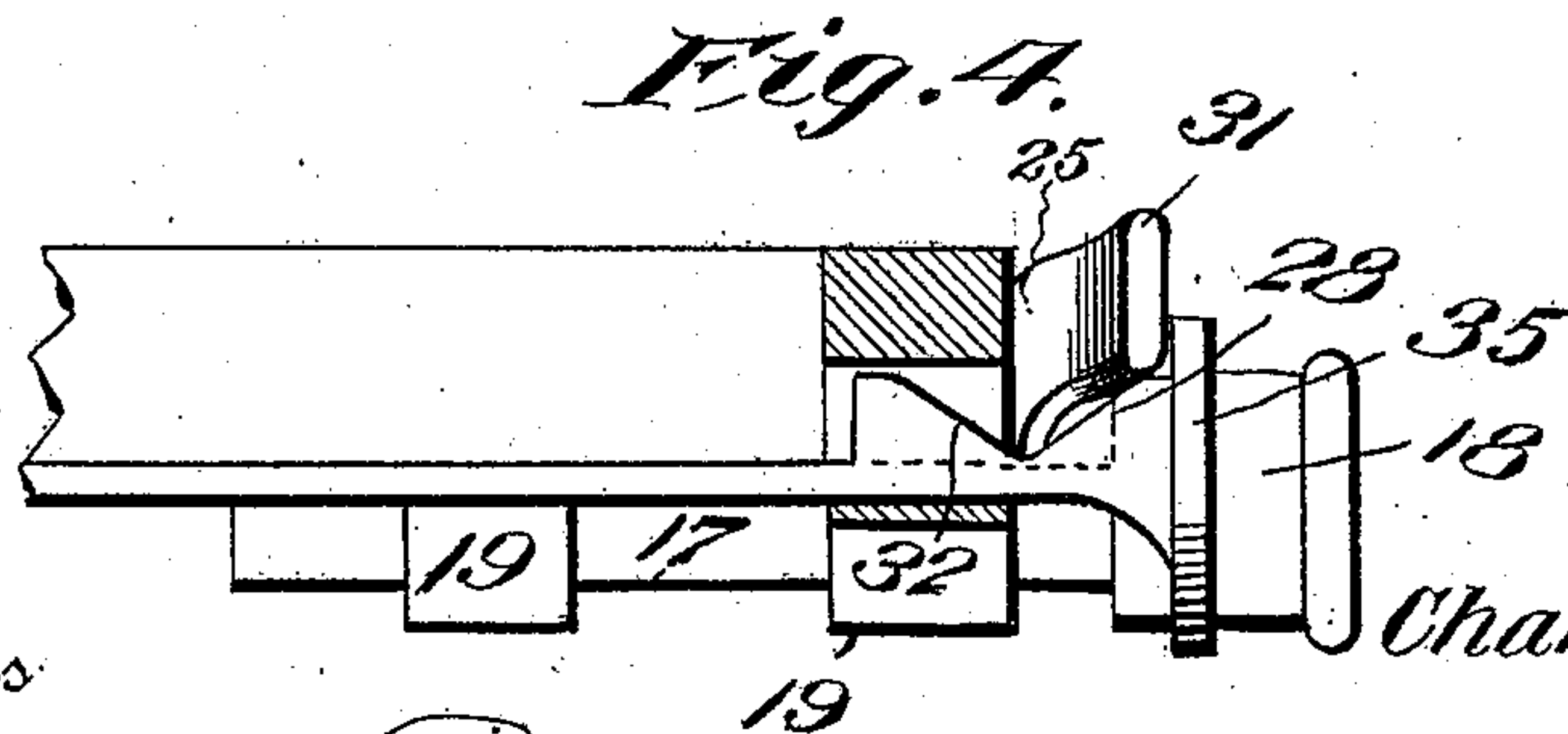
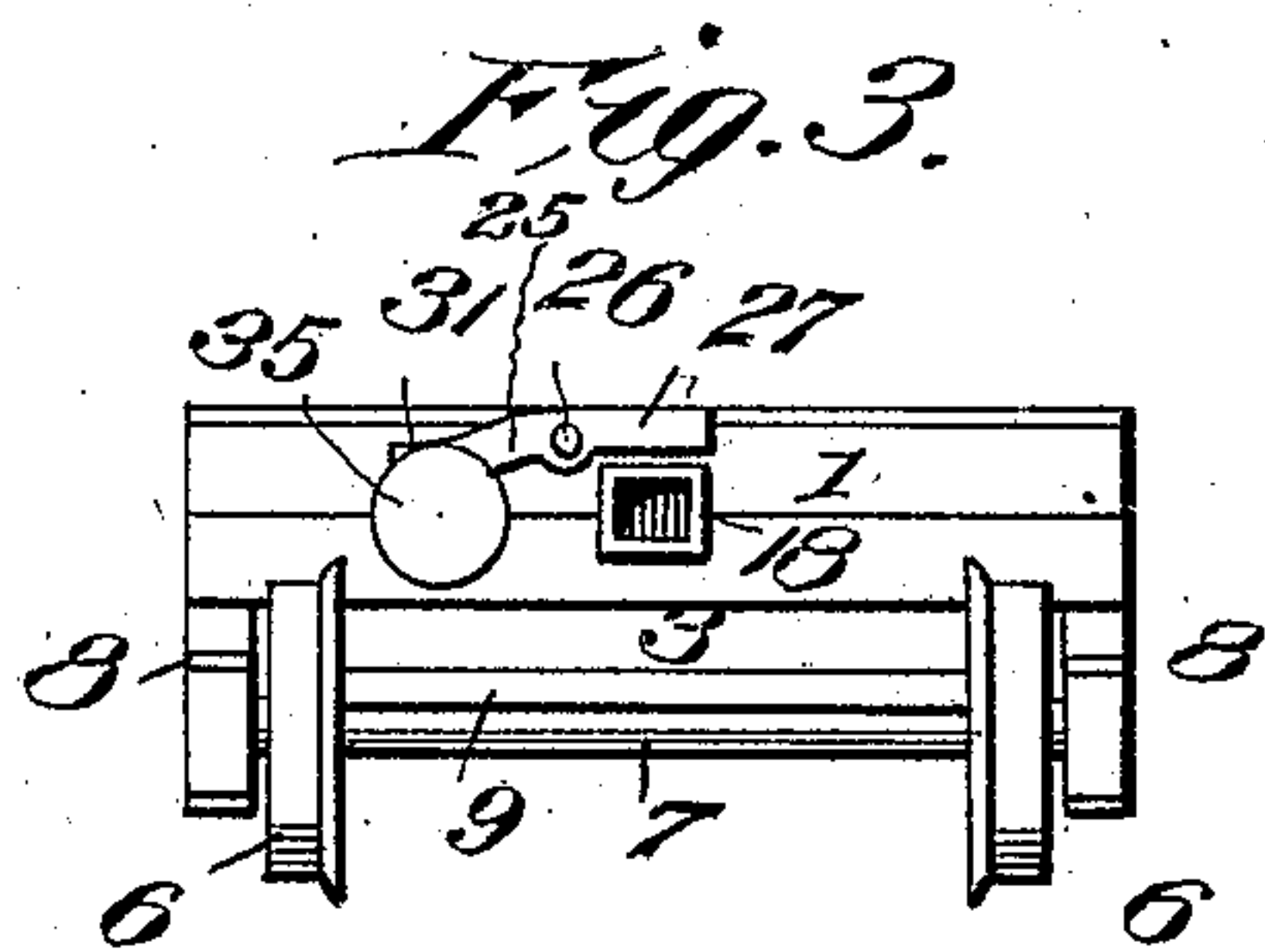
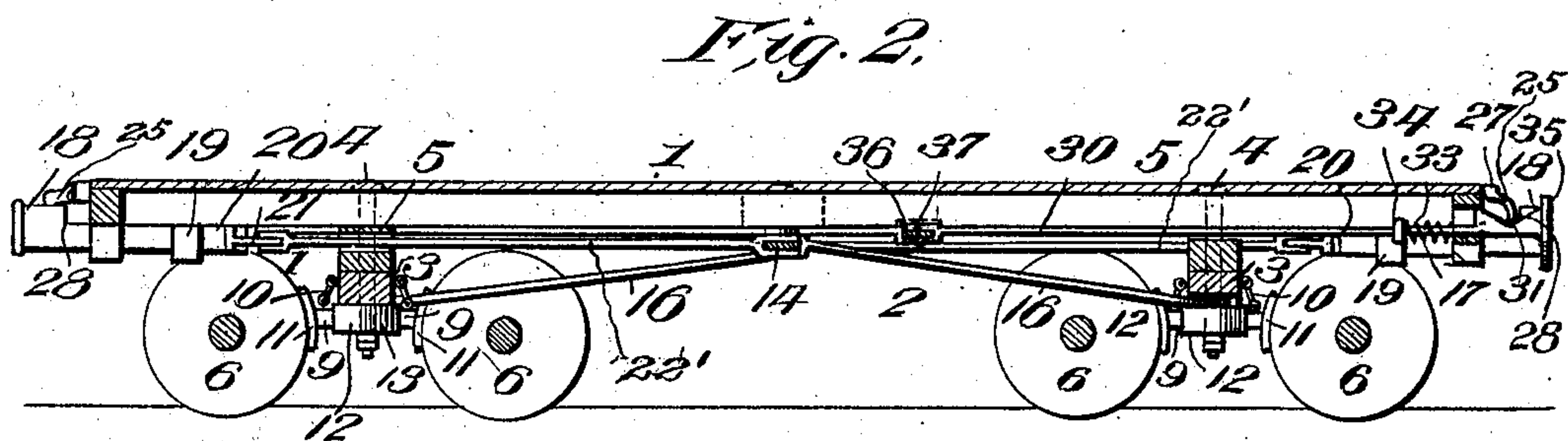
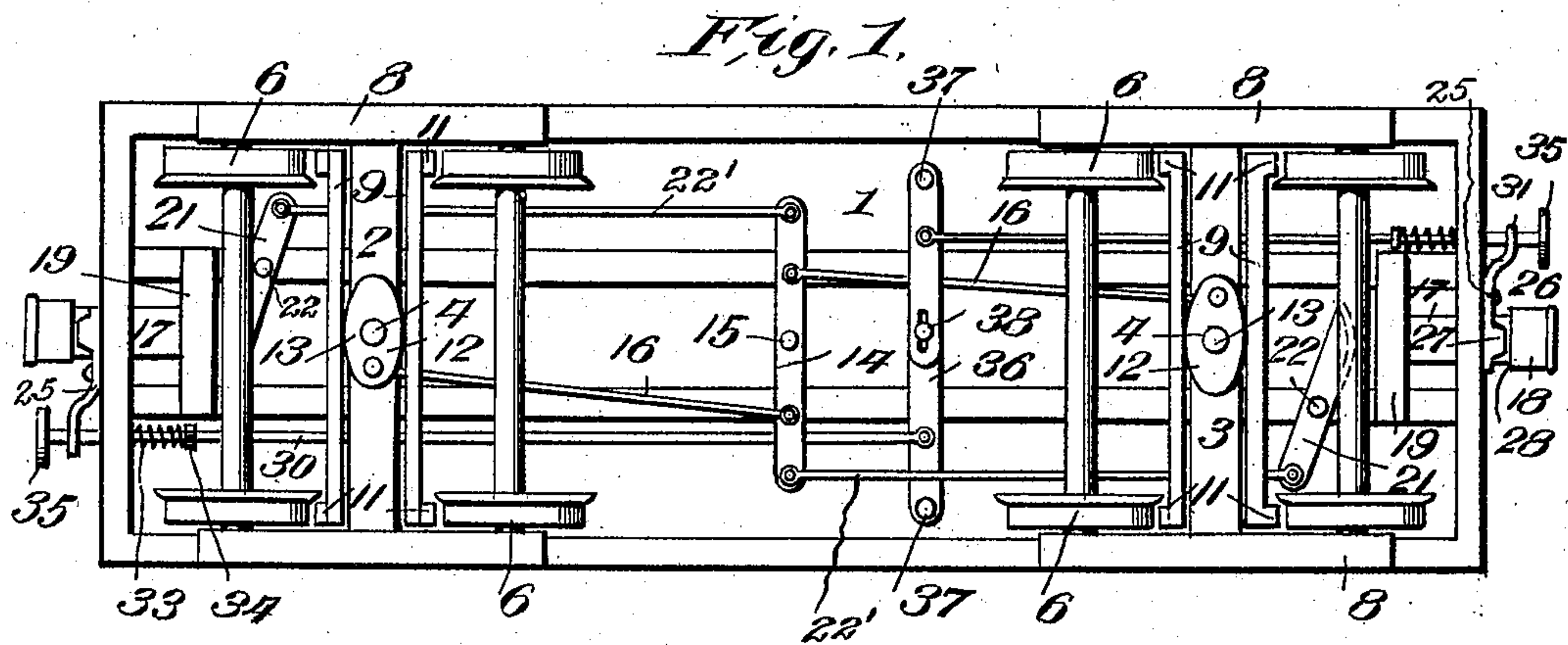


No. 814,876.

PATENTED MAR. 13, 1906.

C. L. SCHULTZ.
AUTOMATIC CAR BRAKE.
APPLICATION FILED OCT. 30, 1905.



Witnesses:

Thos. W. Riley
C. H. Giesbauer.

by

A. B. Wilson

Attorney

Inventor
Charles L. Schultz

UNITED STATES PATENT OFFICE.

CHARLES L. SCHULTZ, OF WHEELING, WEST VIRGINIA.

AUTOMATIC CAR-BRAKE.

No. 814,876.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed October 30, 1905. Serial No. 285,061.

To all whom it may concern:

Be it known that I, CHARLES L. SCHULTZ, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Automatic Car-Brakes; and I do 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 improvements in automatic car-brakes; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

The object of the invention is to provide a simple and efficient brake mechanism for railway-cars and the like, which will be automatically applied by the inertia or momentum of the car.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is an inverted plan view of a car equipped with my improved brake mechanism. Fig. 2 is a vertical longitudinal sectional view through the same. Fig. 3 is a detail end elevation, and Fig. 4 is a detail view of the mechanism for locking the sliding draw-bars against movement.

Referring to the drawings by numeral, 1 denotes the framework of the bottom of a railway-car or the like, which is mounted upon the usual swinging four-wheeled trucks 2. The latter, as shown, comprise centrally-disposed beams or bolsters 3, which are pivoted, as shown at 4, to bolsters 5 upon the under side of the frame 1. The supporting-truck wheels 6 are mounted upon axles 7, which have their ends mounted in suitable bearings provided upon longitudinal beams 8, which are secured upon the ends of the bolsters 3.

In applying my improved automatic brake mechanism I suspend brake-beams 9 upon each side of the beams or bolsters 3 of the trucks. These beams are suspended by means of links 10 from bolsters 3 and carry at their outer ends the usual brake-shoes 11, which are adapted to engage the peripheries of the wheels 6. The mounting of the beams

9 is such that they hang with their opposing inner faces in engagement with the opposite sides of actuating cams or blocks 12 and their brake-shoes 11 normally out of engagement with the said wheels. These cams or blocks 12 are preferably shaped as shown and pivotally mounted, as at 13, upon the centers of the under sides of the bolsters 3, as clearly shown in Fig. 2 of the drawings. These cams 12 are adapted to be simultaneously operated by a lever 14, which is pivoted at its center, as at 15, upon the center of the under side of the frame 1, and is connected by links or rods 16 to said cams. These links 16 are pivoted or loosely connected to said levers or cams upon the opposite sides of their centers, as shown in Fig. 1. The lever 14 is automatically operated by the inertia or momentum of the cars through the medium of the coupling draw-bars 17, which are slidably mounted at the ends of the car. These draw-bars 17 may have coupling-heads 18 of any well known or preferred form and construction at their outer ends, and their inner ends are mounted, as shown at 19, so that they slide longitudinally. Said inner ends 20 are adapted to actuate levers 21, which are pivoted intermediate their ends, as at 22, upon the under side of the frame 1, and have one end disposed within the path of the inner ends of the draw-bars 17 and their opposite ends connected to the outer end of the lever 14 by means of links or rods 22'. It will be seen that when the draw-bars 17 are moved inwardly, which movement is caused by the cars approaching each other in descending a hill or when the brakes on the engine are applied, their inner ends will actuate the levers 21, which in turn will swing the lever 14 in the direction of the arrow shown in Fig. 1 to swing the cams or blocks 12 and cause them to force the brake-beams 9 away from each other and their shoes 11 into engagement with the car-wheels 6. When the draw-bars 17 are moved outwardly by the pull of the engine, the brake-beams 9 will swing by gravity to their normal position and the levers 14 and 21 will also assume their normal positions.

In order to throw the brake mechanism out of operation, so that the train may be backed without applying the brakes, I provide means for locking the draw-bars 17 in their projected position. This locking means,

as shown, consists of levers 25, which are pivotally mounted, as at 26, upon the ends of the frame 1. These levers are adapted to have their inner ends 27 swing into and out of the path of shoulders or enlargements 28 provided upon the upper faces of the outer portions of the draw-bars 17, so that when said levers 25 are in the paths of said shoulders the draw-bars will be prevented from moving inwardly, the outward movement of the draw-bars being limited by stop-pins provided at their inner ends 20 or by any other suitable means. The levers 25 may be operated by hand, but I preferably provide means for operating them automatically and simultaneously from the engine or front of the car. This means consists of slidably-mounted longitudinally-extending rods or links 30, which have their outer ends projecting beneath the ends 31 of the levers 25 and formed with oppositely beveled or inclined faces 32, which are adapted to engage and actuate said levers. The rods 30 are actuated in one direction and are held in their normal positions, in which the ends 31 of the levers 25 are supported between the oppositely-beveled faces 32, and the ends 27 of said levers are held out of the paths of the shoulders 28, by means of coiled springs 33, which surround said rods 30 and are confined between the ends of the frame 1 and nuts or stops 34, provided upon said rods, as clearly shown in Figs. 1 and 2 of the drawings. Said outer ends of the rods 30 are provided with bumpers 35, which are adapted to engage similar bumpers upon the ends of adjacent cars. The inner ends of the rods 30 are loosely connected to levers 36, each of which is pivoted at one of its ends, as at 37, upon the under side of the car-frame. The opposite ends of the levers 36 are loosely connected by a pin-and-slot connection 38, as shown in Fig. 1, so that said levers will actuate each other. Any suitable mechanism may be provided upon the front car or locomotive for actuating the rods 30 upon said car or locomotive, so that their motion will be imparted to the rods 30 upon the remaining cars of the train in order to cause the levers 25 to be simultaneously operated upon all of the cars of the train. It will be seen that when the rods 30 are shifted one or the other of their beveled faces 32 will elevate the ends 31 of the levers 25 to cause the ends 27 of the latter to engage the shoulders 28 on the sliding draw-bar 17, and hence prevent inward movement of the latter.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be

resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In an automatic brake for cars or the like, the combination with a frame and wheeled trucks thereon, of swinging brake-beams carrying shoes to engage the wheels of said trucks, actuating-cams disposed between said brake-beams, sliding draw-bars, a centrally-disposed lever, links connecting said lever and said cams, levers actuated by said sliding draw-bars, links connecting the last-mentioned levers and said centrally-disposed lever, and swinging elements upon the ends of said frame adapted to engage said sliding draw-bars to hold them against movement.

2. In an automatic brake for railway-cars or the like, the combination with a frame and wheeled trucks mounted thereon, of brake-beams pivotally suspended from said trucks, brake-shoes upon said beams adapted to engage the wheels of said trucks, cams pivoted centrally between said brake-beams and adapted to actuate the latter, a centrally-disposed lever pivoted at its center upon said frame, links connecting said lever and said cams, longitudinally-slidable draw-bars in the ends of said lever, levers pivoted upon said frame adjacent to said draw-bars and adapted to be actuated by the inner ends of the latter, links connecting the last-mentioned levers and said centrally-disposed lever, shoulders upon said draw-bars, levers pivoted upon the ends of said frame and adapted to be swung into and out of engagement with the shoulders of said draw-bars, and means for actuating said levers.

3. In an automatic brake for railway-cars or the like, the combination of a brake mechanism, sliding draw-bars for actuating the same, levers for locking said draw-bars against movement, and sliding rods operatively connected at one end and having inclined faces at their opposite end adapted to actuate said levers.

4. In an automatic brake for railway-cars or the like, the combination of a brake mechanism, sliding draw-bars for actuating the same, levers for locking said draw-bars against movement, and sliding rods operatively connected at one end, springs for actuating said rods, and bumpers upon the outer ends of said rods.

5. In an automatic brake for railway-cars or the like, the combination of a brake mechanism, sliding draw-bars for actuating the same, levers for locking said draw-bars against movement, a pair of levers pivotally mounted upon said frame at their outer ends

and loosely connected at their inner ends,
sliding rods connected to said levers, and hav-
ing at their outer ends oppositely-inclined
faces adapted to actuate the first-mentioned
5 levers, springs for actuating said sliding rods,
and bumpers upon the outer ends of said slid-
ing rods, substantially as described.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

CHARLES L. SCHULTZ.

Witnesses:

H. E. DUNLAP,
ROBT. F. DILWORTH.