

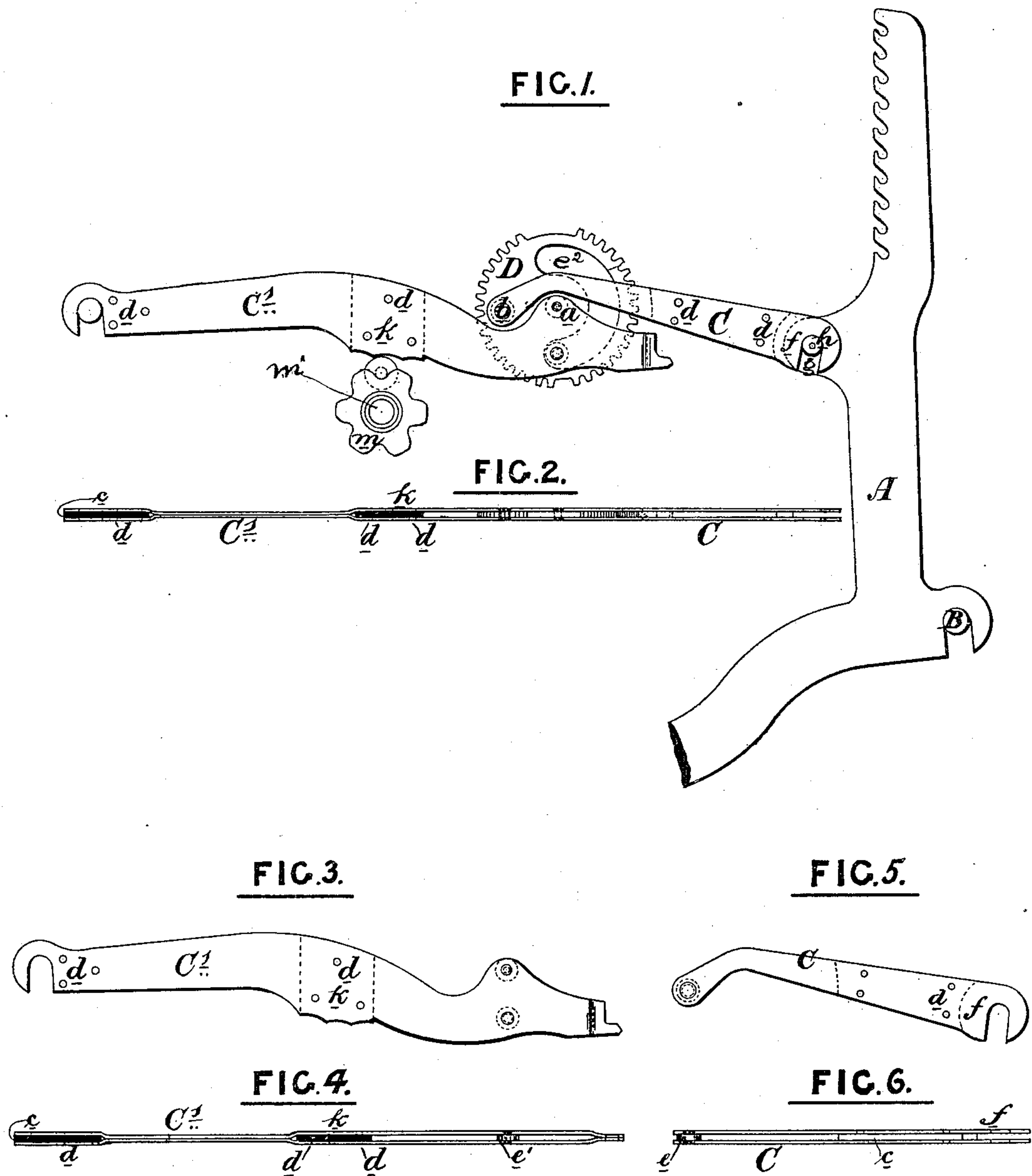
(No Model.)

J. HOLLINGWORTH.

DOBBY FOR LOOMS.

No. 369,941.

Patented Sept. 13, 1887.



WITNESSES:

Attest
Thomas H. Barron

INVENTOR:

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UNITED STATES PATENT OFFICE.

JAMES HOLLINGWORTH, OF DOBCROSS, COUNTY OF YORK, ENGLAND.

DOBBY FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 369,941, dated September 13, 1887.

Application filed August 9, 1886. Serial No. 210,464. (No model.) Patented in England April 8, 1886, No. 4,894.

To all whom it may concern:

Be it known that I, JAMES HOLLINGWORTH, a subject of the Queen of Great Britain, residing in Dobcross, in the county of York, England, have invented certain new and useful Improvements in Dobbies Employed for Looms for Operating the Healds, of which the following is a specification.

My invention has reference to that description of dobby employed in looms where vibrating wheels are employed for operating the healds. A loom provided with such a dobby is illustrated in the United States Patent of L. J. Knowles, No. 134,992, dated January 21, 1873. In this description of loom the healds are operated up and down by means of jack-levers or bell-crank levers, such levers being actuated by means of certain toothed disks called "vibrating wheels," the said jack-levers being connected to the disks by means of connecting-rods, which have hitherto been placed on one side or face of the disks, and attached thereto by washers and rivets, the said disks being first countersunk to receive the washers. There are also connected to the said disks certain supporting vibrating-levers which are attached to the disks on one side in the same manner as the connecting-rods. In practice I have found that in consequence of the connecting-rods and vibrating levers being attached to only one side of the disk that there has necessarily been a good deal of one-sided strain, both on the rivets and the disks, causing the said rivets to work loose, and also preventing the free working of the disks.

The object of my present invention is to construct the connecting-rods and the vibrating levers, and attach them to the disks in such manner as to avoid any one-sided strain, and thus allow free and even working of the rotary disks.

In carrying out my invention I make the connecting-rods with open ends somewhat like a fork, so that the disks can be placed between, but leave sufficient working room to allow for rotary motion of the disks, and the vibrating levers I make with certain slots or open parts, so that the disks can be placed between and yet leave working room, one of such slots being long enough to receive a steel or other

metal piece for resting upon the ordinary lifting bowls or pegs.

Such being the nature and object of my invention, I will now proceed to describe the same more fully, and for that purpose make reference to the accompanying sheet of drawings illustrative thereof, wherein—

Figure 1 is an elevation of the levers in the positions they assume when at work, and Fig. 2 is a plan view.

A is the usual bell-crank lever working upon the center or fulcrum B, and C is a connecting-rod united by rivet *b* to the toothed disk or vibrating wheel D, and C' is the vibrating lever having the vibrating wheel D pivoted thereon by rivet *a*. These parts C and C', I now make of thin metal blades or plates, (preferably steel,) as shown in Figs. 4 and 6, which are edge views of the parts seen from the under side, and the parts not required open, as at *c* and *k*, are filled up by suitably-shaped pieces of steel or other metal. When making the vibrating lever, it is placed under a punch or other instrument and pressed thereby into the form shown in the drawings, and afterward riveted together, as seen at *d*, the part at *k* being specially prepared to resist wear as it is acted upon by the rotary bowls or pegs *m* of the pattern-chain carried by the wheel *m'*.

After the parts C and C' are made in the manner set forth and shown, the vibrating wheel D is placed between the open parts and secured thereto in such manner that the connecting-bars C and vibrating levers C' have hold of both sides of each disk. Consequently the backward and forward pull are equal on both sides, making the parts more durable and easier to work, and yet taking up no more room in width than the present one-sided method of fastening.

Fig. 3 is a separate view of the vibrating lever C'. Fig. 4 is a plan of same, and Fig. 5 is a separate view of connecting-rod C, while Fig. 6 is a plan thereof.

The manner of connecting the rod C and vibrating lever C' to the disk is somewhat as follows, although it is not absolutely necessary to confine it to this method: In a hole in the disk D, at the point *b* in Fig. 1, is inserted a metal bush or collar, *e*, (see Fig. 6,) which bush is a little thicker than the disk. The

forked end of connecting-rod C is made to embrace the disk and the said bush *e*, and a rivet is passed through the holes in the extremities of the forks of said rod and through the hole 5 in said bush and clinched. The bush being a little thicker than the disk, thus serves to distance the forks of rod C and allow the disk to rotate freely between them. The bush or collar *e* may rotate both in the hole in the disk 10 and on the rivet, if desired. The vibrating lever C' is coupled to the disk D in the same manner as the rod C, except that the bush or collar *e'* in Fig. 4 engages a semicircular slot, *e''*, in the disk, and plays therein as the disk 15 rotates. This slot is common to these vibrator wheels or disks, and serves as a stop to limit the rotary movement of the disk. The end *f* of the connecting-rod is also forked, so as to receive the part *g* of the bell-crank lever 20 A, and hooks upon a projection, *h*, at each side of the said lever. This construction of rods and levers and method of fastening is not only much better than the present method, but it is cheaper, as there is no necessity to make

countersunk places in the disks for the reception of washers, and if the collar *e* wears away it can easily be removed, and another one substituted, in addition to which the tension on the disks is equally divided on both sides.

I declare that what I claim as my invention 30 is—

In a dobby for looms, the combination, with the jack-lever A and vibrator-wheel D, of the connecting-rod C, having forked or branched ends which embrace the said jack-lever and 35 wheel, respectively, on opposite sides, and the vibrating lever C', having a forked or branched end, which embraces the said vibrator-wheel, substantially as herein shown and described.

In witness whereof I have hereunto signed 40 my name in the presence of two subscribing witnesses.

JAMES HOLLINGWORTH.

Witnesses:

A. B. CROSSLEY,

THOMAS A. BARRON,

Both of Market Place, Huddersfield.