

No. 827,572.

PATENTED JULY 31, 1906.

G. S. SERGEANT.  
SAWMILL FEED.

APPLICATION FILED APR. 19, 1905.

2 SHEETS—SHEET 1.

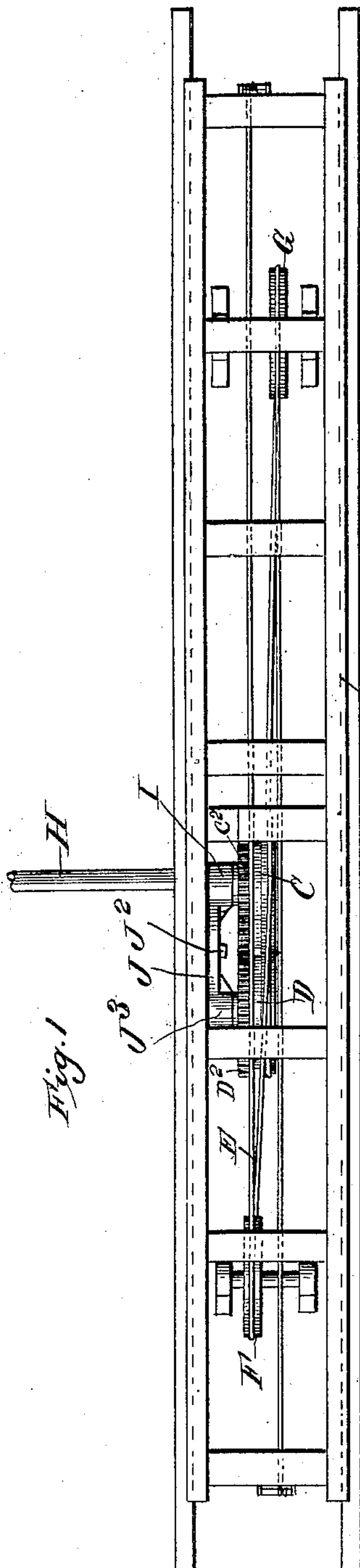


Fig. 1

Fig. 2

3

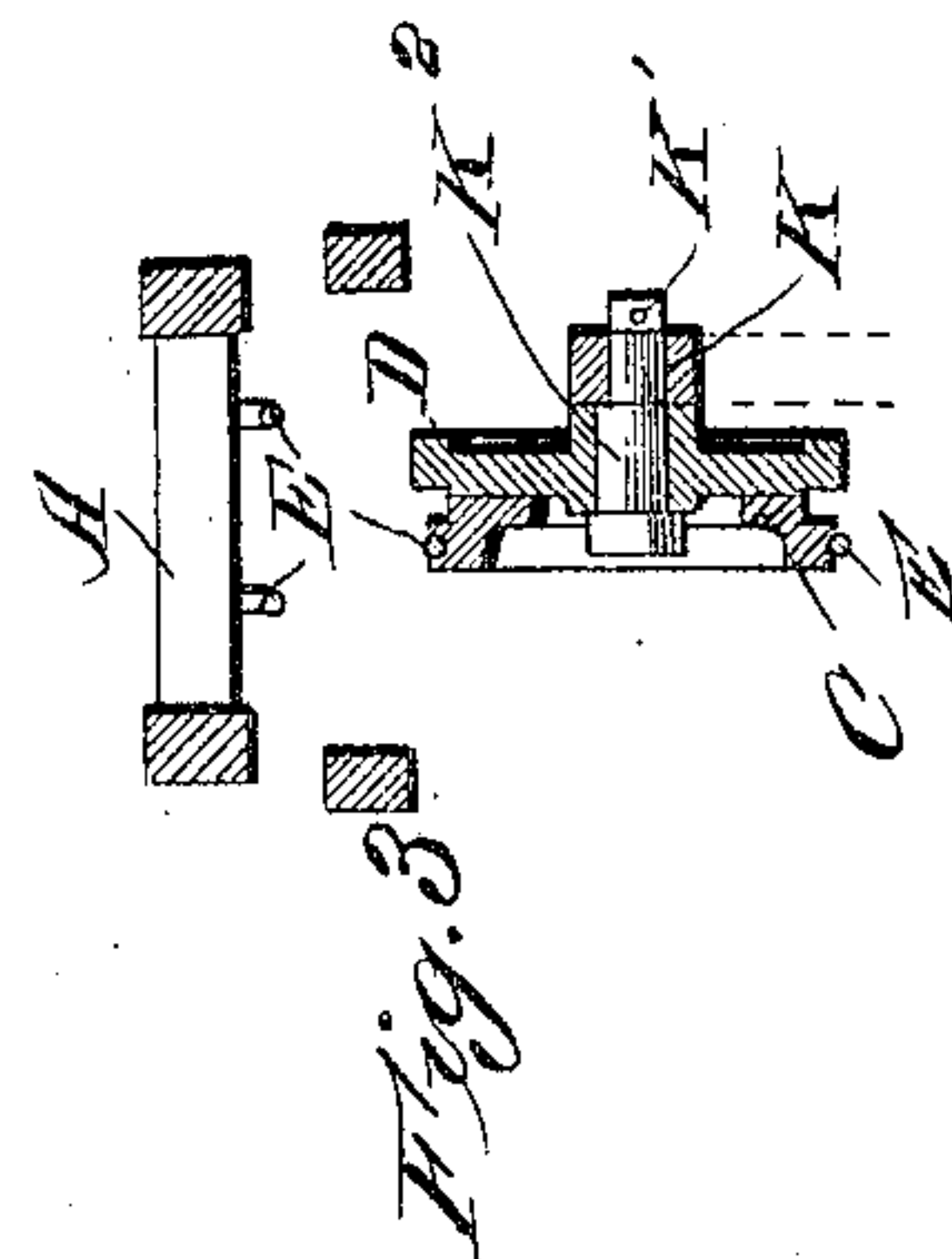
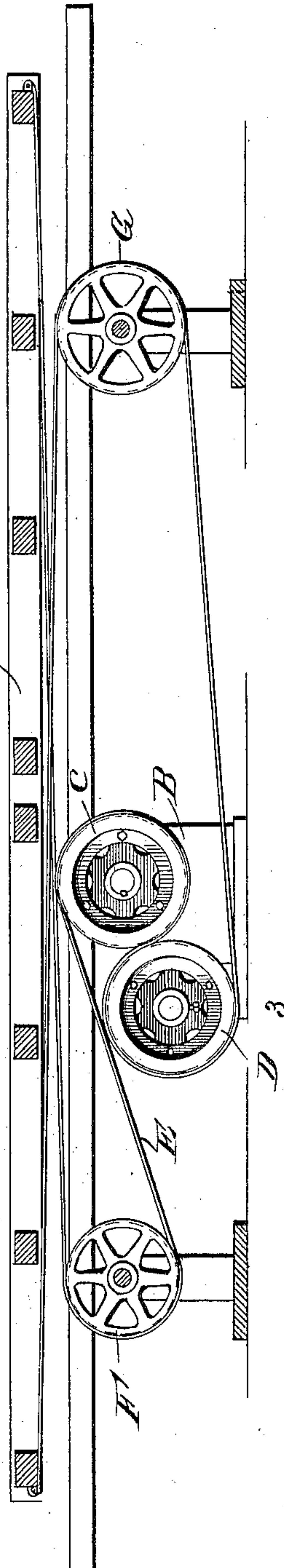


Fig. 3

WITNESSES:

*C. C. Duffey*  
*Per B. Dupin*

INVENTOR

GEORGE S. SERGEANT

BY *Munn & Co.*

ATTORNEYS

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2 SHEETS—SHEET 2.

Fig. 4

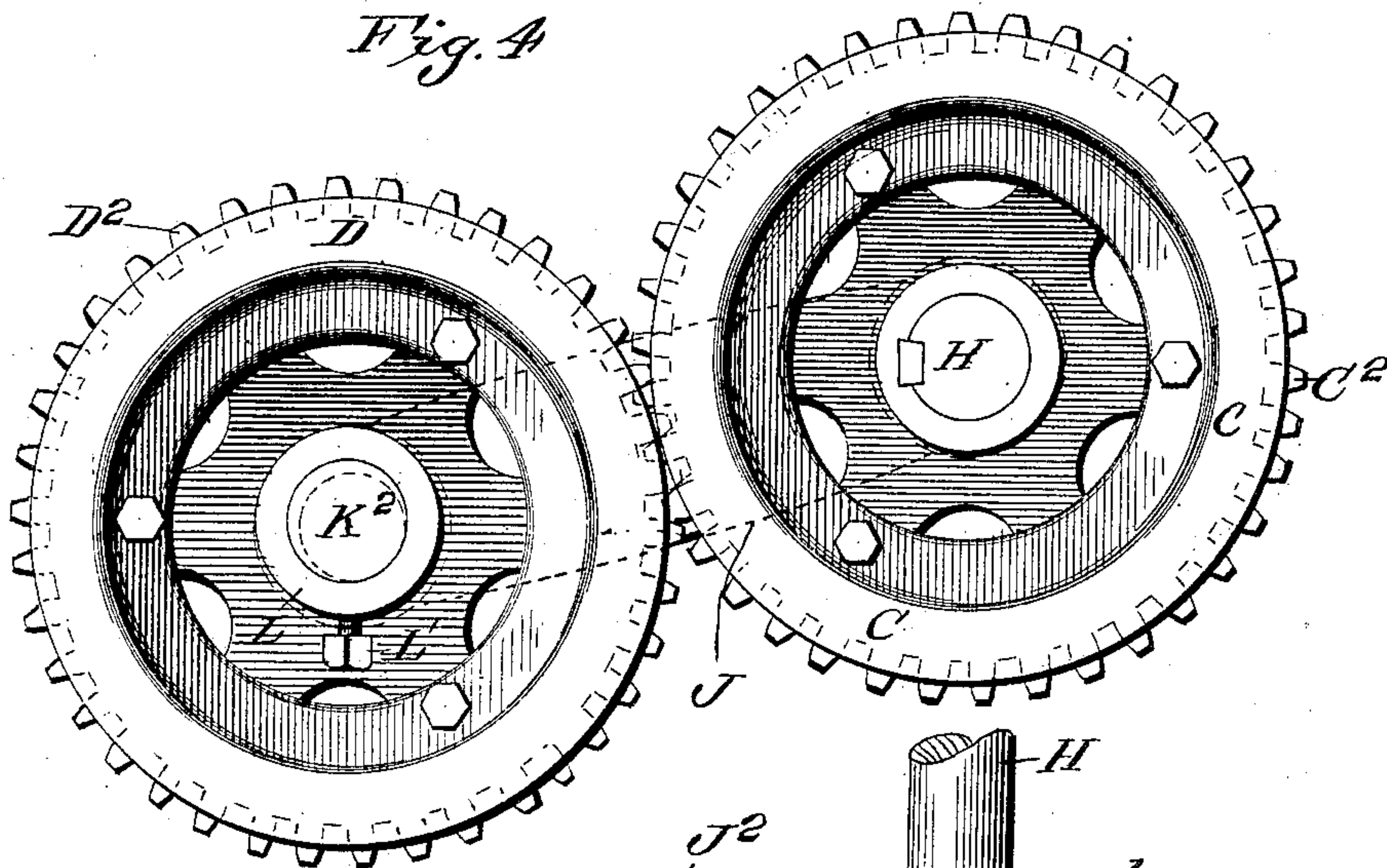


Fig. 5

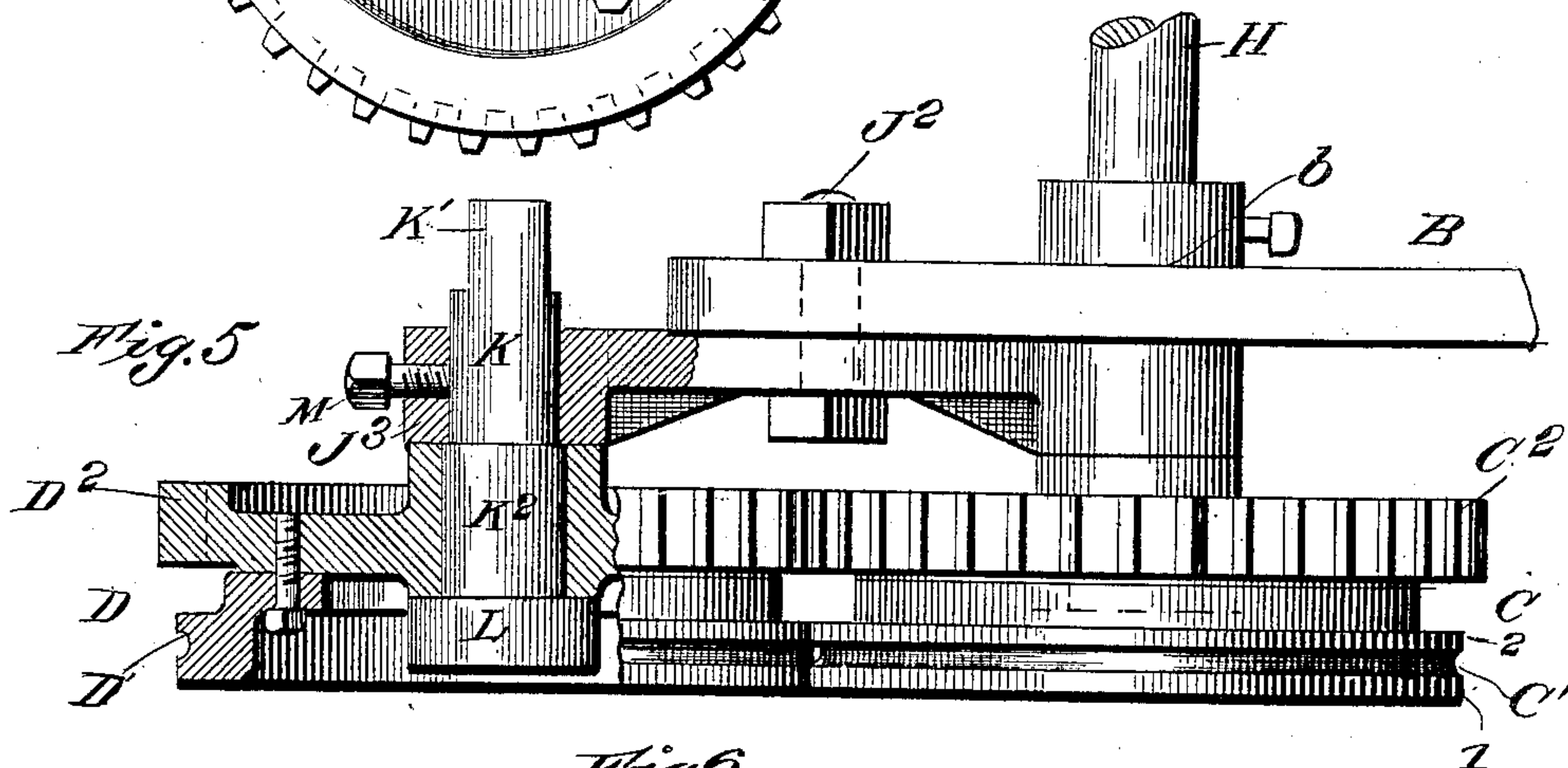
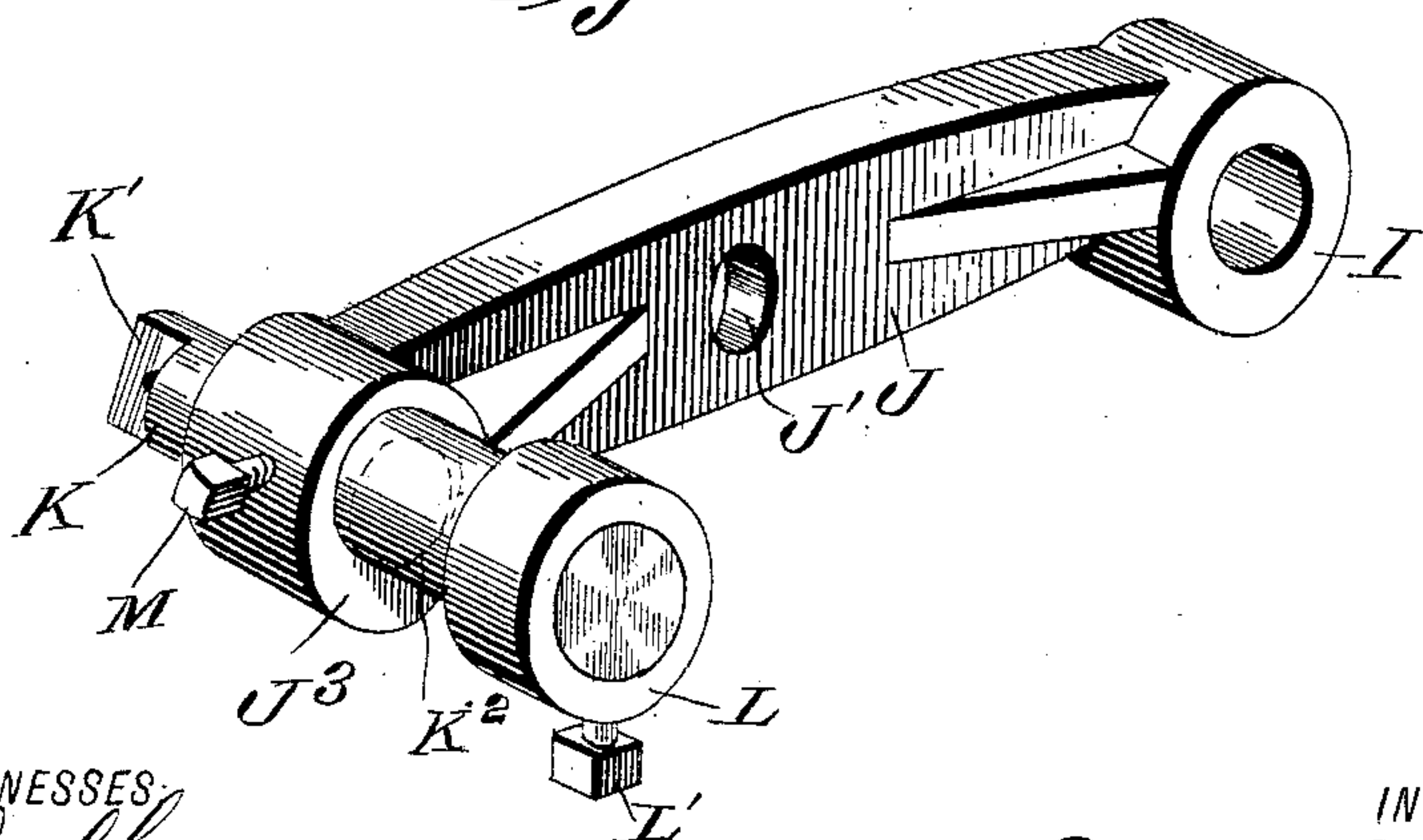


Fig. 6



WITNESSES

*C. E. Duffey*

*Perry B. Swain*

INVENTOR

GEORGE S. SERGEANT

BY *Munn & Co.*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

GEORGE S. SERGEANT, OF GREENSBORO, NORTH CAROLINA.

## SAWMILL-FEED.

No. 827,572.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed April 19, 1905. Serial No. 256,372.

*To all whom it may concern:*

Be it known that I, GEORGE S. SERGEANT, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have made certain new and useful Improvements in Sawmill-Feeds, of which the following is a specification.

My invention is an improvement in rope or cable feeds for sawmill-carriages; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view, and Fig. 2 is a vertical longitudinal section, of a portion of the sawmill embodying my invention. Fig. 3 is a cross-sectional view on about line 3 3 of Fig. 2, parts being omitted. Fig. 4 is a detail front elevation of the feeding-pulleys. Fig. 5 is a sectional top plan view of the feed-pulleys and their supporting and adjusting devices; and Fig. 6 is a detail perspective view of the bracket for supporting the feed-pulleys and the stub-axle for adjusting the counter-pulley, all of which will be described.

The carriage A and the mill-frame B may in general respects be of ordinary construction, the carriage being arranged to move back and forth on suitable guides.

Many objections are incident to the use of a drum having a spiral groove in which the rope travels back and forth as the drum is turned in one direction or the other, especially among which is noted the difficulty resulting from the variable position of the rope upon the drum, so that the pulling strain upon the rope is not always exerted in the same line and the rope tightens and slacks according to its position upon the drum. I avoid this by a novel construction suitably supported from the mill-frame and adapted for adjustment to exert any suitable tension on the rope.

As shown, I employ feed-pulleys comprising the drive-pulley C and the counter-pulley D, around which the rope E is disposed, as shown in Fig. 2, and passes thence around the guide-pulleys F and G to its connection with the carriage A at the opposite ends of the latter.

The drive-pulley C is secured upon the drive-shaft H, which may be suitably driven, and is journaled at *b* in the frame B and also in a bearing I at one end of the supporting-bracket J, such bracket being provided be-

tween its ends with an opening *J'* for the bolt  $J^2$  and having its end opposite the bearing I projecting beyond the frame B, as shown in Fig. 5, and provided with a bearing  $J^3$ , in which is journaled the stub-axle K. This axle K has one end *K'* adapted to receive a wrench and is provided near its other end with an eccentric portion  $K^2$ , upon which the counter-pulley is journaled and upon which it is held by the collar L, secured by the set-screw *L'*. A set-screw M turns through the bearing  $J^3$  and by engagement with the axle K operates to secure the same and the counter-pulley D on the eccentric portion  $K^2$  thereof in any desired adjustment relatively to the drive-pulley C.

The pulleys C and D are preferably provided each with grooves *C'* and *D'* to receive the rope E and also with gears  $C^2$  and  $D^2$ , which are meshed together, as shown in Figs. 4 and 5, and operate to positively drive the counter-pulley when the drive-pulley is turned by its shaft H, as will be understood from Fig. 5 of the drawings.

As shown in Fig. 2, the rope passes between the pulleys C and D in the grooves *C'* and *D'*, and the pulley D may be adjusted toward and from the pulley C in order to exert any desired degree of tension on the rope and also to cause the friction-surfaces 1 and 2 on the opposing pulleys to bear upon each other with any desired degree of pressure in order to insure the driving of one pulley by the other in case the connecting-gears  $D^2$  should be omitted.

It will be noticed that by releasing the set-screw M the shaft K may be turned, by means of a suitable wrench or other tool, in order to cause its eccentric  $K^2$ , upon which the counter-pulley is journaled, to move toward or from the drive-pulley C, and this adjustment may be effected at any time desired and may be utilized in taking up slack and wear on the rope or for other purposes, as will be understood by those skilled in this particular art.

It will be noticed that the rope in connection with the drive and counter pulleys retains the same position in all positions of the carriage, and I avoid any lateral travel of the rope at the point where it is driven in order to operate the carriage back and forth.

The bracket J being secured between its ends by the bolt  $J^2$  and receiving the drive-shaft H at one end will be held rigidly in position on the frame and will firmly support the drive and counter pulleys in position for use.



The construction is simple, easily adjusted, and can be readily applied to mills already built as well as to those in the course of construction.

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

1. As an improvement in rope-gearing the combination substantially as herein described, with the frame having a bearing for a drive-shaft, of guide-pulleys, the drive-shaft, the bracket secured between its ends to the frame and having at one end a bearing for the drive-shaft and at its other end a bearing for a stub-axle, the stub-axle mounted in said bearing and having an eccentric portion, a screw for securing the axle in different adjustments within its bearing, a counter-pulley on the eccentric portion of the stub-axle, a drive-pulley on the main shaft, said pulleys having grooves for the cable, and friction-surfaces adjacent to said grooves, and gear-wheels in connection with the pulleys and meshed with each other, a driven part, and the rope disposed around the drive and counter pulleys and the guide-pulleys and adapted for connection with the driven part for driving the same, all substantially as and for the purposes set forth.

2. As an improvement in rope-gearing, the combination of the frame, the guide-pulleys, and the feed-pulleys arranged between the guide-pulleys in contact with each other and in close proximity whereby to bind the cable between them, means for adjusting one of

said feeding-pulleys toward the other, a drive-shaft for driving one of the pulleys, a driven part supporting devices for said pulleys, and the rope or cable disposed around the feeding-pulley and guide-pulleys and adapted for connection with the driven part, substantially as set forth.

3. In a feed mechanism substantially as described, the combination with the frame, of a bracket having bearings at one end for a drive-shaft, and bearings at its other end for a stub-axle, a drive-shaft in said end bearing, a drive-pulley on said shaft, a stub-axle in the other bearing and having an eccentric portion, and a counter-pulley mounted on the eccentric portion of the stub-axle and geared with the drive-pulley, substantially as set forth.

4. The combination in a feed mechanism, of a drive-shaft, a main frame having a bearing for the drive-shaft, a bracket secured between its ends to the main frame, and having at one end a bearing for the drive-shaft and its other end provided with a bearing for a stub-axle, a stub-axle in said bearing and having an eccentric portion, a counter-pulley on the eccentric portion of the stub-axle, and a drive-pulley on the main axle, and adapted to cooperate with the counter-pulley in driving a rope, substantially as and for the purposes set forth.

GEORGE S. SERGEANT.

Witnesses:

F. C. BOYLES,  
WALDO PORTER.