

No. 656,279.

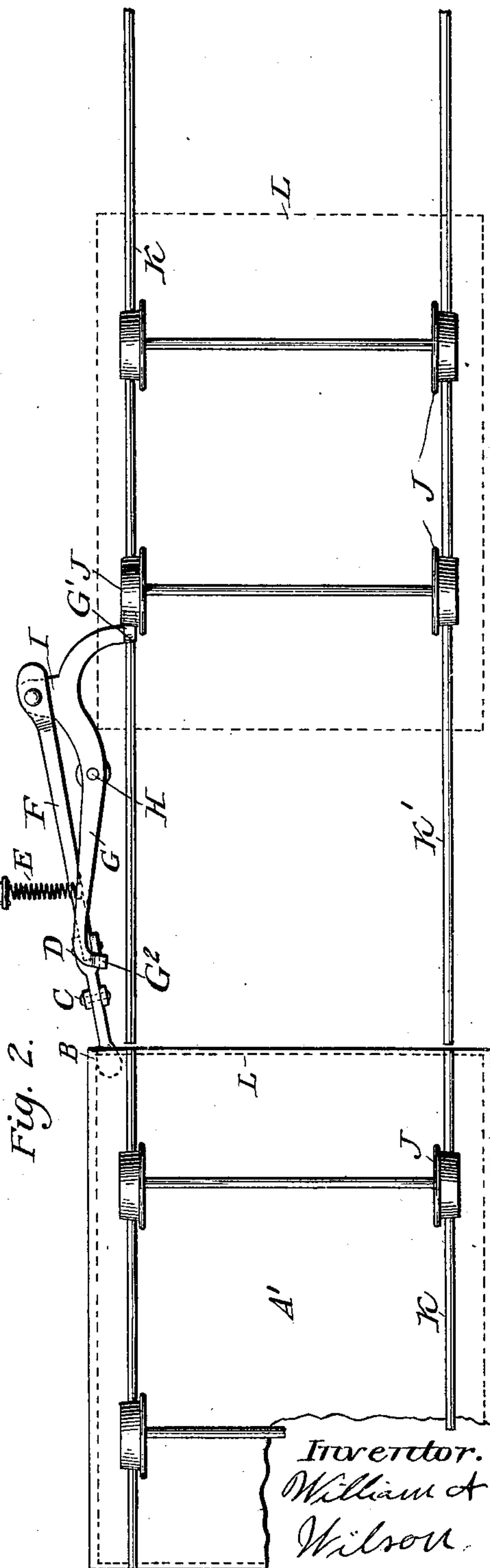
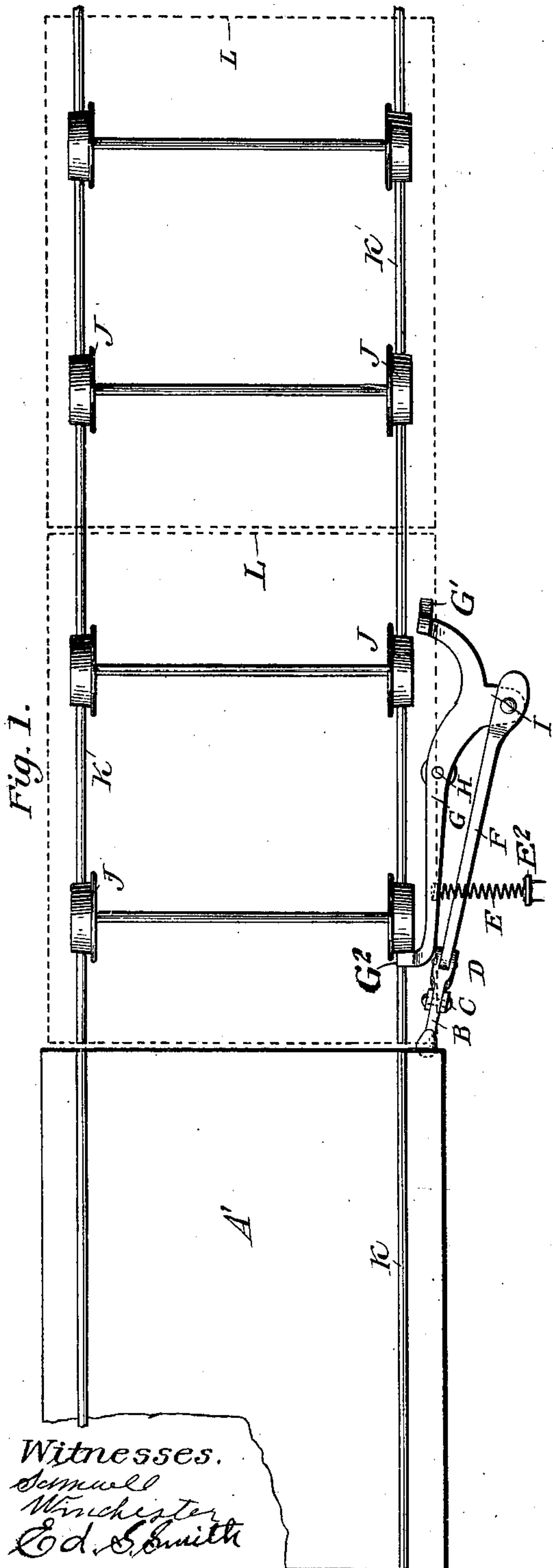
Patented Aug. 21, 1900.

W. A. WILSON.  
SELF ACTING MINING DOG.

(Application filed Feb. 26, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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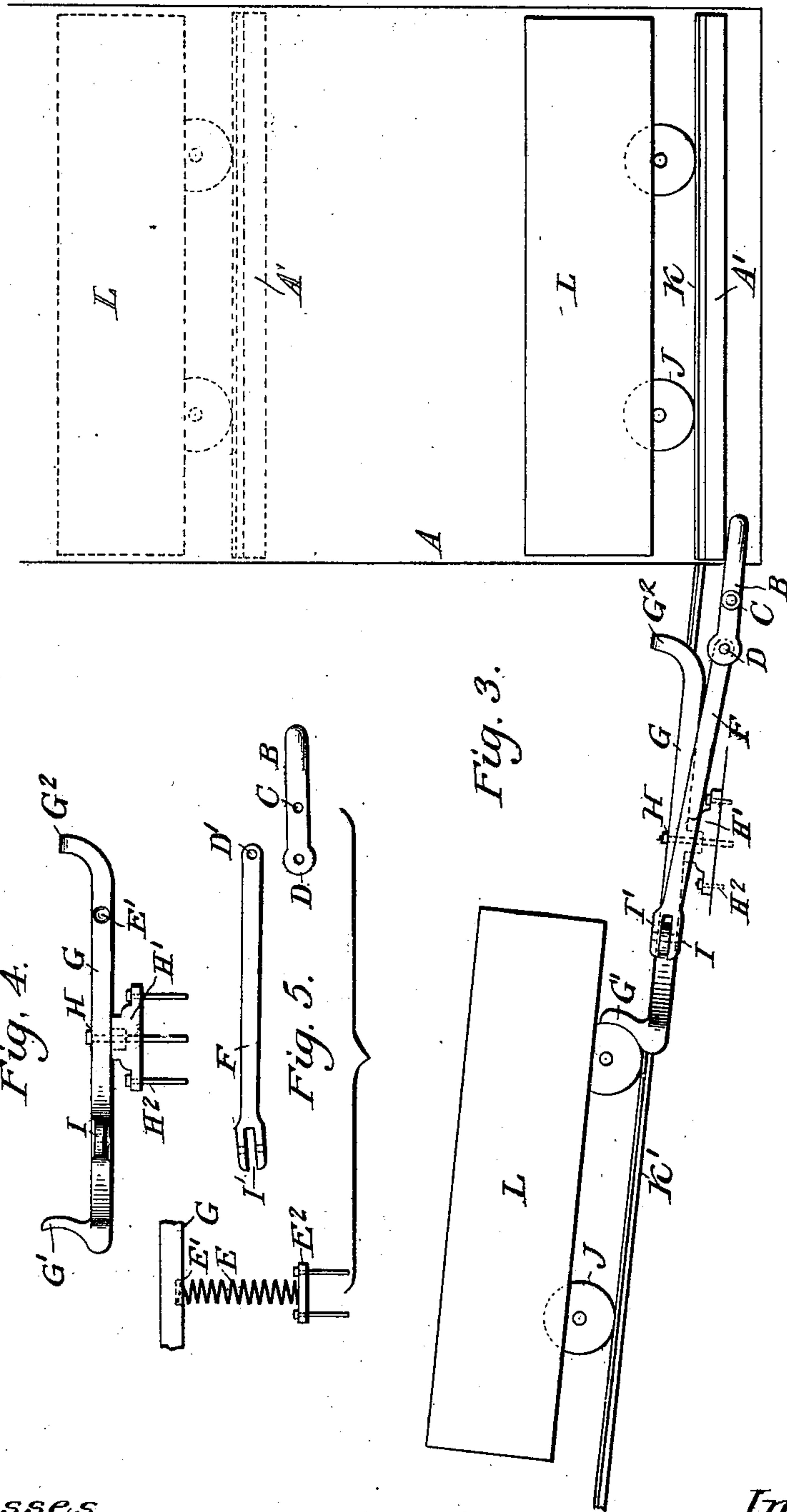
Patented Aug. 21, 1900.

W. A. WILSON.  
SELF ACTING MINING DOG.

(Application filed Feb. 28, 1900.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

WILLIAM AMOS WILSON, OF MURPHYSBOROUGH, ILLINOIS.

## SELF-ACTING MINING-DOG.

SPECIFICATION forming part of Letters Patent No. 656,279, dated August 21, 1900.

Application filed February 26, 1900. Serial No. 6,655. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM AMOS WILSON, a citizen of the United States, residing at Murphysborough, county of Jackson, and State of Illinois, have invented a new and useful Automatic Mining-Dog, of which the following is a full, clear, and exact description.

My invention relates to an automatic mining-dog adapted to control the movement of cars or carriers for transporting material.

The invention has for one of its objects to provide a device for automatically releasing a car or carrier to permit the same to pass onto an elevator when said elevator reaches a proper position to receive the carrier.

A further object of the invention is to provide an oscillating dog adapted to hold one or more cars and to release the first car of the series and permit the same to pass onto the elevating device.

A further object of the invention is to provide means for automatically accomplishing the operation of the several parts, comprising a pitman and treadle connection by means of which one end of the dog may be positively shifted in the descent of the elevating device, and means for automatically restoring the parts to their initial positions.

Other objects and advantages of the invention will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 represents a plan showing a carrier in position to be released. Fig. 2 is a similar view illustrating the position of the parts after the carrier has been released. Fig. 3 is a side elevation showing the parts in a similar position to that of Fig. 2. Fig. 4 is a detail elevation, and Fig. 5 represents details of the treadle, pitman, and restoring-spring.

Like letters of reference represent like parts throughout the several figures of the drawings.

This invention is particularly adapted and intended for use in mining and for loading the coal or ore upon an elevating platform or cage at the bottom of the shaft. It will be obvious that the invention might also be applied to other forms of mechanical apparatus.

As illustrating the application above referred to, the letter A indicates a shaft of a mine which is provided with the usual elevator or cage A', upon which suitable tracks K are provided and adapted to coincide or register with similar tracks K', located at a slight incline adjacent to the bottom of the shaft. Traveling upon these tracks are suitable carriers—for instance, cars L—the bodies of which in Figs. 1 and 2 have been indicated by dotted lines, so that the wheel J thereof may be seen. It will be obvious that the cars L will move by gravity from the inclined track K' onto the elevating-cage A' and the dog G is provided for governing this movement. This dog is provided at one end with a shoe G' and at its opposite end with a chock G<sup>2</sup>. The dog is pivotally mounted in the socket H' and held in position by the bolt H, while the socket is suitably secured by any desired means—for instance, bolts H<sup>2</sup>—to any form of support. This mounting provides a means by which the dog may be oscillated in a horizontal plane and could be thus used by shifting the dog by hand, although such form would not accomplish the automatic action hereinafter described.

The dog G is provided at one end with a pivoting-lug I, adapted to fit between the forked end I' of the pitman F, which at its opposite end is provided with a pivoting-eye D'. At the end D' of the pitman F there is disposed a pivoted treadle B, having its end D pivotally secured to the end D' of the pitman and its opposite free end B extended beneath or in position to be contacted by the descending elevating platform or cage. This treadle is suitably mounted in any form of support by means of a pivot C, and the free end thereof is inclined slightly upward when the elevating-cage is raised and depressed into the position shown in Fig. 3 when the cage is lowered to bring the tracks in alignment. For the purpose of restoring the treadle and other parts of the apparatus to their initial position (shown in Fig. 1) the expansile spring E is provided, which bears at one end against the end G<sup>2</sup> of the dog at the socket E' and at its opposite end against a fixed plate E<sup>2</sup>. When the end G<sup>2</sup> is shifted outward from the track, as shown in Fig. 2, this



spring is placed under compression and in its expansive movement restores the parts to the position shown in Fig. 1.

In the operation of the dog when the elevating platform or cage descends the parts are in the position shown in Fig. 1, where the car is held by the chock  $G^2$  upon the horizontal oscillating dog. The elevator depresses the free end of the treadle B, thus bringing the joint D between the treadle and the pitman F into a straight line with said members and forcing inward the shoe  $G'$  and withdrawing the chock  $G^2$ . This places the spring E under compression and permits the car to move by gravity onto the elevator or cage, as shown in Fig. 2. At this time the shoe  $G'$  has caught and retained the following car, and when the elevator or cage A' ascends the expansion of the spring E forces inward the chock  $G^2$  and restores the parts to their normal position, which permits the car previously held by the shoe  $G'$  to pass into contact with the chock  $G^2$ .

It will be seen that this automatic dog positively governs the movement of the cars onto the cage or elevator, thereby increasing the degree of safety and permitting the shaft to be properly guarded. It further increases the amount of material which may be handled by any character of elevator or cage, as much of the time necessarily lost in loading the cars thereon by hand is saved by the present invention. If it should be desired to use the cage or elevator for purposes other than removing ore—for instance, the travel of the operators—the connecting-bolt between the pitman F and the dog G may be removed, so that the parts will not be operated by the elevator, and the cars will be retained by the dog, which is under the tension of the spring E.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims and that the materials used and size of the several parts may be altered relative to the character of work to be performed thereby.

Having described my invention, what I claim is—

1. The combination with a track or way, of a horizontally-disposed oscillating dog pivoted between its ends and having its opposite ends alternately projected over said track or way, and means for oscillating said dog; substantially as specified.

2. The combination with a track or way, of a horizontally-disposed oscillating dog pivoted between its ends and having its opposite ends alternately projected over said track or way, and means for automatically actuating said dog; substantially as specified.

3. The combination with a track or way, of an oscillating dog pivoted between its ends

and having its opposite ends alternately projected over said track or way, and means engaged by a traveling member for automatically shifting said dog; substantially as specified.

4. The combination with a track or way, of an oscillating dog pivoted between its ends and having its opposite ends alternately projected over said track or way, means engaged by a traveling member for automatically shifting said dog, and means for restoring said dog to its initial position; substantially as specified.

5. The combination with an inclined track or way, of an oscillating dog having one of its ends projected over said track or way, an elevating platform or cage, a device for shifting said dog adapted to contact with said platform or cage in its descending movement to automatically operate the dog, and means for restoring said dog to its initial position; substantially as specified.

6. A track-dog comprising a pivoted member having contact-blocks at opposite ends, a treadle for operating said dog, a pitman pivoted to said treadle and dog, and a restoring-spring for said dog; substantially as specified.

7. A track-dog comprising a member pivoted to oscillate in a horizontal plane and having contact devices at its opposite ends, a treadle pivoted to oscillate in a vertical plane, a pitman pivoted to said dog and treadle, and a restoring-spring placed under compression in the downward movement of the free end of said treadle; substantially as specified.

8. A track-dog comprising a member pivoted to oscillate in a horizontal plane and having contact devices at its opposite ends, a treadle pivoted to oscillate in a vertical plane, a pitman pivoted to said dog and treadle, a restoring-spring placed under compression in the downward movement of the free end of said treadle, in combination with an inclined track or way above which said dog operates, and an elevating platform or cage beneath which the free end of said treadle extends; substantially as specified.

9. A track-dog having a pivoted member with projecting ends adapted alternately to engage the wheels of adjacent independent cars, and means connected with said member for operating it; substantially as specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Murphysborough, Illinois, this 9th day of February, A. D. 1900.

WILLIAM AMOS WILSON.

Witnesses:

S. R. WINCHESTER,  
VAN CROWELL.