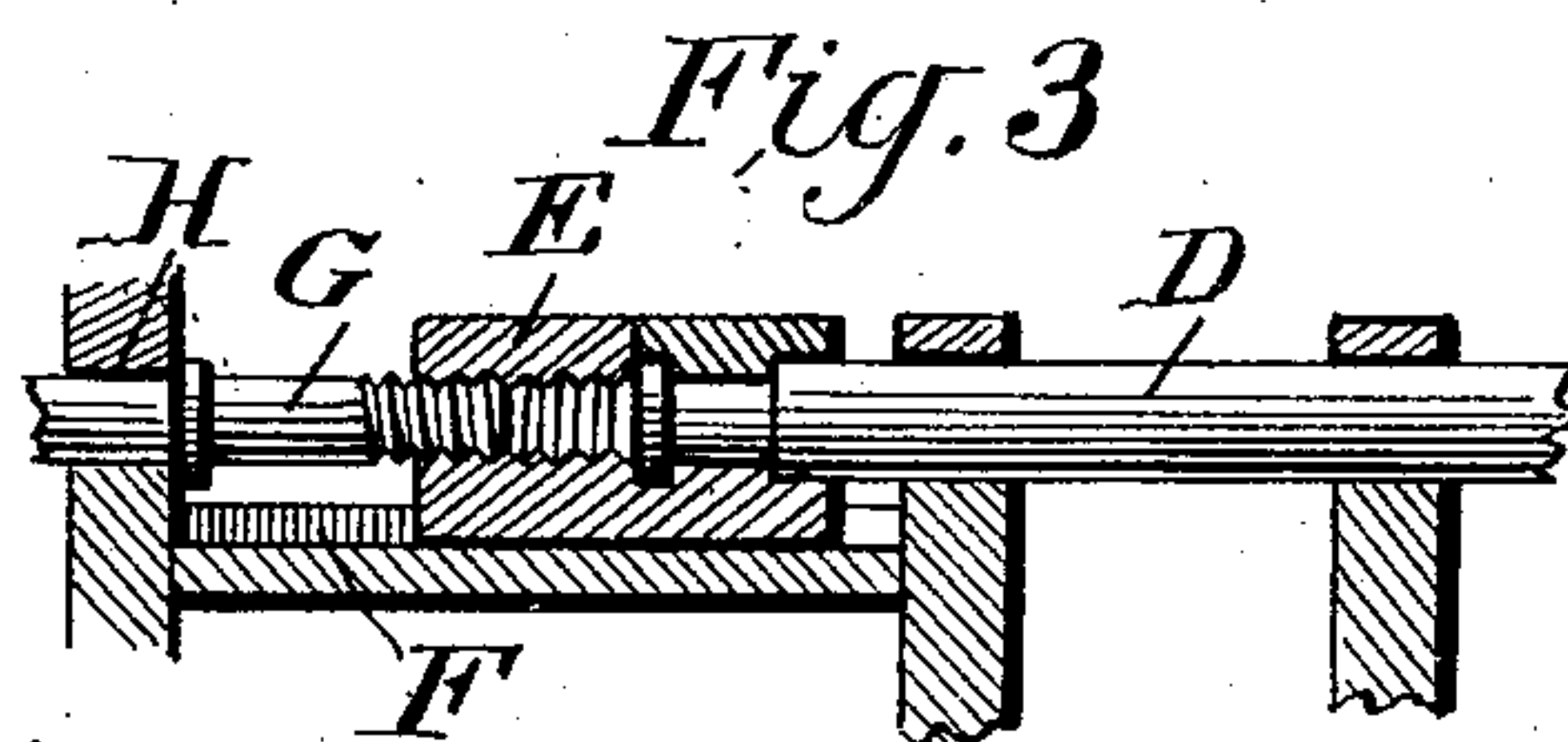
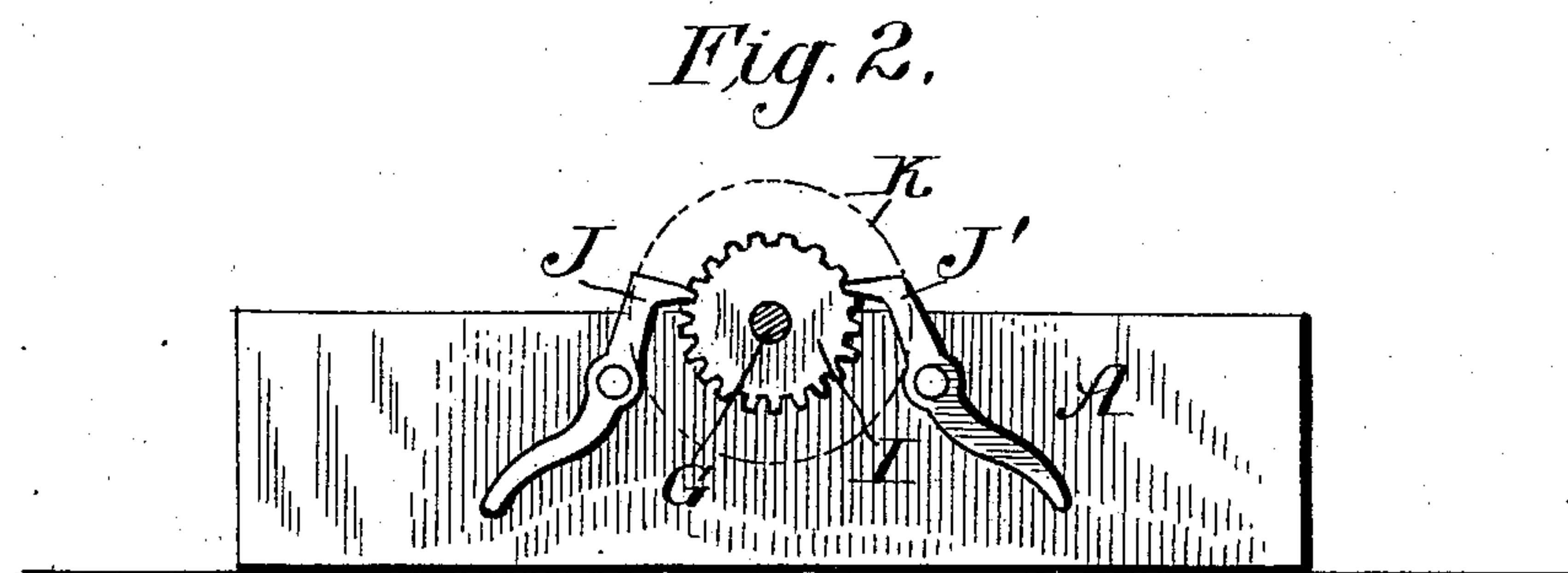
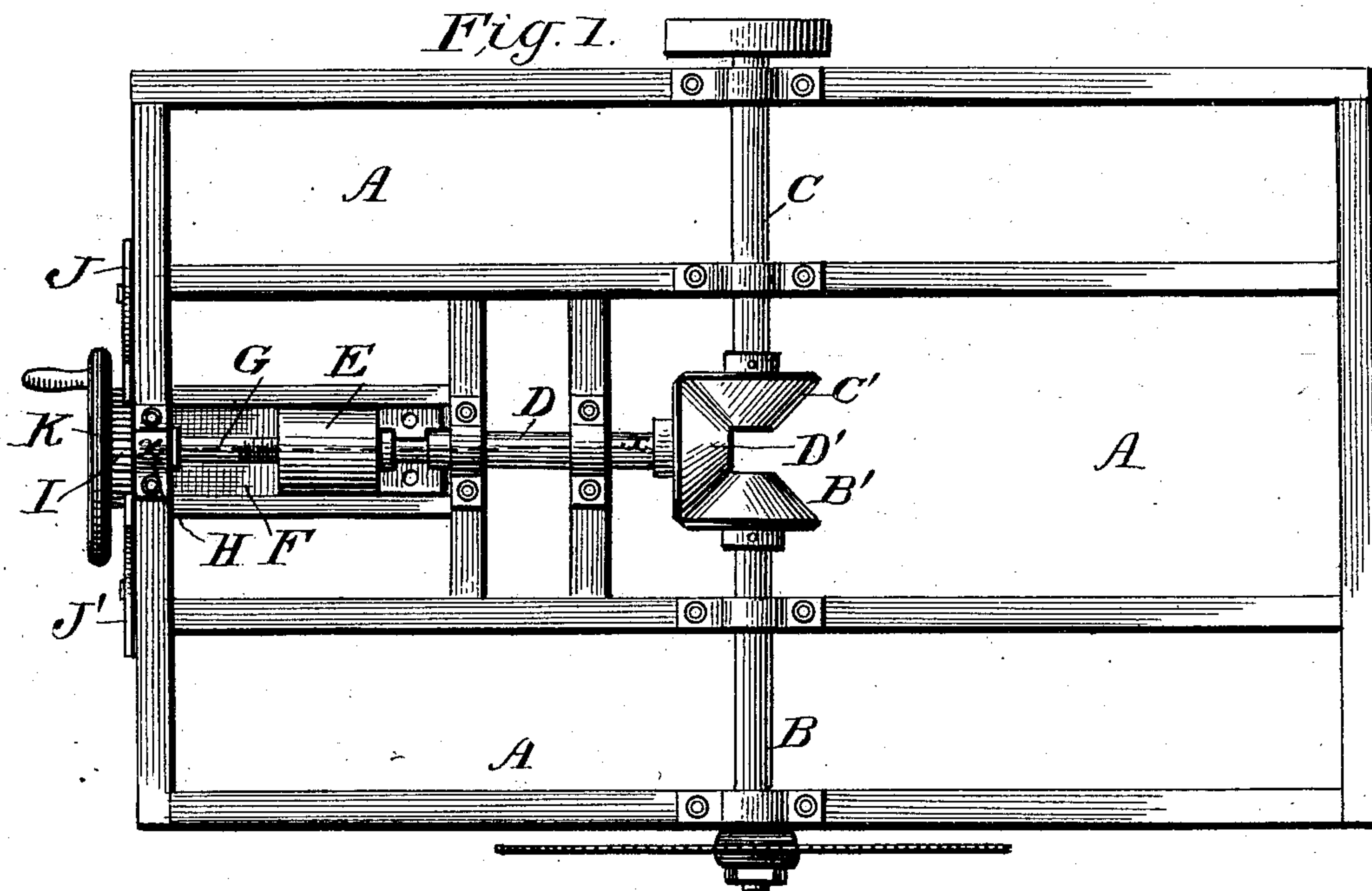


No. 705,390.

Patented July 22, 1902.

W. D. DAILEY.  
FRICTIONAL GEARING.  
(Application filed Mar. 22, 1902.)

(No Model.)



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

WILLIAM D. DAILEY, OF PARKERSBURG, WEST VIRGINIA.

## FRictional GEARING.

SPECIFICATION forming part of Letters Patent No. 705,390, dated July 22, 1902.

Application filed March 22, 1902. Serial No. 99,424. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. DAILEY, of Parkersburg, in the county of Wood and State of West Virginia, have invented a new and useful Improvement in Frictional Gearing, of which the following is a specification.

My invention relates more particularly to peculiar means for throwing frictional gear in and out of working position.

10 The invention is designed to obviate objections heretofore existing in the use and means employed in connection with such gearing in sawmills, where it is desired to stop one part of the mill without stopping the engine and other parts of the mill.

15 In sawmills and other machine plants it is sometimes desirable, and I may add economical, to employ one motor or engine having powersufficient to work various or many separate and distinct machines, and in such a plant for one and another reason it becomes necessary to stop one machine without interfering with continuous working of other machines deriving power from the same source, 25 and therefore while my invention is adapted to frictional gearing in all such plants it provides special and improved means for stopping and starting the saw in a sawmill plant without stopping the engine, and consequently all other machines or parts of the plant desired to be kept in motion.

30 As before stated, while my invention in the main is adapted to frictional gearing used in connection with varied and many types of machines, I will simply show by drawings and describe its use in connection with frictional gear commonly employed in sawmills—i. e., gearing connecting the saw-arbor and operating devices between it and the source of power.

40 In sawmills it is often necessary to stop the saw for filing and, again, at times it is desirable to do so in short space of time, due to condition of the log or material being sawed or for other reasons, and to such end I have devised and constructed the novel and peculiar means for stopping and starting the saw hereinafter described, adapted to instantly throw the saw-arbor out of operative connection with other parts of the mill without stopping the continuous working of said other parts and the engine or source of power.

In order to enable others to make and use my invention, I will now proceed to describe its construction and use, reference being had 55 to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view of part of a sawmill, illustrating the application of my invention. Fig. 2 is an end elevation of the framework 60 supporting the gearing, saw-arbor, &c., looking at the hand-wheel end of the frame and showing the special locking-pawls; and Fig. 3 is a detail section taken on line *x x* of Fig. 1.

65 In the drawings, A represents a common and well-known framing of a sawmill; B, the saw-arbor; C, the power-shaft, and D an intermediate or right-angle shaft having at one end a beveled frictional gear or disk D', adapted to connect similar-shaped disks B' and C' on the saw-arbor and power-shaft, all as is common and well known in such class or type of frictional gearing.

70 Now, as stated, the object of my invention being to afford effective and instantaneous stopping and starting of the saw-arbor—i. e., throwing it out of operative connection in this instance with the power-shaft C—to do so it is apparent the disk D' must be moved out 80 of engagement with the disks B' C'. In accomplishing such result I provide the shaft D, supporting the disk D', with an endwise adjustment. In providing for such adjustment of the shaft D, I couple its end—the 85 end opposite to the disk D'—with a block E by well-known means, such as will allow rotation of the shaft D and at the same time permit the block E to slide in a suitable way F.

90 G represents a fixed screw one end of which enters a threaded opening in the near end of the said block E, while its other end is supported against endwise movement in a suitable bearing or box H on the framework A. On the screw G outside of the bearing H, I 95 provide a toothed or notched wheel I, with which engage pawls J J', as shown in Figs. 1 and 2 of the drawings. The extreme outer end of the screw G is provided with a hand-wheel K or other desired means for working it. 100

Now with the parts arranged as hereinbefore described should it be desired to stop rotation of the saw it is apparent that the same can be quickly accomplished by disen-



gaging the pawls J J' and turning the hand-wheel K to the right. In such operation the screw G being held against endwise movement its other or threaded end will engage the threaded opening in the block E and draw it on the slideway F. The said block being coupled to the shaft D, as stated, the operation will move it endwise and disengage the disks D', B', and C', when the saw-arbor by frictional or other resistance to rotation of the saw will be quickly stopped and the power-shaft C allowed continuous rotation. The advantage derived in the use of such simple and quick-acting means for throwing the saw out of operative or working connection with the power-shaft will be appreciated by the skilled in the art. In stopping the saw of a mill with means heretofore provided it was necessary to either cut off steam or other motive power or employ a belt-shifter, leaving machinery having power stored up in rotation free to continue operation until the said stored-up power is expended. With my improved and quick-acting stopping means the saw-arbor and saw are the only parts thrown out of gear. All other parts of the mill may continue in motion.

In using two locking-pawls, as described above, it is apparent that the block-adjusting screw may be positively secured against turning with the disks D', B', and C' either in or out of engagement.

Obviously the power and other shafts mentioned in my specification must be supported in suitable bearings; but as such features form no part of my invention, while I show such means in my drawings, I have not thought it necessary to refer thereto, since the same is well known and may be varied according as the manufacturer may desire.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a sawmill of independent power and driven shafts having frictional gears at the inner ends thereof as shown, an intermediate similar gear adapted to connect the power-shaft and driven shaft and means for adjusting the intermediate gear into and out of operative connection with the power-shaft and driven shaft, substantially as described.

2. In a mill of the character stated independent power and driven shafts having at their ends frictional gears as stated, a right-angle shaft, an intermediate similar gear supported by and rigid with the right-angle shaft, a fixed screw and means connecting it with the right-angle shaft, said means being adapted in operation to adjust the said right-angle shaft and its gear out of and into operative connection with the gearing on the power and driven shafts, substantially as described.

3. The combination with two independent shafts having gearing as specified, of a right-angle shaft and an intermediate gear supported at the end of said right-angle shaft as shown, the latter resting in bearings permitting endwise movement of the said shaft as specified, a sliding box having permanent but loose connection with one end of the right-angle shaft, a fixed screw adapted to enter a threaded opening in the said box, means for locking the screw against turning in either direction and a hand-wheel at the outer end of the screw all substantially as shown and for the purpose set forth.

WILLIAM D. DAILEY.

Witnesses:

F. B. BURK,  
W. H. TERRY.