

(No Model.)

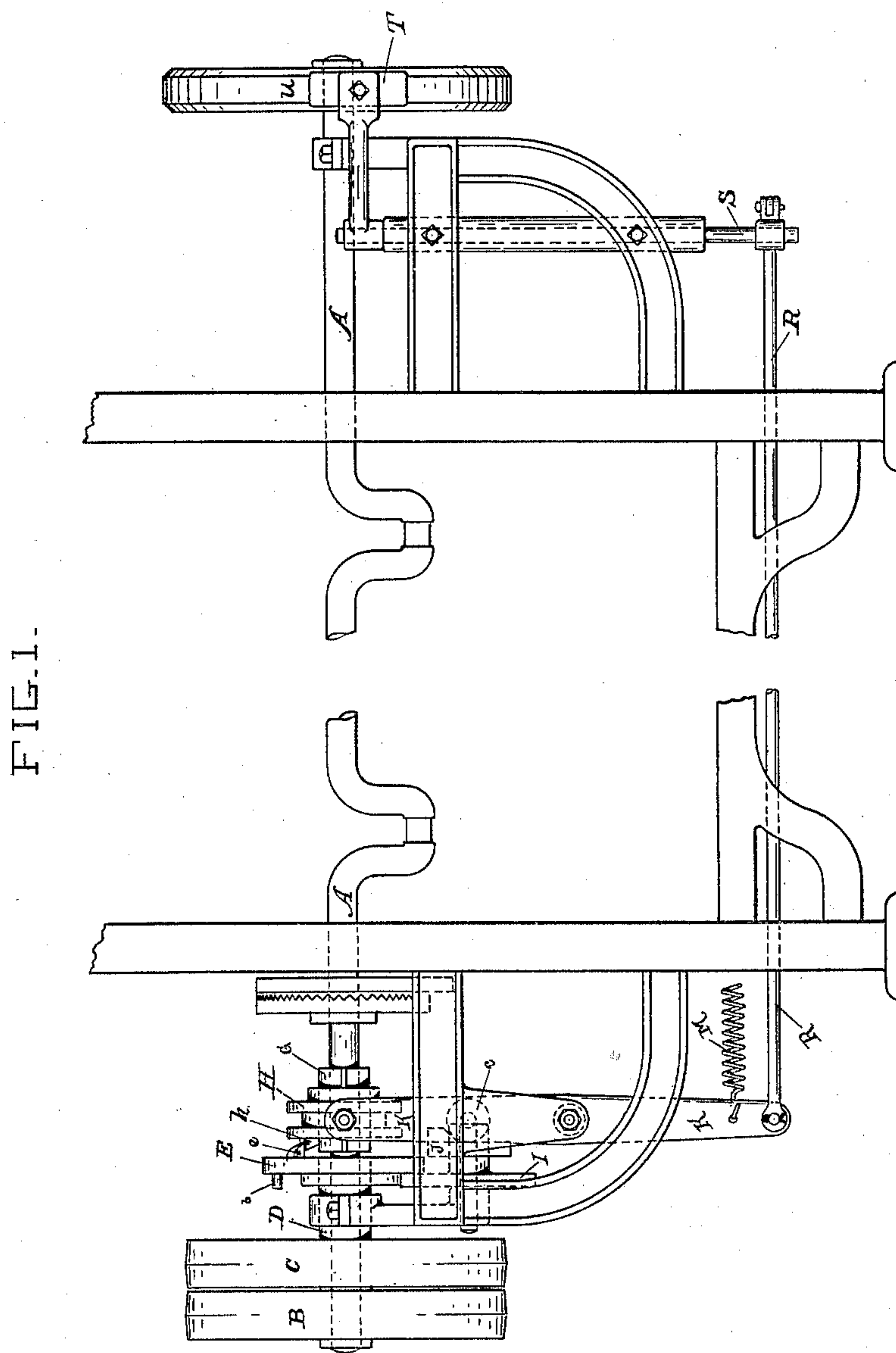
2 Sheets—Sheet 1.

E. HOLLINGWORTH.

AUTOMATIC STOPPING AND RESTARTING MECHANISM FOR LOOMS.

No. 466,754.

Patented Jan. 5, 1892.



Witnesses

Phoebe Sykes
Chas. Short, Jr.

Inventor

Edward Hollingworth

By *his* Attorney,

Attorney,
John B. Dewey

(No Model.)

2 Sheets—Sheet 2.

E. HOLLINGWORTH.

AUTOMATIC STOPPING AND RESTARTING MECHANISM FOR LOOMS.

No. 466,754.

Patented Jan. 5, 1892.

FIG. 3.

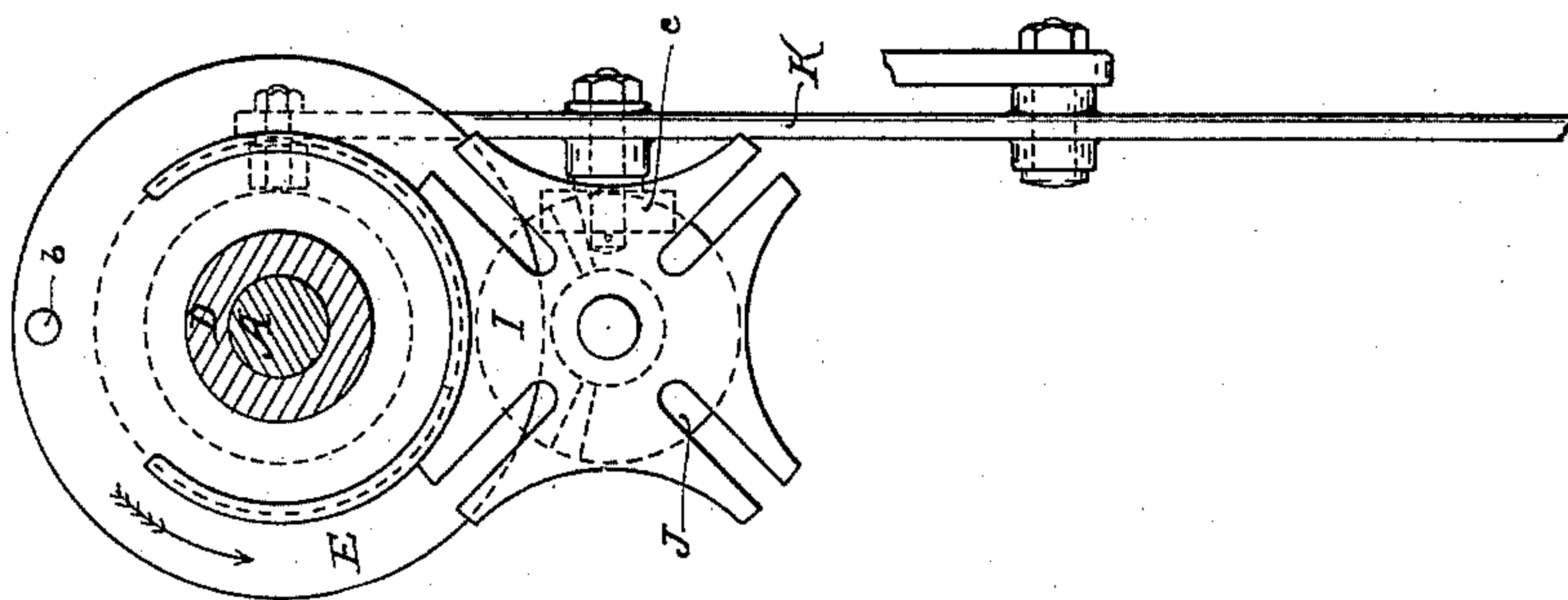
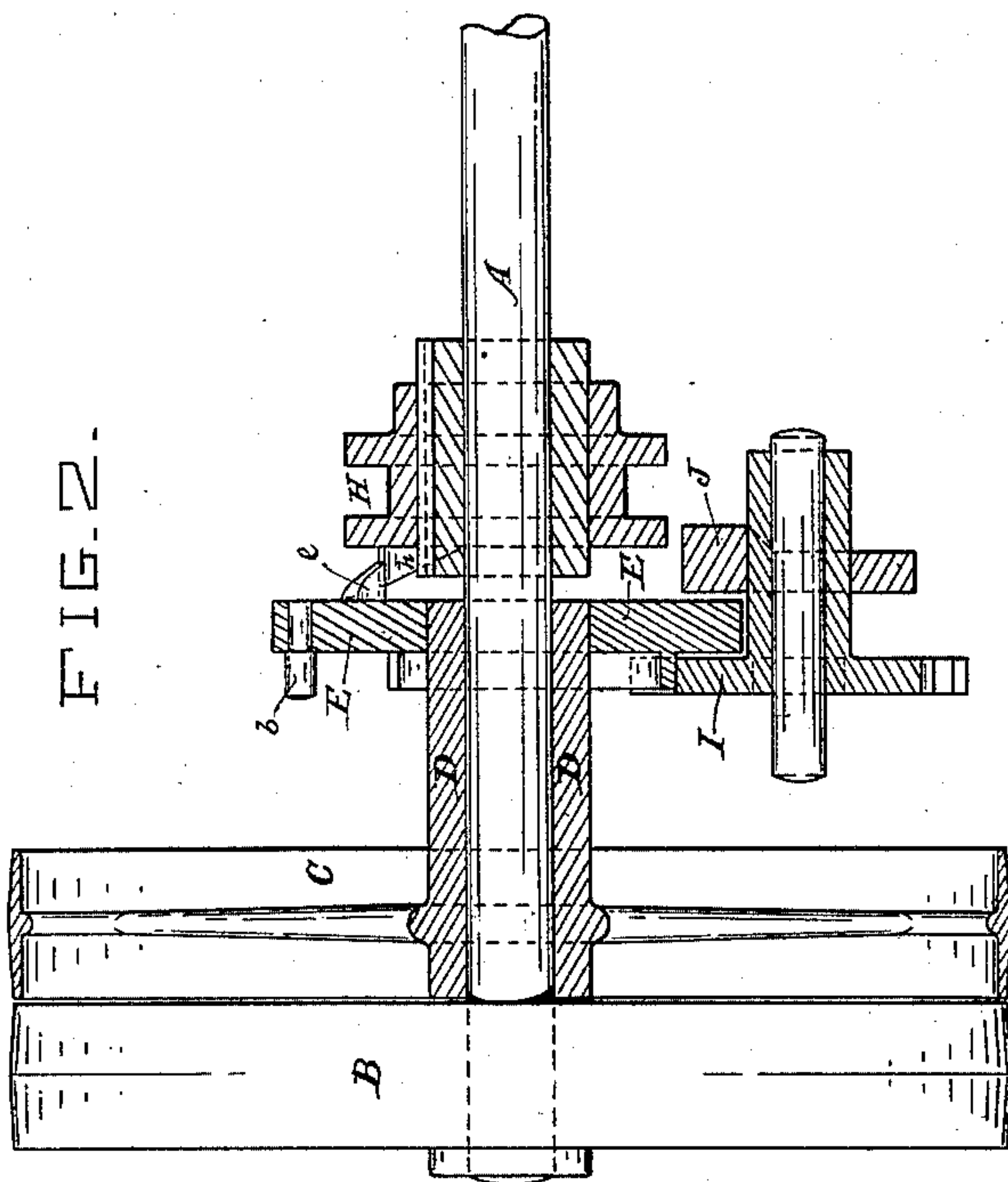


FIG. 2.



Witnesses

Phoebe Ryker.
Chas. Short, Jr.

Inventor

Edward Hollingworth,
By his Attorney,
John C. Dewey

UNITED STATES PATENT OFFICE.

EDWARD HOLLINGWORTH, OF DOBCROSS, ENGLAND, ASSIGNOR TO THE
KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS.

AUTOMATIC STOPPING AND RESTARTING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 466,754, dated January 5, 1892.

Application filed December 22, 1890. Serial No. 375,464. (No model.) Patented in England February 26, 1880, No. 845.

To all whom it may concern:

Be it known that I, EDWARD HOLLINGWORTH, a subject of the Queen of Great Britain, residing at Dobcross, near Huddersfield, in the county of York, England, have invented certain new and useful Improvements in Automatic Stopping and Restarting Mechanism for Looms, (for which I have received Letters Patent in England, No. 845, dated February 26, 1880;) and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to power-loom for weaving textile fabrics, and more particularly to that class of looms which are required to stop or dwell at regular intervals and for a fixed period of time, and then to restart and run for a fixed period of time, and then to stop or dwell and start again, and so on.

The object of my invention is to combine with a power-loom of the class above described means for automatically stopping the loom or causing it to dwell at regular intervals and for a fixed period of time, and for automatically restarting the loom at the expiration of said period of time and then continuing to repeat the operation of stopping and restarting the loom automatically.

My invention consists in combining with a power-loom of the class above referred to means for automatically stopping and automatically restarting said loom, as above described; and it will first be described with reference to the accompanying drawings, and then be defined in the claims at the close of this specification.

Referring to the drawings, Figure 1 is a part elevation of the back of a loom, showing my improvements. Fig. 2 is a section of some of the parts, and Fig. 3 is an end view showing the pegging and star wheel motion.

In the accompanying drawings, A is the crank-shaft, upon which is the loose pulley B and the driving-pulley C, keyed upon a long boss D, all of which run loose upon the crank-shaft. On the boss D is keyed or otherwise fastened a pegging-wheel E, provided with a projection or lug *e*. On the crank-shaft is another boss G, which is fastened

thereon, and upon this boss is a sliding clutch H, with a projection or lug *h*, capable of gearing with the lug *e* on the pegging-wheel E. In connection with the pegging-wheel E is a star-wheel I and a cam J for operating the lever K, which slides the clutch-box H out of gear with the pegging-wheel, and M is a spiral spring for operating the lever K in the opposite direction and throwing the clutch into gear.

In connection with the clutch mechanism above described I may employ a brake mechanism, if desired. Said brake mechanism consists in this instance of a rod R, attached at one end to the lower end of the lever K and at the other end to a crank-arm on the lower end of the vertical rod S. Said rod S is supported and turns in a sleeve attached to the loom-frame. On the upper end of the rod S is fast an arm, carrying at its outer end a brake T, adapted to be moved away from and against the periphery of the fly-wheel *u* as the rod S is rocked in its bearing.

The operation of the mechanism shown is as follows: When the loom is going, the strap is placed on the driving-pulley C and the lugs *e* and *h* are in gear, as shown in the drawings. When, however, the weft has been sent across the loom a sufficient number of times, it is requisite for the loom to stand, in order that the warp may be cut to form the pile, the peg *b* of the pegging-wheel E at each revolution taking into gear with the star-wheel I, turning it around a quarter of a revolution, which in due time causes the cam J to come into contact with the pulley *c* on the lever K, operating the lever in such a manner as to slide the clutch-box H on the boss G, disengaging the projections or lugs *e* and *h* and at the same time actuating the rods R and S, applying the brake T to the fly-wheel *u*, which instantaneously stops the crank-shaft and prevents the loom making another pick; also, gives time for the attendant to withdraw one wire and introduce another and also time for cutting the pile; but immediately the cam J has passed the pulley *c* the spiral spring M acts upon the lever in the other direction, sliding the clutch H upon the boss G and placing the lugs *e* and *h* once more into gear, and the loom is immediately restarted.

I have shown in the drawings and described

herein one form of mechanism, combined with a power-loom for automatically stopping the loom or causing the same to dwell at regular intervals and for a fixed period of time and
 5 automatically restarting the loom at the expiration of said period of time, and then repeating the operation of automatically stopping and automatically restarting the loom; but it will be understood that I do not limit
 10 my invention to the special form of mechanism or means herein shown and described, as any equivalent mechanism or means, combined with a power-loom of the class above referred to and for the purpose above stated,
 15 may be employed.

I am not aware that prior to my invention a power-loom has been provided with or has had combined therewith means for automatically stopping the operation of the loom and causing
 20 the loom to stop or dwell at regular intervals and for a fixed period of time and means for automatically restarting the loom at the expiration of said period of time, and again at the proper time automatically stopping the
 25 loom and automatically restarting the loom, and so on.

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

30 1. The combination, in a loom, with a cam, of continuously-driven operating connections whereby the said cam is driven, a shipping-lever operated by the said cam, and shipping mechanism operated by said lever to stop and
 35 restart the loom automatically at regular intervals, substantially as described.

2. The combination, with the continuously-

driven driving-pulley of a loom, of a cam, operating connections whereby the said cam is driven from the said pulley, a shipping-lever 40 operated by the said cam, and shipping mechanism operated by said lever to stop and restart the loom automatically at regular intervals, substantially as described.

3. The combination, with the driving-pulley 45 shaft of a loom, of a continuously-driven driving-pulley free to turn thereon, clutch connections whereby the driving-pulley may be coupled to the shaft, a cam, operating connections whereby the cam is driven from the 50 pulley, and a shipping-lever operated by the said cam, substantially as described.

4. The combination, with the continuously-driven driving-pulley of a loom, of a cam, operating connections whereby the said cam is 55 driven from said driving-pulley, and shipping and brake mechanism operated by the said cam to stop and restart the loom automatically at regular intervals, substantially as described. 60

5. The combination, with the driving-pulley shaft of a loom, of a continuously-driven driving-pulley free to turn thereon, clutch connections whereby the driving-pulley may be 65 coupled to the shaft, a cam, operating connections whereby the cam is driven from the pulley, and a shipping-lever and brake mechanism operated by the said cam, substantially as described.

EDWARD HOLLINGWORTH.

Witnesses:

JOHN C. DEWEY,
 PHOEBE SYKES.