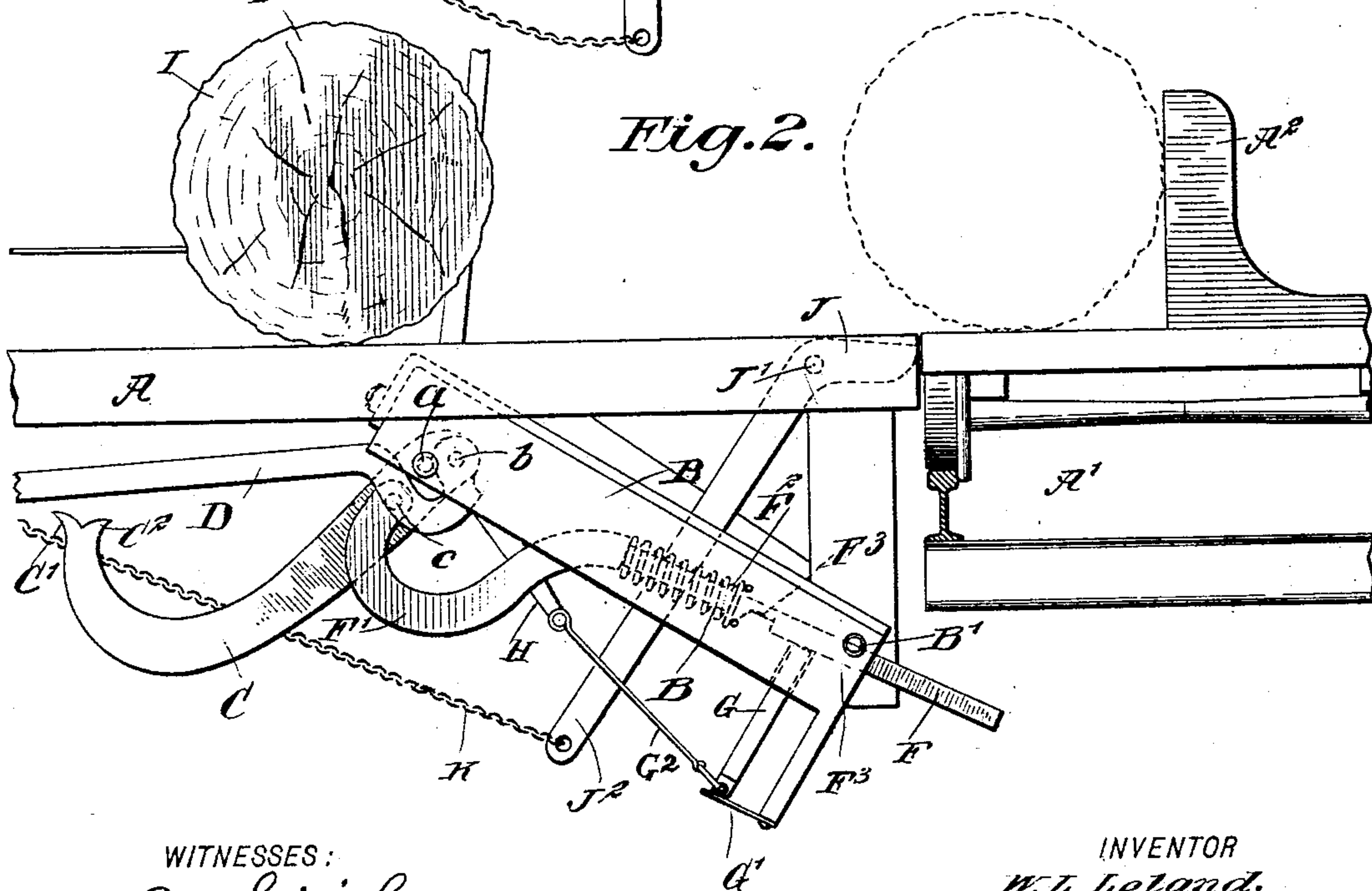
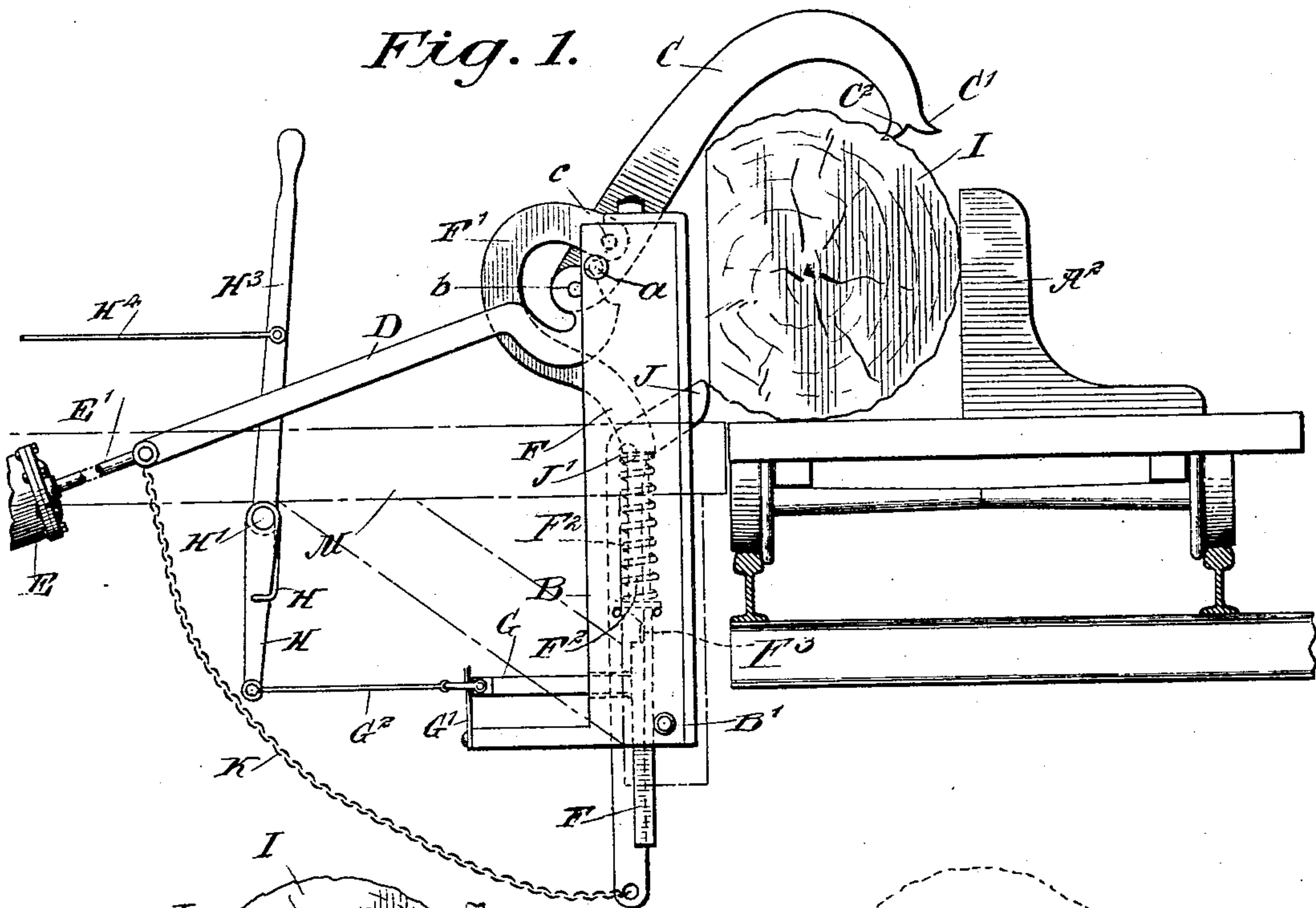


W. L. LELAND.  
LOG TURNER.

(Application filed Aug. 8, 1900.)

(No Model.)

3 Sheets—Sheet 1.



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No. 702,974.

Patented June 24, 1902.

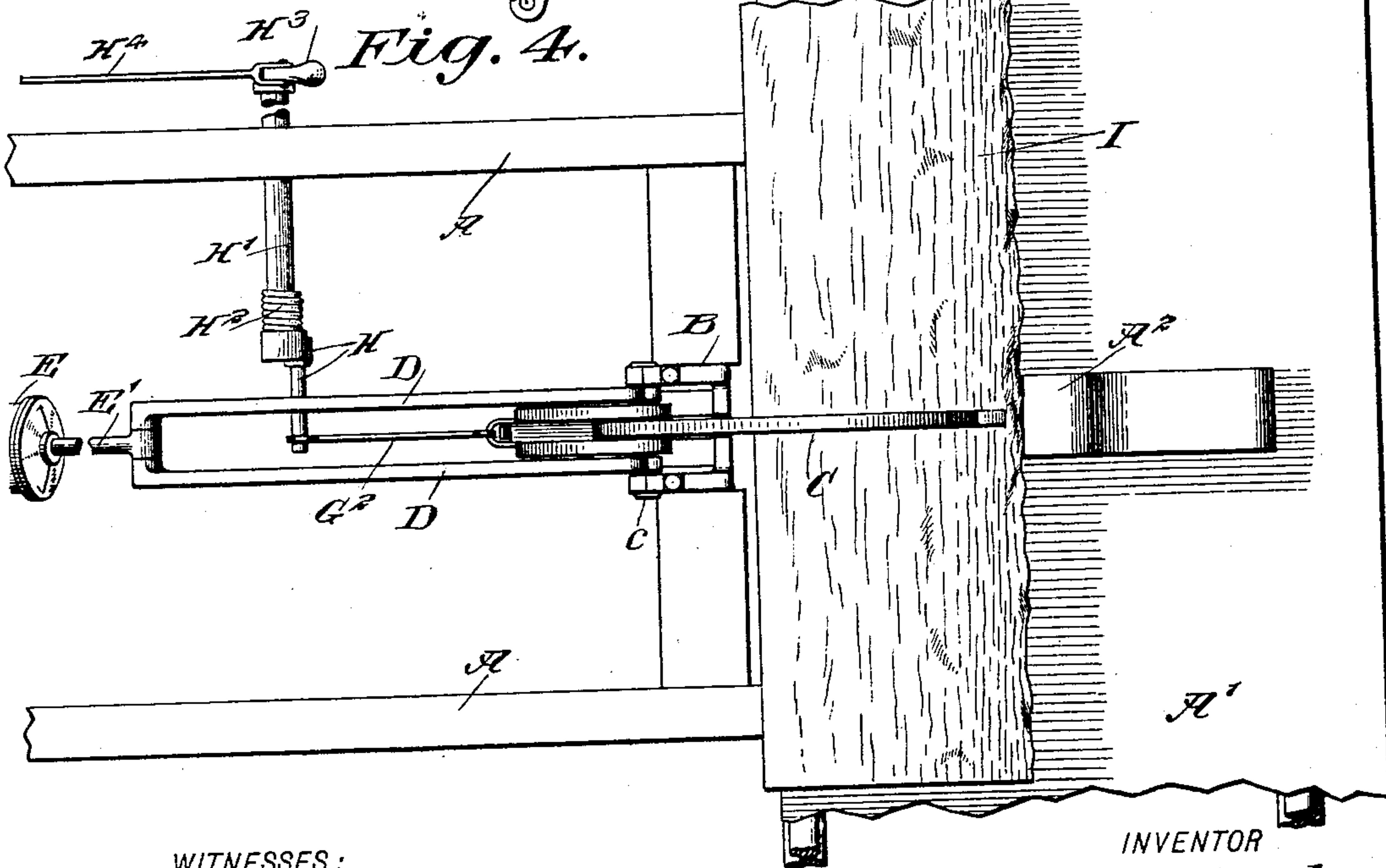
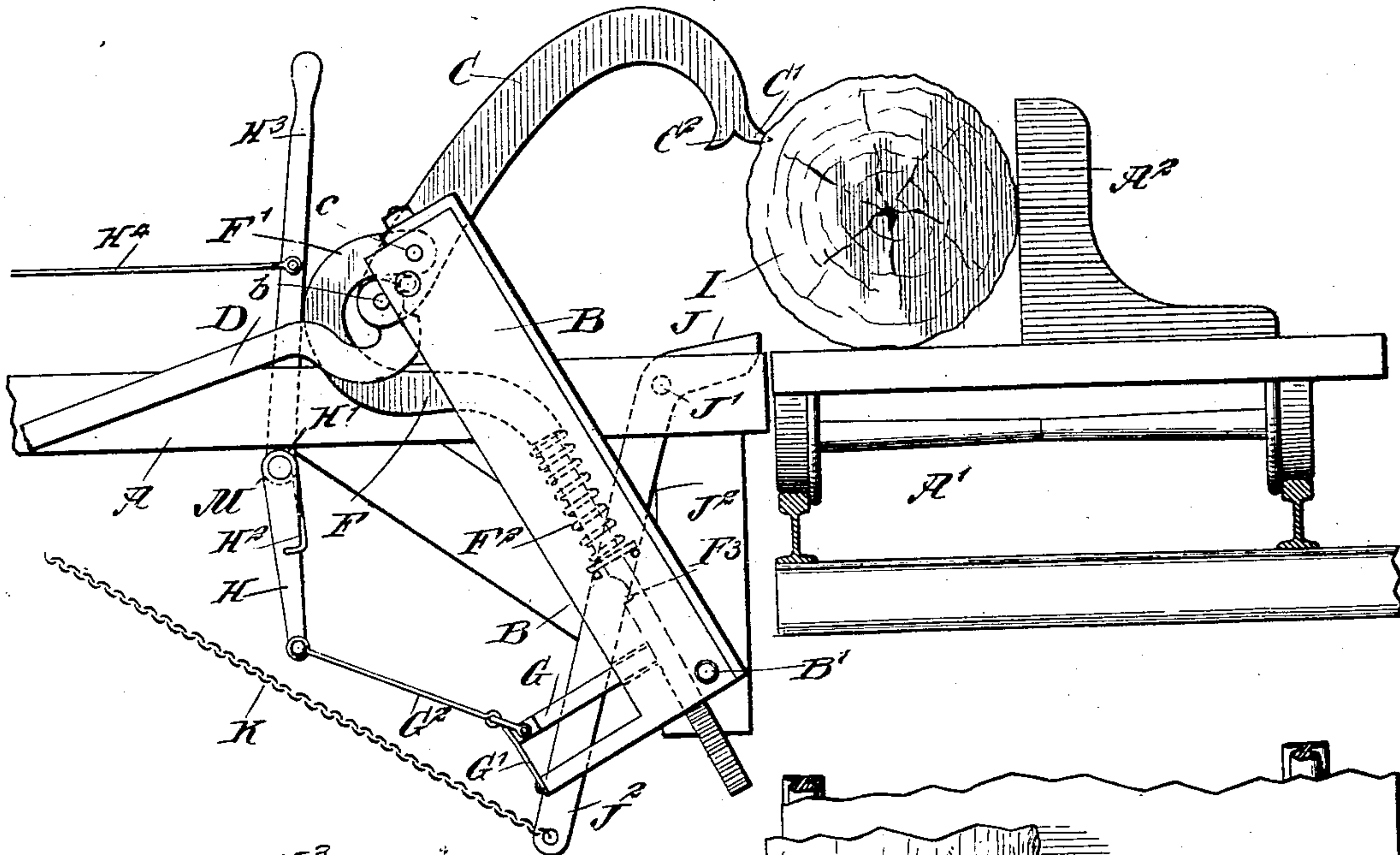
W. L. LELAND.  
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(Application filed Aug. 8, 1900.)

3 Sheets—Sheet 2.

(No Model.)

*Fig. 3.*



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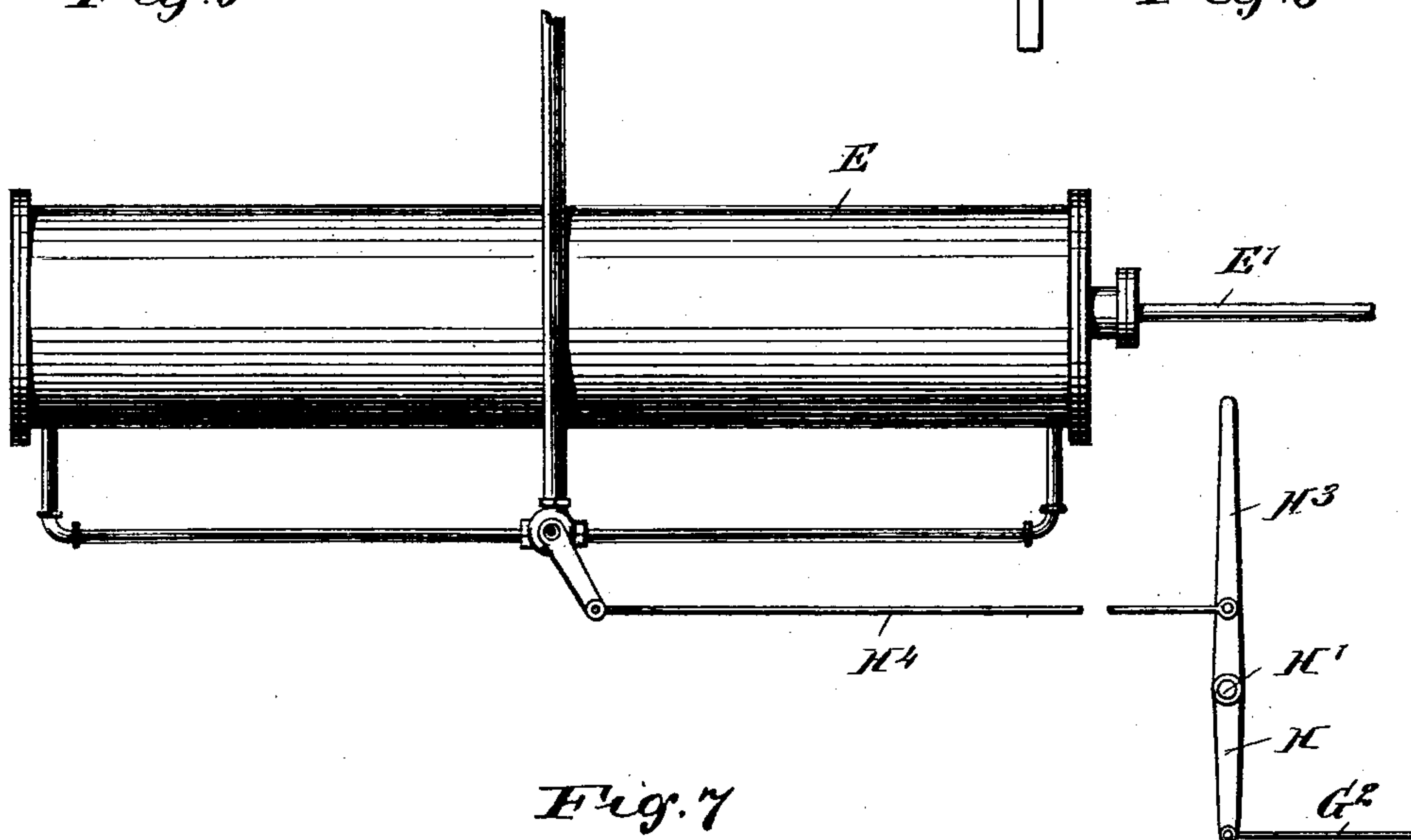
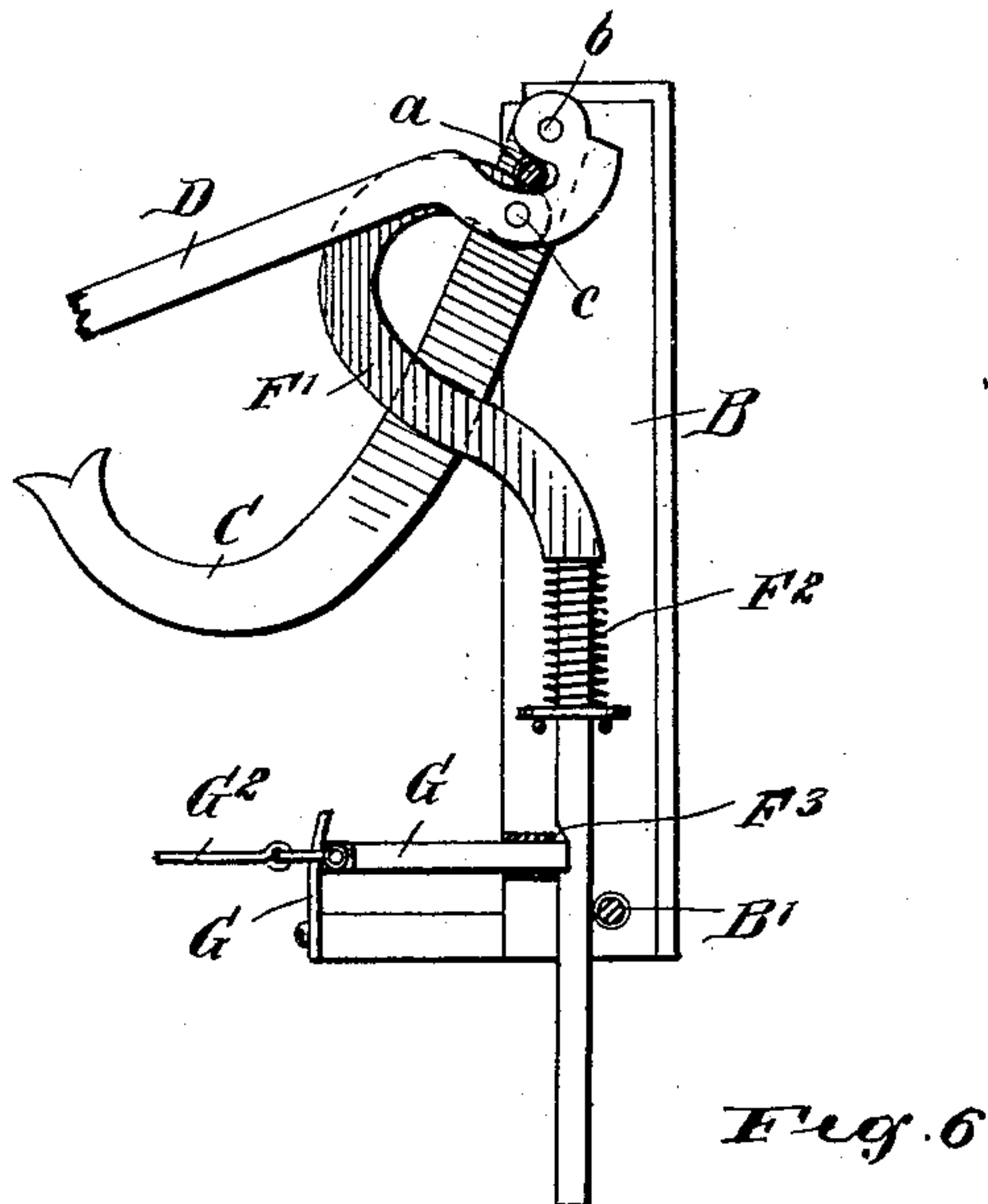
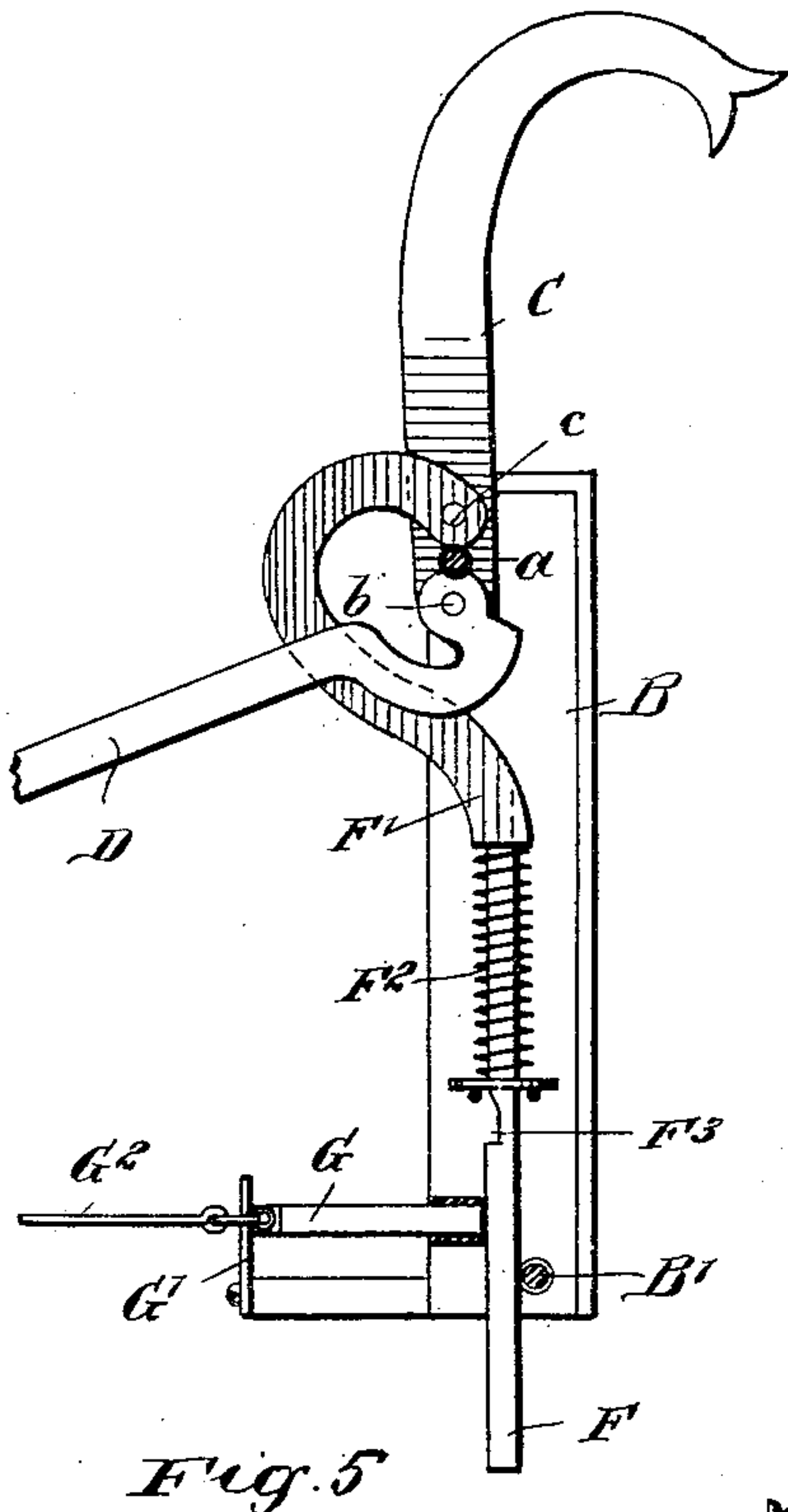
Patented June 24, 1902.

W. L. LELAND.  
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(Application filed Aug. 8, 1900.)

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3 Sheets—Sheet 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM LESTER LELAND, OF SISSON, CALIFORNIA.

## LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 702,974, dated June 24, 1902.

Application filed August 8, 1900. Serial No. 26,251. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM LESTER LELAND, a citizen of the United States, and a resident of Sisson, in the county of Siskiyou and State of California, have invented a new and Improved Log-Turner, of which the following is a full, clear, and exact description.

The invention relates to sawmills; and its object is to provide a new and improved log-turner which is simple and durable in construction and arranged to move a log from the log-deck upon a log-carriage, to conveniently and automatically turn the log over after several boards have been sawed off, and return the log to position against the knees of the head-block on the log-carriage.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied, the carriage-track being in section and the partly-sawed and turned-over log being held in position on the log-carriage ready to be turned over. Fig. 2 is a like view of the same with the log on the log-deck preparatory to being rolled upon the log-carriage. Fig. 3 is a similar view of the same with the log secured in position on the log-carriage. Fig. 4 is a plan view of the improvement with the parts in position as shown in Fig. 1. Fig. 5 is an enlarged side elevation of the dog, the spring-pressed bar, and the catch for the same in an open position. Fig. 6 is a like view of the same with the catch engaging and locking the spring-pressed bar in place, and Fig. 7 is a side elevation of the engine-cylinder and valve mechanism.

Below the log-deck A, adjacent to the carriage A', is pivoted at B' a pusher or bumper B, adapted to engage with its front face a log for shoving the latter from the log-deck A upon the carriage A'. On the upper end of the pusher B is fulcrumed at a a dog C, pivotally connected at b by a link D with the piston-rod E' of an engine E, in which the piston has a reciprocating motion to impart

a swinging motion to the dog C and to the pusher B, as hereinafter more fully described. The dog C is also pivotally connected at c with the upper or curved end F' of a bar F, mounted to slide in the pusher B and pressed on by a spring F<sup>2</sup> to normally hold the bar in an uppermost position. On the bar F is formed a notch F<sup>3</sup>, adapted to be engaged by a catch G, fitted to slide in the lower end of the pusher B and pressed on at its outer end by a spring G', carried by the pusher. The outer end of the catch G is also connected by a link G<sup>2</sup> with an arm H, loosely held on a shaft H', extending transversely and journaled in suitable bearings on the framework for the log-deck A. A spring H<sup>2</sup> engages with one end of the arm H and is secured with its other end on the shaft H', on which the spring is coiled. On the shaft H' is arranged a hand-lever H<sup>3</sup>, connected by a link H<sup>4</sup> with the valve mechanism for controlling the motive agent for the engine E, as shown in Fig. 7. Thus the sawyer by manipulating the lever H<sup>3</sup> can impart a turning motion to the shaft H' to cause the spring H<sup>2</sup> to swing the arm H and withdraw the catch G from the notch F<sup>3</sup> whenever it is desired to release the bar F.

The pivots b and c are located on opposite sides of the fulcrum a for the dog C, as is plainly illustrated in the drawings, and the free end of the dog C is formed with oppositely-extending points C' C<sup>2</sup>, of which the point C' is adapted to engage the front of the log I when it is desired to push the log from the deck A upon the carriage A', and the other point C<sup>2</sup> is adapted to engage the rear of the log I (see Fig. 1) whenever it is desired to turn the log over after it has been partly sawed.

In order to prevent the log from slipping when turning it over after it has been partly sawed, I provide a lever J, fulcrumed at J' on the framework of the log-deck A adjacent to the carriage, said lever being provided with a downwardly-extending arm J<sup>2</sup>, connected by a chain K with a link D at the junction of the link with the piston-rod E'. (See Fig. 1.) Normally the free end of the lever J extends above the plane of the log-deck A and the carriage-floor, so that when the log is to be turned over the free end of said lever engages the side of the log near the bottom



thereof to form a fulcrum for the log to turn on when drawn to the left by the dog C. When the several parts swing into the position below the top of the log-deck A, as indicated in Fig. 2, then the chain K exerts a pull on the arm J<sup>2</sup> of the lever J to swing the lever below the top of the log-deck A and allow the log I to readily pass upon the carriage without being obstructed by the lever J.

The operation is as follows: When it is desired to transfer a log I from the log-deck A to the carriage A', then the operator manipulates the lever H<sup>3</sup> to cause the motive agent to push the piston in the cylinder of the engine E forward, so that the piston-rod E' pushes on the link D, and the latter thereby imparts a swinging motion to the pusher B, so that the front face of said pusher engages the log I and shoves the same forward from the log-deck A upon the carriage A'. When the log is in position on the carriage and the sawyer desires to roll the log around on the carriage to bring the log right side up, then the sawyer releases the catch G from the bar F by manipulating the lever H<sup>3</sup> accordingly, so that the bar F is forced upward by the action of its spring F<sup>2</sup> to impart a swinging motion to the dog C, which engages with its point C' the log I at the left-hand side thereof to turn the log around while in position against the knee A<sup>2</sup> of the head-block, as is plainly indicated in Fig. 3. The bumper B holds the log against the knee A<sup>2</sup> after the log is placed in position and before it is sawed, and the dog C is not thrown forward, as described, if the log lands on the carriage right side up. The hook C is normally in a rearward position, and it is always thrown back, and may so remain unless the sawyer manipulates the lever H<sup>3</sup> to disengage the catch G from the bar F. This is done when the sawyer desires to push or roll the log when first put on the carriage, as above mentioned, or when the sawyer desires to hook a log that is partly sawed and is to be pulled over upon the log-deck. Now when the catch releases the bar F the dog is forced in engagement with the log, as previously mentioned. The lever H<sup>3</sup> is now moved to cause the motive agent to push the piston in the engine-cylinder rearwardly, so that the link D pulls on the dog C, and as the latter is locked in place by the now-locked bar F and is pivoted on the pusher B it is evident that the latter is swung to the left, so that the dog pulls on the log I and turns the same over, with the end of the lever J as a fulcrum to move the log I upon the flat cut-off portion, and then the above-described operation is repeated in this respect, that the pusher B is caused to swing upward again to push the log I back upon the carriage A' against the knees A<sup>2</sup> of the head-block.

The power for putting the partly-sawed log upon the carriage and against the head-block is derived from the cylinder through the connecting-rod D to the pin in the lower hole in

the dog C and which latter fulcrums on a pin in the largest hole in the dog C, and hence the dog is caused to swing back and cause the bar to move downward and compress the main spring F<sup>2</sup> until the catch G engages and locks the bar and which catch is held in this position until the sawyer desires to release the dog C for action to either push or pull a log. Ordinarily the dog is not released when putting a new log in position, and the bumper may be worked forward and backward, while the catch G holds the bar F and the dog in a locked normal position.

From the foregoing it is evident that the operator has complete control of the movement of the several parts for turning the log over when desired to push the log from the log-deck upon the carriage.

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

1. A log-turner, comprising a pivoted pusher, a dog pivoted a short distance from one end to the pusher, and provided at the end of its long member with oppositely-projecting points, and a power-actuated device connected with the short member of the dog, whereby provision is made for turning a log in either direction, as set forth.

2. A log-turner comprising a pivoted pusher, a dog fulcrumed thereon, a locking device on said pusher, for locking the dog, when in a rearward position, in place on the pusher, the locking device being under the control of the operator, and a power-actuated device connected with said dog, for imparting a swinging motion to said dog and to said pusher, the arrangement being such that on the forward movement of said device the exerted force is transmitted by the dog to the pusher to swing the latter forward, for pushing a log from the log-deck onto the carriage while the dog remains locked in a dormant position, as set forth.

3. A log-turner comprising a pivoted pusher, a dog fulcrumed thereon, a locking device on said pusher, for locking the dog, when in a rearward position, in place on the pusher, the locking device being under the control of the operator, a power-actuated device connected with said dog, for imparting a swinging motion to said dog and to said pusher, the arrangement being such that on the forward movement of said device the exerted force is transmitted by the dog to the pusher to swing the latter forward, for pushing a log from the log-deck onto the carriage while the dog remains locked in a dormant position, and a spring pressing said locking device, so that when the locking device is released the force of the spring on the locking device causes the latter to swing the dog upward and forward in engagement with the log, so that on the rearward motion of said power-actuated device the hook and with it the pusher swing rearward to turn the log over, as set forth.



4. A log-turner, comprising a pivoted pusher, a dog fulcrumed thereon, a power-actuated device pivotally connected with the dog at the heel thereof and on the rear side  
5 of the dog's fulcrum, a spring-pressed bar carried by the pusher and pivotally connected with the dog on the forward side of the dog's fulcrum, and independent means under the control of the operator for restraining the ac-  
10 tion of the spring of the said bar, as set forth.

5. A log-turner comprising a pivoted pusher, a dog fulcrumed thereon, a power-actuated device pivotally connected with said dog at the heel thereof and to one side of the  
15 dog's fulcrum, a spring-pressed bar pivotally connected with the dog on the forward side of the dog's fulcrum, the bar being carried by said pusher, and means under the control of the operator, for locking the bar in place  
20 on the pusher at the time the dog is in a rear-most dormant position, as set forth.

6. A log-turner, comprising a pivoted pusher for pushing a log from a log-deck onto a carriage, a dog fulcrumed on the pusher,  
25 and adapted to turn the log over, a link connected at one end with a power-actuated device and pivotally connected at its other end with said dog, a spring-pressed bar movable on said pusher, and pivotally connected with  
30 said dog, and a lever for forming a fulcrum for the log when the latter is to be turned over, said lever being connected with said link to move the lever out of active position when rolling or pushing the log upon the car-  
35 riage, as set forth.

7. A log-turner, comprising a pivoted pusher for pushing a log from the log-deck onto the carriage, a dog fulcrumed on said pusher and adapted to turn the log on the  
40 carriage, a power-actuated device connected with said dog, a spring-actuated connection between the said dog and pusher, said connection being so arranged relatively to the said power-actuating device, the dog and the pusher,  
45 that when the said power-actuating device pushes forwardly on the dog, the latter and the pusher swing forward, and when the pusher meets with resistance from a log or

the like, then the further forward pushing of said actuating device causes a backward  
50 swinging of said dog, as set forth.

8. A log-turner, comprising a pivoted pusher for pushing a log from the log-deck onto the carriage, a dog fulcrumed on said pusher and adapted to turn the log on the  
55 carriage, a power-actuated device connected with said dog, and a spring-actuated connection between the said dog and pusher, said connection being so arranged relatively to the said power-actuating device, the dog and  
60 the pusher, that when the said power-actuating device pushes forwardly on the dog, the latter and the pusher swing forward, and when the pusher meets with resistance from a log or the like, then the further forward pushing  
65 of said actuating device causes a backward swinging of said dog and a locking of said connection, as set forth.

9. In a log-turner, the combination of a pivoted pusher, a pivoted and spring-pressed  
70 dog carried by the pusher, a power-actuated device, a connection between the power-actuated device and the dog, and means for locking the dog in an inactive position, as set forth.  
75

10. In a log-turner, the combination with a pivoted pusher, of a dog pivoted near one end to the pusher, a power-actuated device, a connection between the power-actuated de-  
80 vice and the end of the dog, a spring-pressed bar carried by the pusher and connected with the dog on the side of its pivot opposite that with which the power-actuated device is connected, and means for locking the bar against the action of its spring, as set forth.  
85

11. In a log-turner, the combination with a pivoted pusher, a dog pivoted on the pusher, and an actuating device for operating the dog and pusher, of a pivoted lever forming the fulcrum for a log, and a flexible connec-  
90 tion between the actuating device and lever, as set forth.

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Witnesses:

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