

116437

PATENTED JUN 27 1871

Frederick W. Graichen's Friction Apparatus for the Yarn Beam of a Loom.

Fig 1.

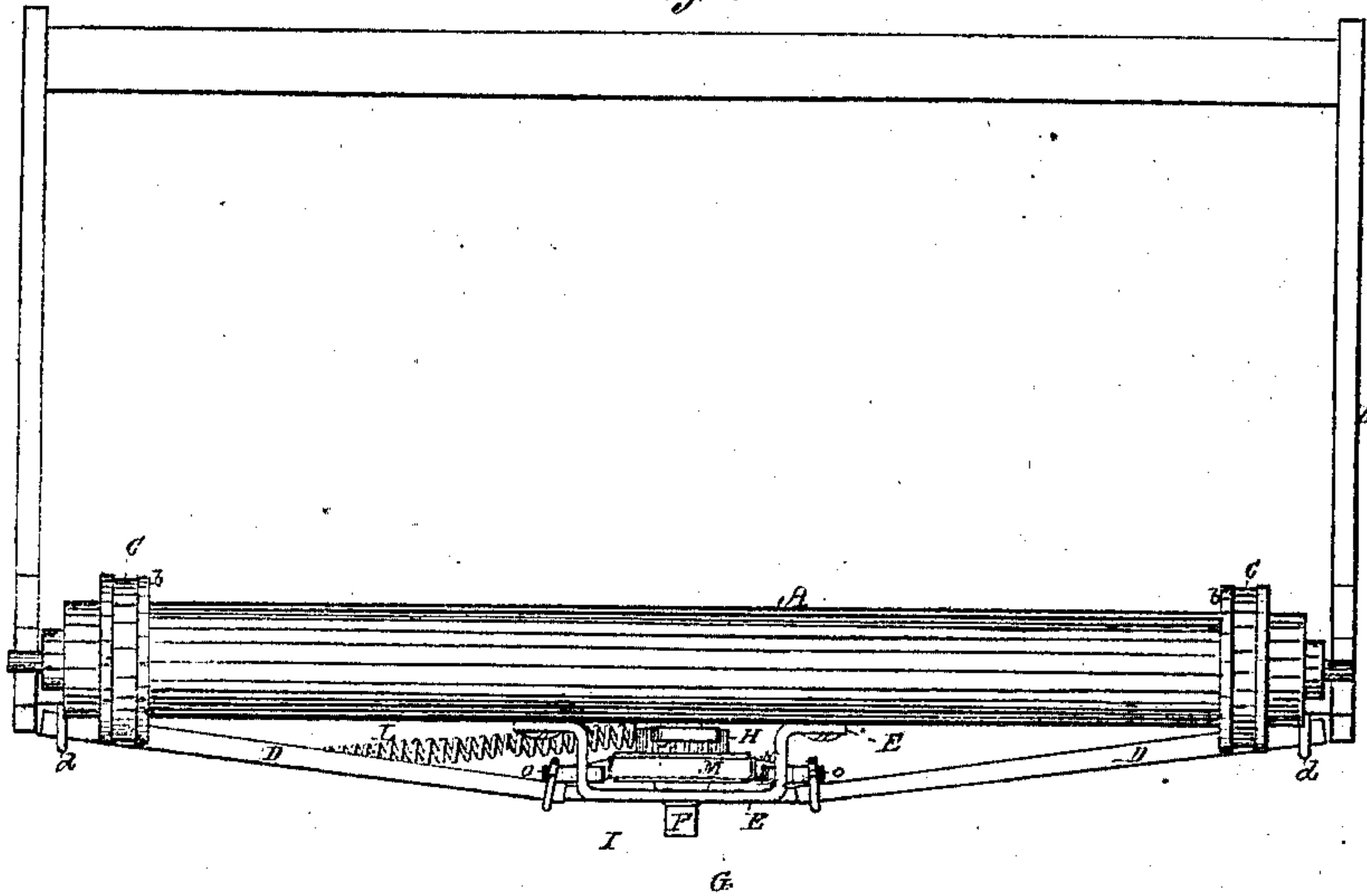


Fig 2.

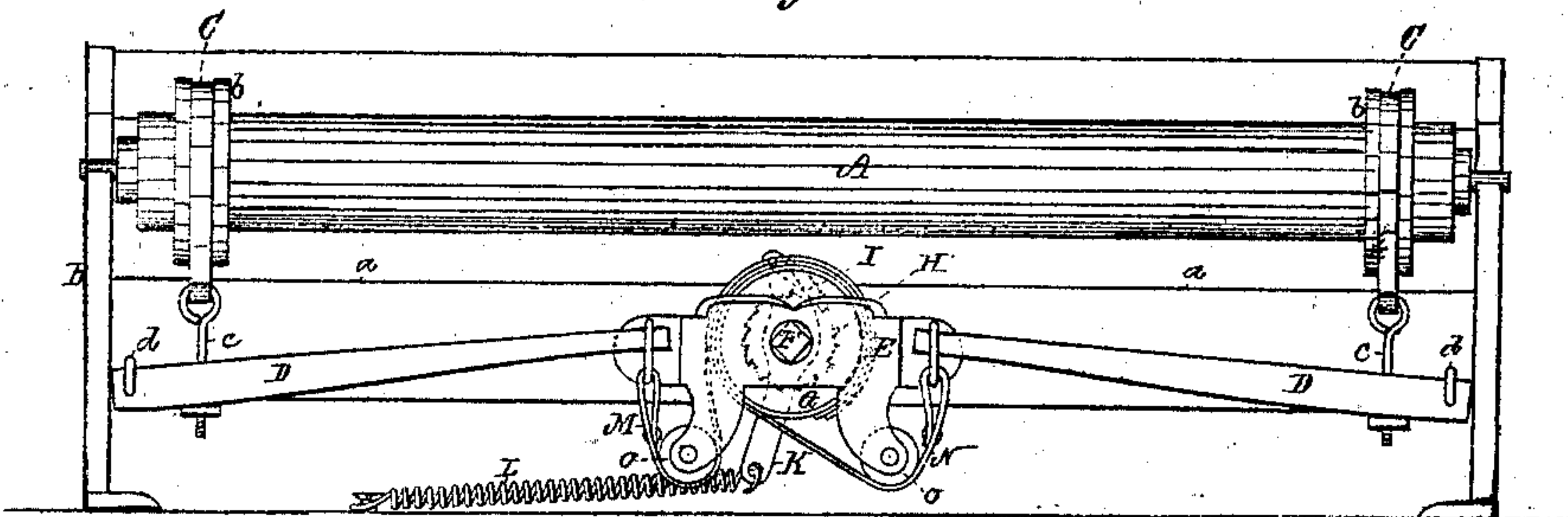
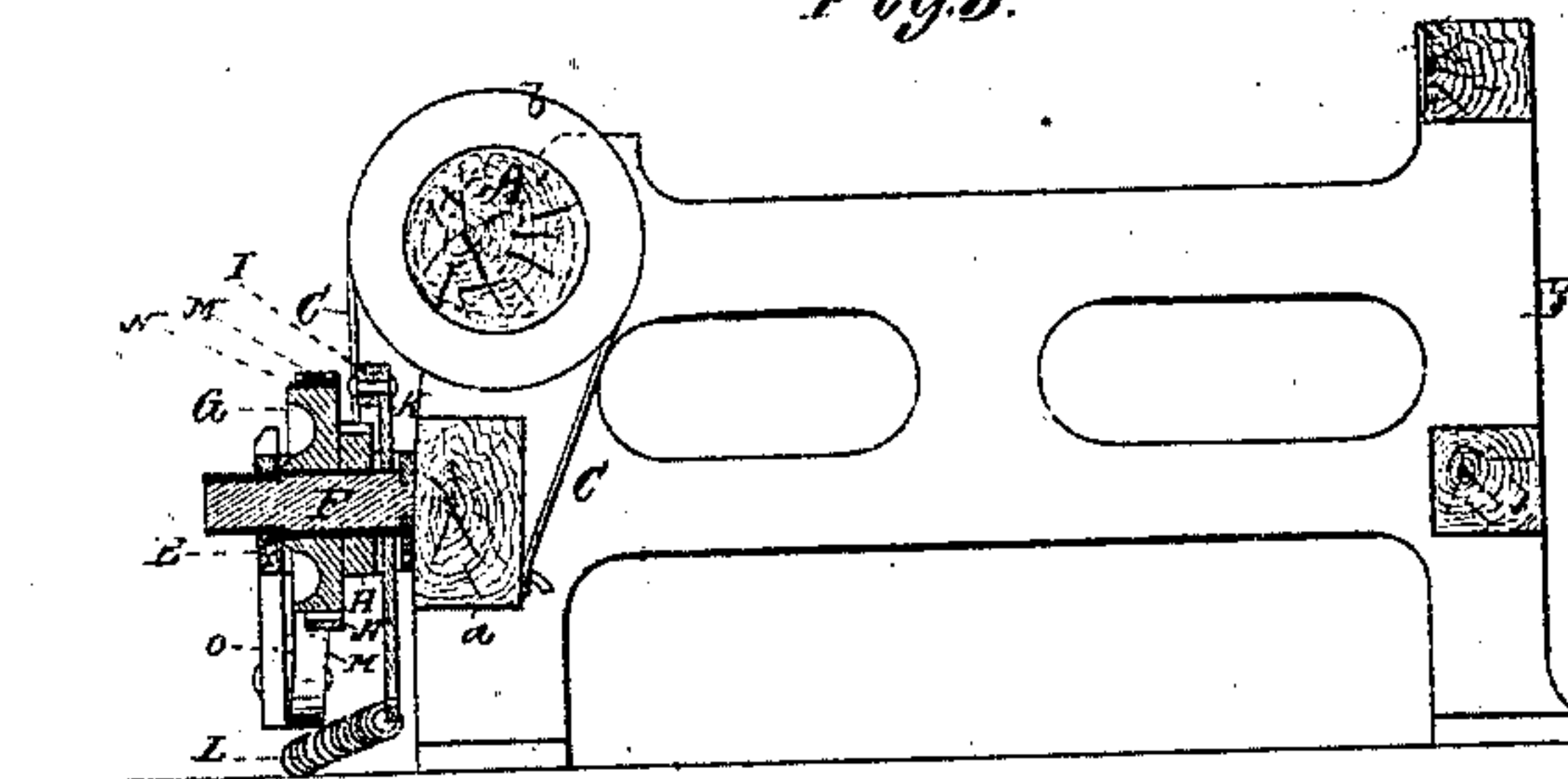


Fig 3.



Witnesses.

S. N. Piper.

L. N. Möller

F. W. Graichen

by his attorney.

N. H. Eddy

UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM GRAICHEN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR
TO EDWARD BARROWS AND JOSEPH CLAYTON, OF DRACUT, MASS.

IMPROVEMENT IN LET-OFF MOTIONS OF LOOMS.

Specification forming part of Letters Patent No. 116,437, dated June 27, 1871.

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM GRAICHEN, of the city and county of Providence, of the State of Rhode Island, have invented a new and useful Friction Apparatus for the Yarn-Beam of a Loom; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a front elevation, and Fig. 3 a transverse section of it and a yarn-beam and its supporting end of a loom-frame.

In such drawing, A denotes the yarn-beam, and B the loom-frame, *a* being the cross-girt, or that immediately underneath the yarn-beam. Two friction-straps or bands, C C, attached at one end of each to the girt, extend over and upon the peripheries of the heads *b b* of the yarn-beam, and are connected to the eyes of two screws, *c c*. These screws are extended through two levers, D D, whose fulcrums *d d* are at or near their outer ends, the two levers being arranged, with respect to the girth, in manner as represented. Within a frame, E, arranged between the two levers and fixed to the girt, is a shaft, F, provided with a wheel, G, the shaft, at its outer end, being prismatic to receive a key. A ratchet-wheel, H, is also fixed to the inner side of the wheel G, and receives and engages with a pawl, I, pivoted to the upper arm of a lever, K, whose fulcrum is the said shaft. A spring, L, fastened at one end to the lower arm of the lever K, and at the other to the floor, is arranged as represented. Furthermore, two bolts, M N, fastened to the periphery of the wheel G, are extended partially around the wheel and underneath guide-rollers O O, and are looped upon the inner ends of the two levers D D, all being as represented.

The belts and the wheel, the pawl and its lever, combined and arranged in manner as described and as represented, with the spring in

the levers of the friction-bands, constitute a means by which the tension or draft of the spring on the band-levers may be adjusted and regulated, as circumstances may require.

By casting the belts off the friction-band levers the yarn-beam will be so relieved of the friction of the bands as to enable it to be readily revolved by an operative when it may be necessary for him to do so to effect the piecing up of a warp, or for any other purpose.

I make no claim to the yarn-beam friction apparatus shown and described in the British patent No. 2,989, for 1868, granted to Gadd and Moore. My mechanism differs materially therefrom not only in construction, but in having but one spring to perform the functions of several springs as employed in the said Gadd and Moore's apparatus. Furthermore, it has a series of levers, one of which is directly connected with the spring and the latch-pawl. By pivoting the pawl I to the lever K and making use of such lever one spring only becomes necessary to operate the whole mechanism connected with it. Thus I secure one important advantage in construction and operation, and, besides, my arrangement greatly simplifies the mechanism.

I therefore claim—

My improved yarn-beam friction apparatus as composed of instrumentalities as described, arranged, and combined as set forth, such instrumentalities consisting of the single spring L, the lever K, the pawl I, the ratchet-wheel H, the wheel G, frame E, the shaft F, the bands M N, guide-wheels O O, and levers D D, provided with the friction-bands C C, applied to the yarn-beam as represented.

F. W. GRAICHEN.

Witnesses:

R. H. EDDY,
J. R. SNOW.