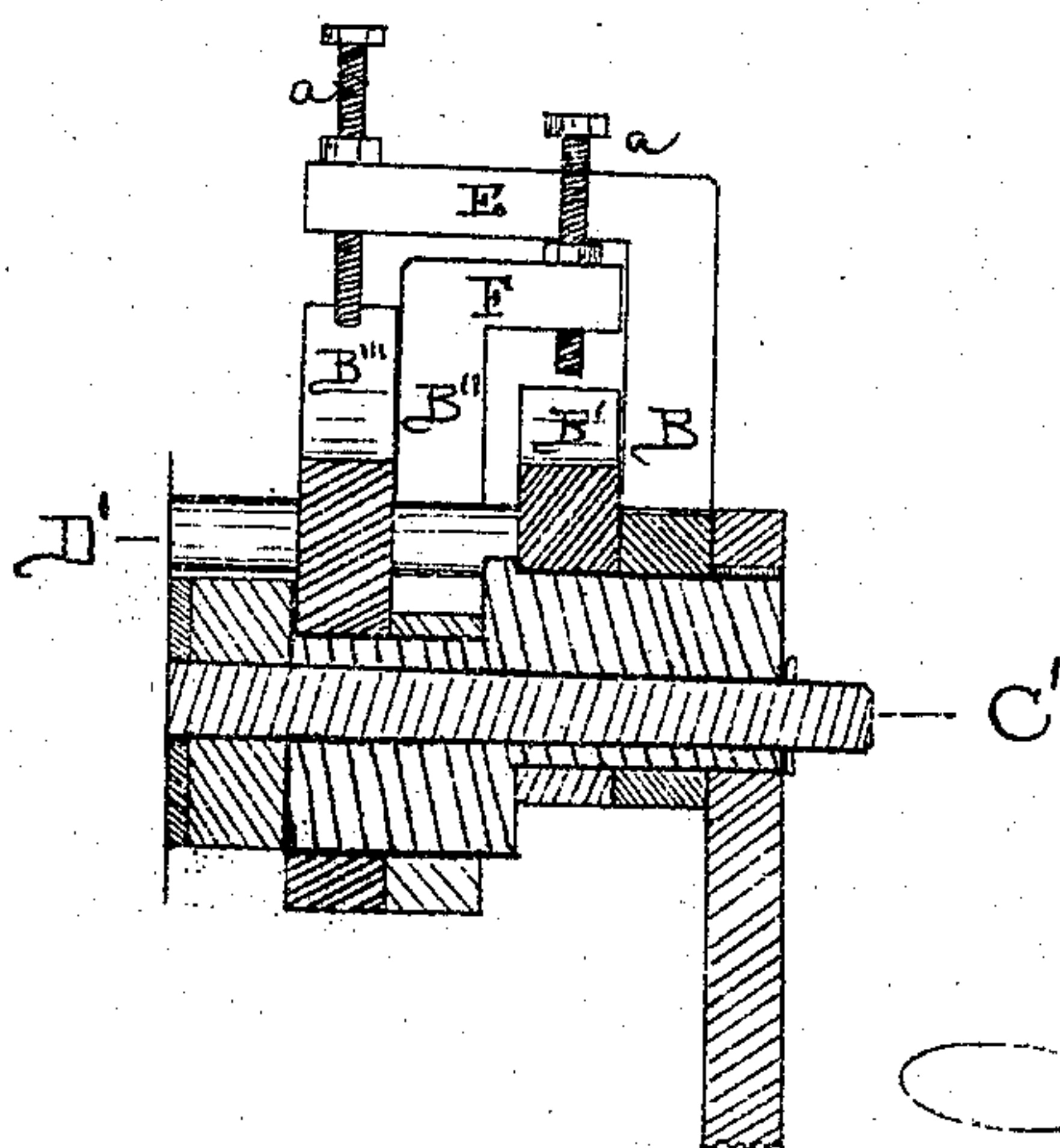


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN DYSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SHUTTLE DROP-BOX MECHANISMS.

Specification forming part of Letters Patent No. 117,523, dated August 1, 1871.

To all whom it may concern:

Be it known that I, JOHN DYSON, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Mode of Operating Levers of the Drop-Box Chain of Looms; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a side view of the device illustrating my invention. Fig. 2 is a top or plan view of a portion thereof. Fig. 3 is an end view partly in section.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to an improved motion for levers operated by the drop-box chain; and consists of levers which are placed or mounted upon a double eccentric, one lever on each eccentric constituting the principal levers, being connected directly with the attachments of the box-motion by leather thongs or otherwise, in the usual manner.

By this invention there is great saving of labor and expense. A fine shuttle pattern can be worked by the drop-box motion on a loom with three boxes at each side with, say, one-half of the number of links in the box-chain that is required by the method now in use, and there is considerable reduction of weight on the loom.

In the drawing, A represents the drop-box chain, to which motion is communicated in any well-known manner. B B' B'' B''' are levers arranged above the box-chain, and having their bearings in a double eccentric, C, whose axis C' is properly secured to a suitable portion of the loom, motion being imparted to the eccentrics by connections with the parts which operate the box-chain or otherwise. These levers in the present case are four in number, two of them being mounted upon and operated by one eccentric, and two upon and by the other eccentric, so that when the fulcrum of one pair is down the other is up, and vice versa. B B'' represent the principal levers, and are placed on different eccentrics. They are connected to the appendages

or attachments of the box-motion by leather thongs D, or otherwise, in the usual manner. The other levers B' B''' are auxiliary levers, and pass over a rod, D', which is secured to the proper portion of the loom, and acts as a fulcrum to said levers, so that as the ends of the levers on the eccentric are raised the other ends are lowered, and vice versa. The levers B B'' have attached to or formed with them pieces E F. The piece E extends over the levers B''', and the piece F extends over the lever B', and both pieces are provided with screws *a a* for adjustment purposes.

When the eccentric respectively depresses the connected ends of the auxiliary levers, the free ends come in contact with the pieces on the principal levers and raise the latter to such a height as to prevent the box from changing. This arrangement enables the boxes on each side of the loom to be changed alternately without pulling the chain over every pick. For, if a reverse roll is under the lever of the left-hand box while the shuttle is on the right-hand box, the eccentric being raised, the roll acts as a fulcrum and depresses the end of the lever, thus preventing the left side from changing until the eccentric is lowered, which occurs at the proper moment. If a tube or blank be under the same lever, the auxiliary lever on the other side, being raised as its eccentric is lowered, comes in contact with the connection upon the principal lever and raises it so as to prevent the box from changing until the one eccentric is raised and the other lowered. Then the tube or blank will have the usual effect upon the lever, allowing the box-cam to be pushed forward.

The operation of the lever for the right hand will be similar to that hereinbefore stated.

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

1. The series of levers B B' B'' B''', operated at one end by the eccentric C, and connected at the other end to the attachments of the box-motion, in combination with the rod D' and the drop-box chain A, the parts being constructed and arranged to operate in the manner and for the purpose set forth.

2. The rod D', as arranged with the auxiliary

levers B' B''', in combination with the principal levers B B'', the box-chain A, and the attachments of the box-motion, the parts being constructed and operating substantially in the manner and for the purpose set forth.

3. The pieces E F and set-screws *a a*, in combination with the levers B B' B'' B''' and with the box-chain A, rod D', and the attachments of

the box-motion, substantially as and for the purpose described.

The above specification of my invention signed by me this 25th day of May, 1871.

JOHN DYSON.

Witnesses:

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PERCY V. KNEASS.