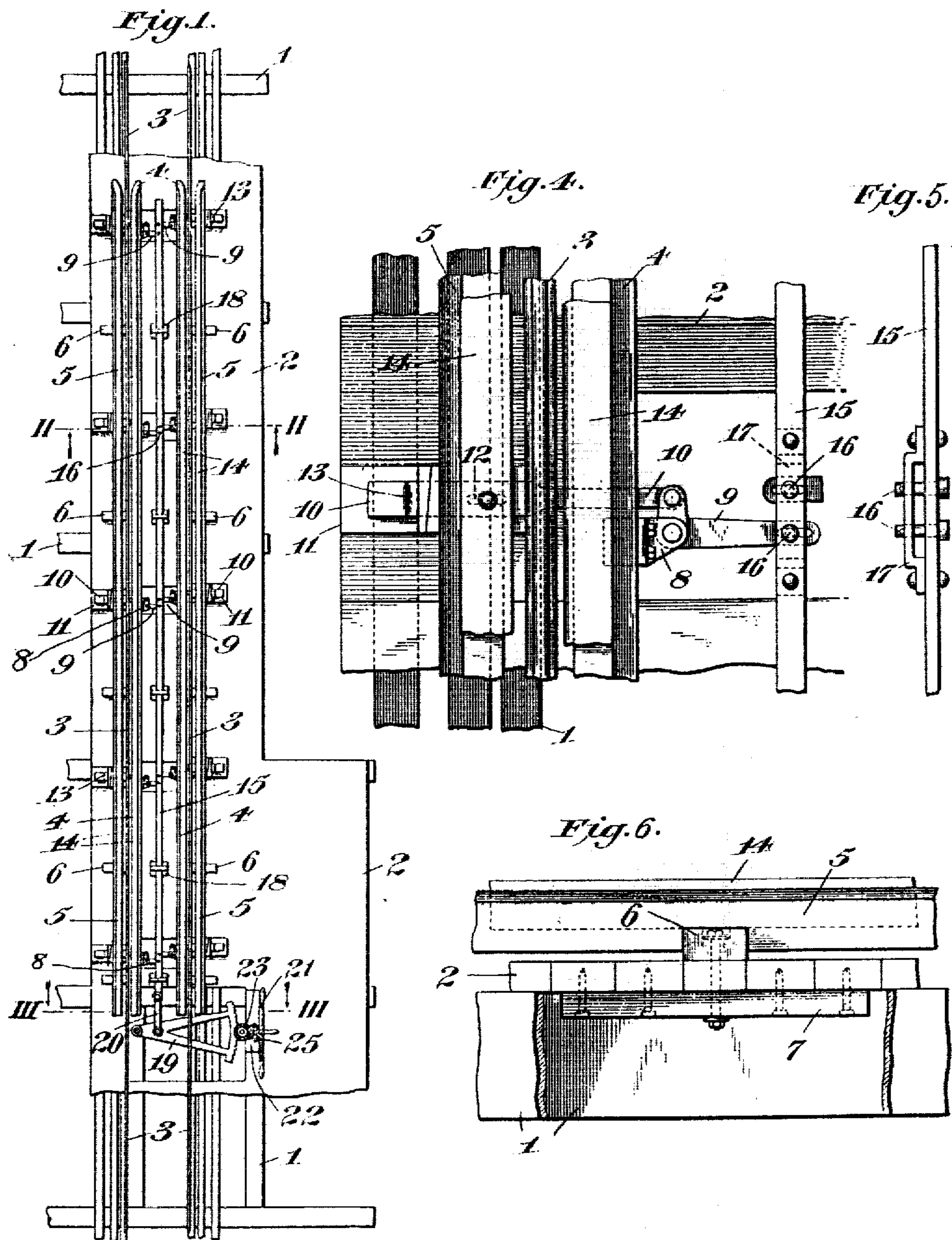


J. M. COOK, JR.
TRACK BRAKE.

APPLICATION FILED JUNE 7, 1905.

2 SHEETS—SHEET 1.



WITNESSES,

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INVENTOR.

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No. 816,531.

PATENTED MAR. 27, 1906.

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Fig. 2.

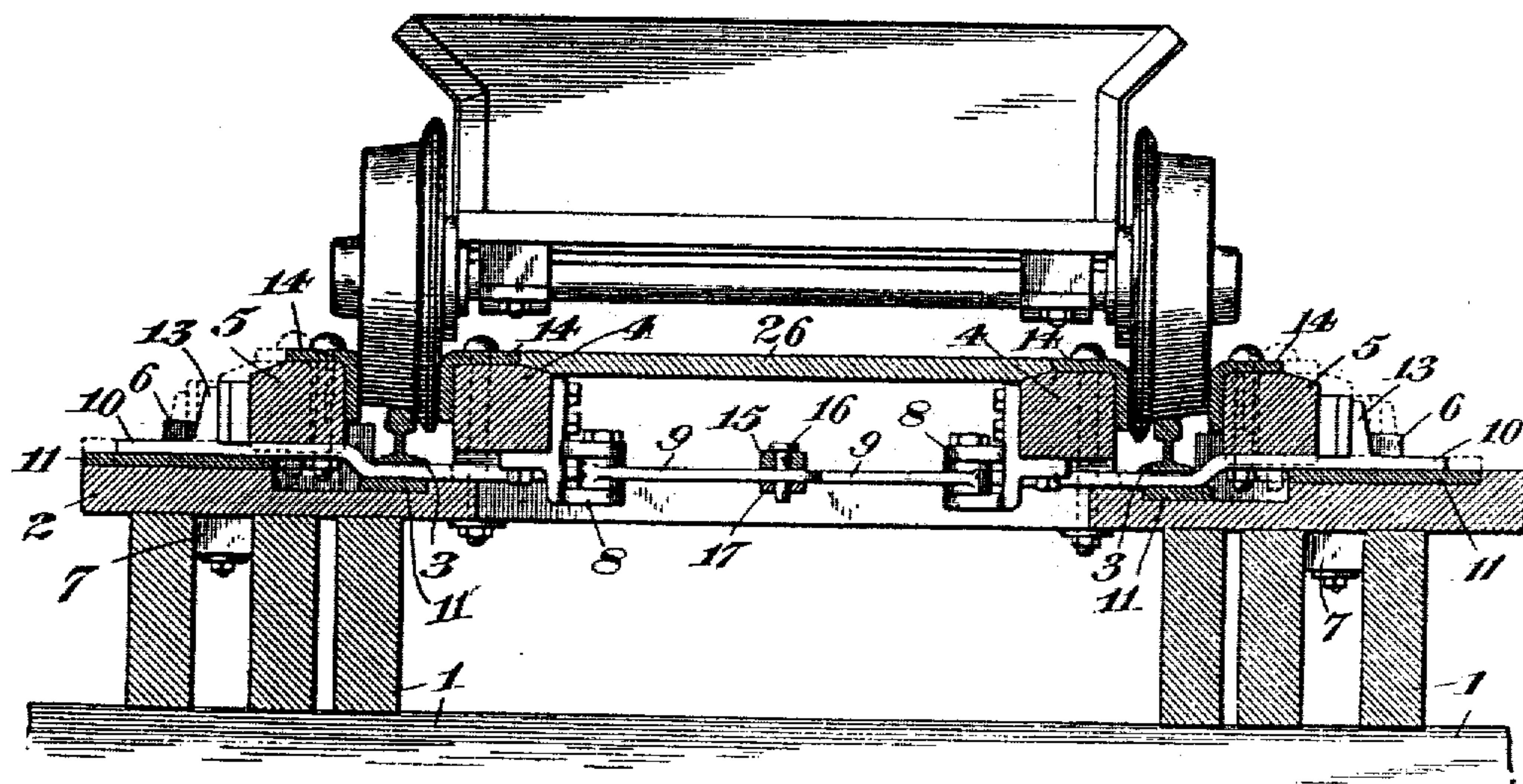
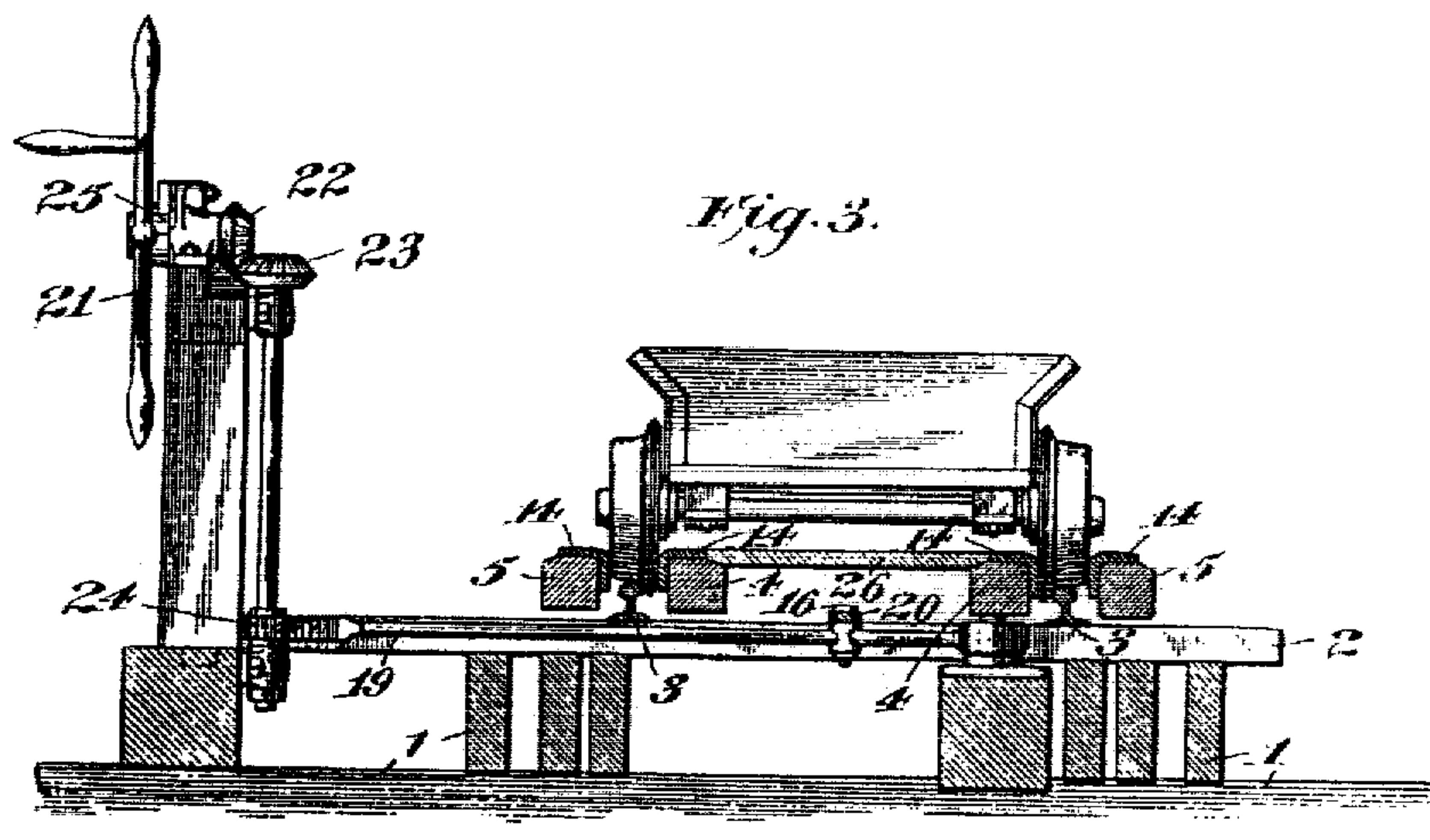


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES M. COOK, JR., OF JOHNSTOWN, PENNSYLVANIA.

TRACK-BRAKE.

No. 816,531.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed June 7, 1905. Serial No. 264,072.

To all whom it may concern:

Be it known that I, JAMES M. COOK, Jr., a citizen of the United States, residing in the city of Johnstown, county of Cambria, and State of Pennsylvania, have invented certain new and useful Improvements in Track-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to railway-brakes of the class known as "track-brakes," and more especially to the manner of mounting the brake-bars and to the means for operating the same.

It has for its object to provide one or more brake-bars which are mounted adjacent to the track-rails upon guides or ways whereby a lateral movement only is permitted the same and to provide means for operating the laterally-moving brake-bars from a local point to press them against the sides of the car-wheels.

Other improvements in the details of construction will be made evident as the description proceeds.

In the operation of mines it is common practice to employ gravity-tracks and cars having no individual means for retarding their motion. In order to control the movement of such cars, it becomes necessary to provide track-brakes or equivalent devices at certain places, such as inclines, weighing-platforms, tipples, &c. Heretofore track-brakes for the purpose have been devised in which one or more brake-bars are mounted parallel with the track-rails and connected with the track structure by means of a plurality of parallel links which give the brake-bars a lateral longitudinal movement when operated, whereby they may be pressed against the sides of the car-wheels. Such a construction is objectionable in that the brake is either opposed or assisted in its action, dependent upon the direction of the inclination of the connecting-links relative to the moving car. The brake is therefore less uniform in its action and more difficult to control.

My invention very effectively overcomes the above objections, since the movable brake-bars have lateral movement only and are thus not effected in their operation by the movement of the car.

As herein shown, the embodiment of my

invention is especially applicable to cars in which the wheels run loose on the axles, as is common in mine-cars; but it may be readily adapted to cars in which the wheels are secured to the axles and the axles run in boxes carried by the cars, which construction is also common in a variety of cars.

Referring to the accompanying drawings, forming a part hereof, in which like characters of reference designate like parts, Figure 1 is a top plan view of a portion of track, showing the application of my invention, the shield between the stationary brake-bars being removed to show the operating means. Fig. 2 is a transverse sectional elevation, on an enlarged scale, of the track structure, taken on a plane indicated by line II II of Fig. 1, showing a car in position on the track and the application and operation of my invention. Fig. 3 is a transverse sectional elevation of the track structure, taken on a plane indicated by the line III III of Fig. 1, showing the connections between the hand-wheel and the operating-rod. Fig. 4 is a fragmentary top plan view of a pair of brake-bars and the operating-rod, showing one of the bell-crank levers and its connecting-link. Fig. 5 is a fragmentary side elevation of the operating-rod, showing the means for connecting the bell-crank levers thereto. Fig. 6 is a fragmentary side elevation of the track structure, showing one of the movable brake-bars and a guide therefor.

In the drawings, 1 designates the track structure, which may be of the usual or any desired form, having the floor 2, upon which are mounted the rails 3, forming the track. Secured to the floor between the rails and extending a suitable distance above the same and parallel therewith are the inside or stationary brake-bars 4, which are so located relative to the rails, respectively, that the flanges of the wheels may pass between them. On the opposite sides of the rails are located the outside or movable brake-bars 5, which are mounted upon guides 6, resting upon the track structure and secured to the floor by means of cleats 7, as shown in Fig. 5. These brake-bars extend parallel with the stationary ones and above the rails a corresponding distance so that the rims of the wheels may be received between them. All of the bars are inclined away from the rails at the ends toward which the cars approach to prevent the possibility of their being struck by the wheels.

Secured to the stationary brake-bars 4 and received in openings in the floor are brackets 8, which carry bell-crank levers 9, one arm of each of which is connected with the adjacent movable brake-bar by means of a link 10. These links pass under the rails in openings in the floor and are preferably mounted upon suitable wearing-plates 11, whereby additional support for the brake-bars is provided. In order that the movable brake-bars may be adjusted relative to the links, slots 12 are provided in the latter, through which pass the bolts for securing the brake-bars thereto. Brackets 13, integral with the links, serve to prevent the brake-bars from slipping on the links, while the wedges between the brackets and the brake-bars render the latter still adjustable. Either or both the brake-bars may be made of any desired material, but preferably of wood, as herein shown, and when so made metal shoes 14 are secured to their inner faces and adapted to contact with the sides of the car-wheels, as shown in Fig. 2, whereby the life of the bars is prolonged.

From the above description it will readily be seen that by operating the bell-crank levers the movable brake-bars may be moved toward and away from the rails, and consequently may be pressed against the sides of the car-wheels or released therefrom at will. In order that the brake-bars may have a parallel motion, the operating-arms of the bell-crank levers 9 are moved simultaneously by an operating-rod 15, connected therewith by means of pins 16, which arms are received between the rod and an offset plate 17 secured thereto. The pins are thus supported at both ends. Since one operating-rod serves for both sets of bell-crank levers, which are oppositely disposed, slots are provided in the operating-arms for the pins to compensate for the radial movement of the arms. The operating-rod slides upon wearing-plates 18, secured to the floor, and is held in alinement by staples or other suitable means. It is connected at one end to the arm of a sector-gear 19, mounted upon the track structure, by means of a connecting-link 20. This sector-gear is adapted to be operated by means of a hand-wheel 21, geared thereto by means of the bevel-gears 22 and 23 and the spur-gear 24 and mounted in convenient position for the operator upon a suitable support. The hand-wheel is provided with a pawl and ratchet 25, so that the brake may be set permanently when desired. A shield 26 may be secured to the stationary brake-bars to protect the operating means from obstructions which would prevent its proper operation.

As above noted, the brake is designed for use in connection with cars in which at least one wheel is loose on the axle, the play on the axle permitting the wheels to be clamped between the brake-bars. In case it is desired

to use the brake in connection with cars having wheels secured to the axle it will only be necessary to mount the inside brake-bars so that they may be given a slight lateral movement instead of making them rigid.

It is thought that the elasticity of the operating means will be sufficient to compensate for wheels of slightly-different widths. If, however, it is not enough or the width of the wheels vary greatly, additional yielding means, as springs or the like, may be interposed at a suitable place between the movable brake-bar and its operating means.

The operation of the brake, it is thought, will be readily understood without further description. By turning the hand-wheel in the proper direction the outer movable brake-bars are drawn together and made to press upon the car-wheels, clamping them against the stationary brake-bar. The brake is neither opposed nor assisted in its action by the momentum of the cars, thus making it more uniform in its operation, and hence more easily controlled.

It is evident that my invention may be modified in many ways which will not depart from the spirit thereof. Hence it is not the desire or intention to limit this application to the precise construction herein shown, but to have it interpreted as broadly as is consistent with the invention.

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

1. In a track-brake, the combination with the car-wheels, of a stationary brake-bar on one side of the track-rail, a laterally-movable brake-bar on the other side of said track-rail, means for holding said laterally-movable brake-bar against longitudinal movement, and means for operating said movable brake-bar to press it against the car-wheels.

2. In a track-brake, the combination with the track-rail and the car-wheels, of a stationary brake-bar on one side of said track-rail, a brake-bar on the other side of said track-rail movable along a line at a right angle with said track-rail, and means for operating said movable brake-bar to press it against the car-wheels.

3. In a track-brake, the combination with the track-rail and the car-wheels, of a stationary brake-bar on one side of said track-rail, a movable brake-bar on the other side of said track-rail, guides for said movable brake-bar located at right angles with the track-rail, and means for operating said movable brake-bar to press it against the car-wheels.

4. In a track-brake, the combination with the track-rail and the car-wheels, of a brake-bar on each side of the track-rail, a link connection between said brake-bars, and means for operating said connection to clamp the car-wheels between said brake-bars.

5. In a track-brake, the combination with

the track-rail and the car-wheels, of a stationary brake-bar on one side of the track-rail, a movable brake-bar on the opposite side thereof, a lever carried by said stationary
5 brake-bar and connected with said movable one, and means for operating said lever to clamp the car-wheels between said brake-bars.

6. In a track-brake, the combination with
10 the track-rail and the car-wheels, of a stationary brake-bar, located on the inside of the track-rail, a movable brake-bar located on the outside thereof, guides for said movable brake-bar, bell-crank levers carried by
15 said stationary brake-bar, links connecting said levers with said movable brake-bar, a rod connecting said levers, and means for operating said rod to clamp the car-wheels between said brake-bars.

7. In a track-brake, the combination with 20
the track-rails and the car-wheels, of stationary brake-bars located on the inside of the track-rails, movable brake-bars located on the outside thereof, guides for said movable
25 brake-bars located at right angles with the track-rails, bell-crank levers mounted upon said stationary brake-bars, links connecting said levers with said movable brake-bars, wearing-plates for said links, a rod connect-
30 ing said levers, a sector-gear connected with said rod, and a hand-wheel geared with said sector-gear.

In testimony whereof I hereto affix my signature in the presence of two witnesses.

JAMES M. COOK, JR.

Witnesses:

ELMER SEAVEY,

CHAS. N. CHAMBERS.