

No. 630,950.

Patented Aug. 15, 1899.

W. TIMMIS.
COMBINED TRACK AND WHEEL BRAKE.

(Application filed Dec. 23, 1898.)

(No Model.)

Fig. 1.

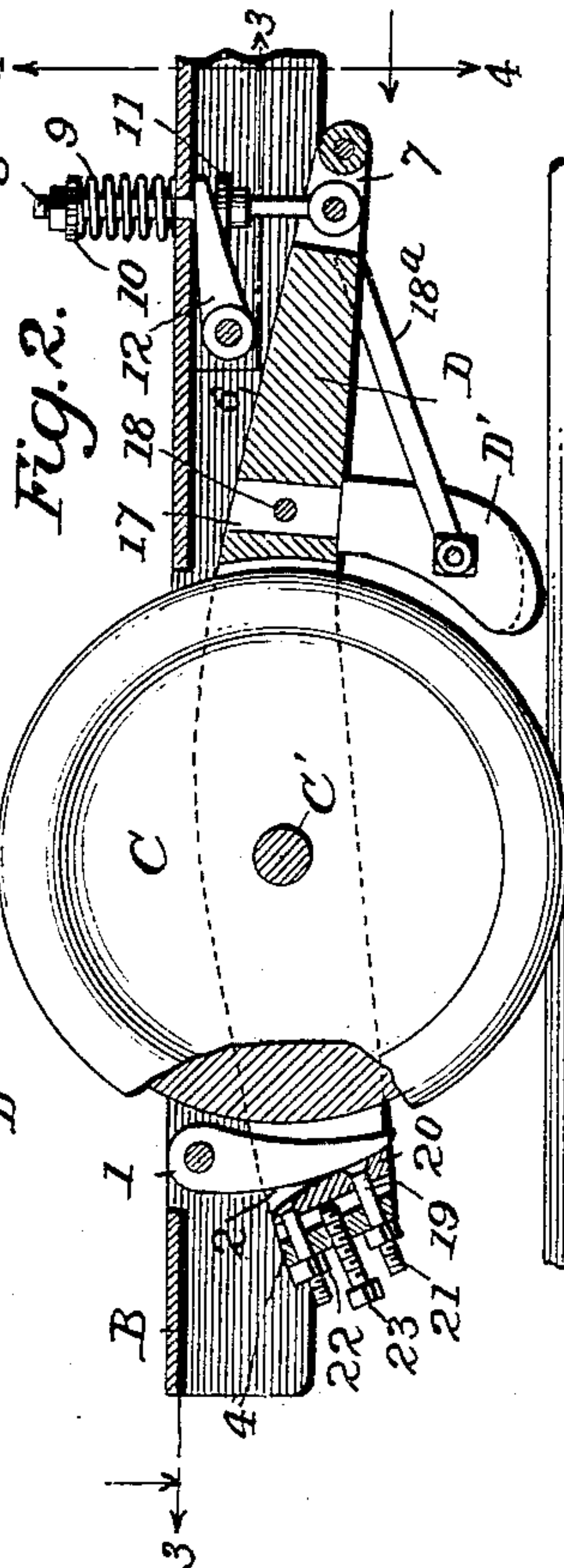
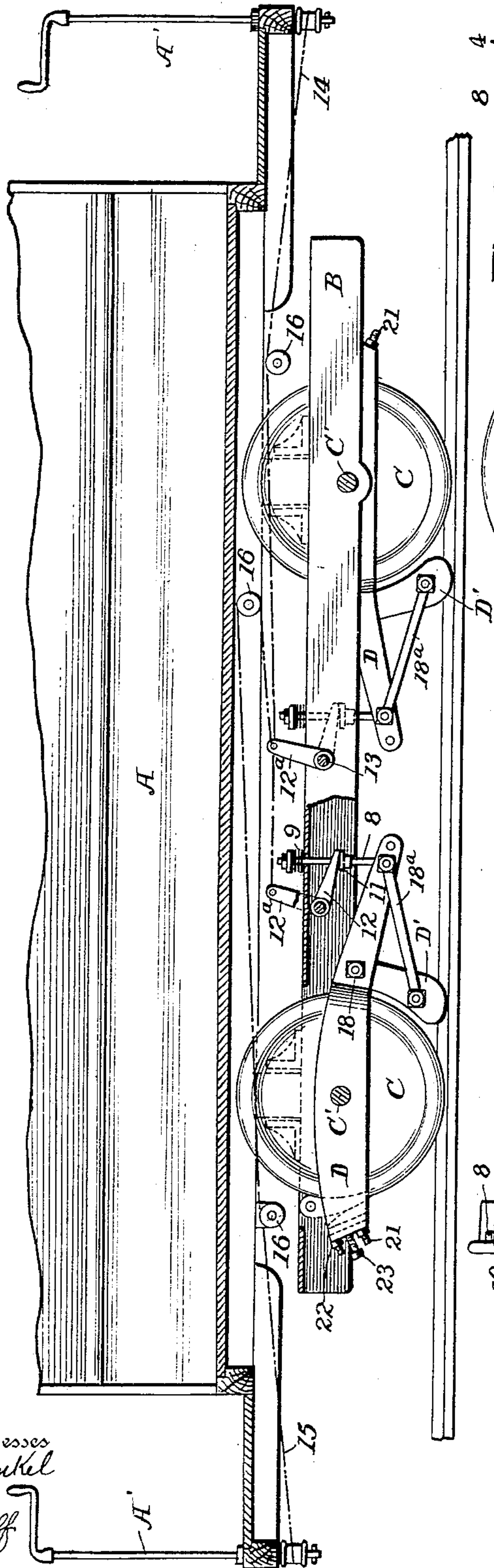


Fig. 3.

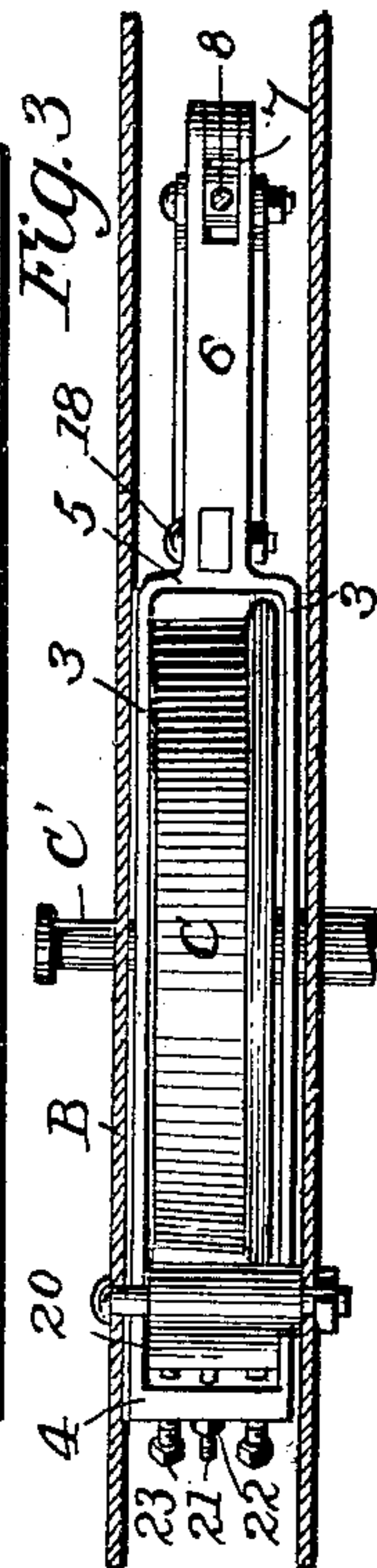
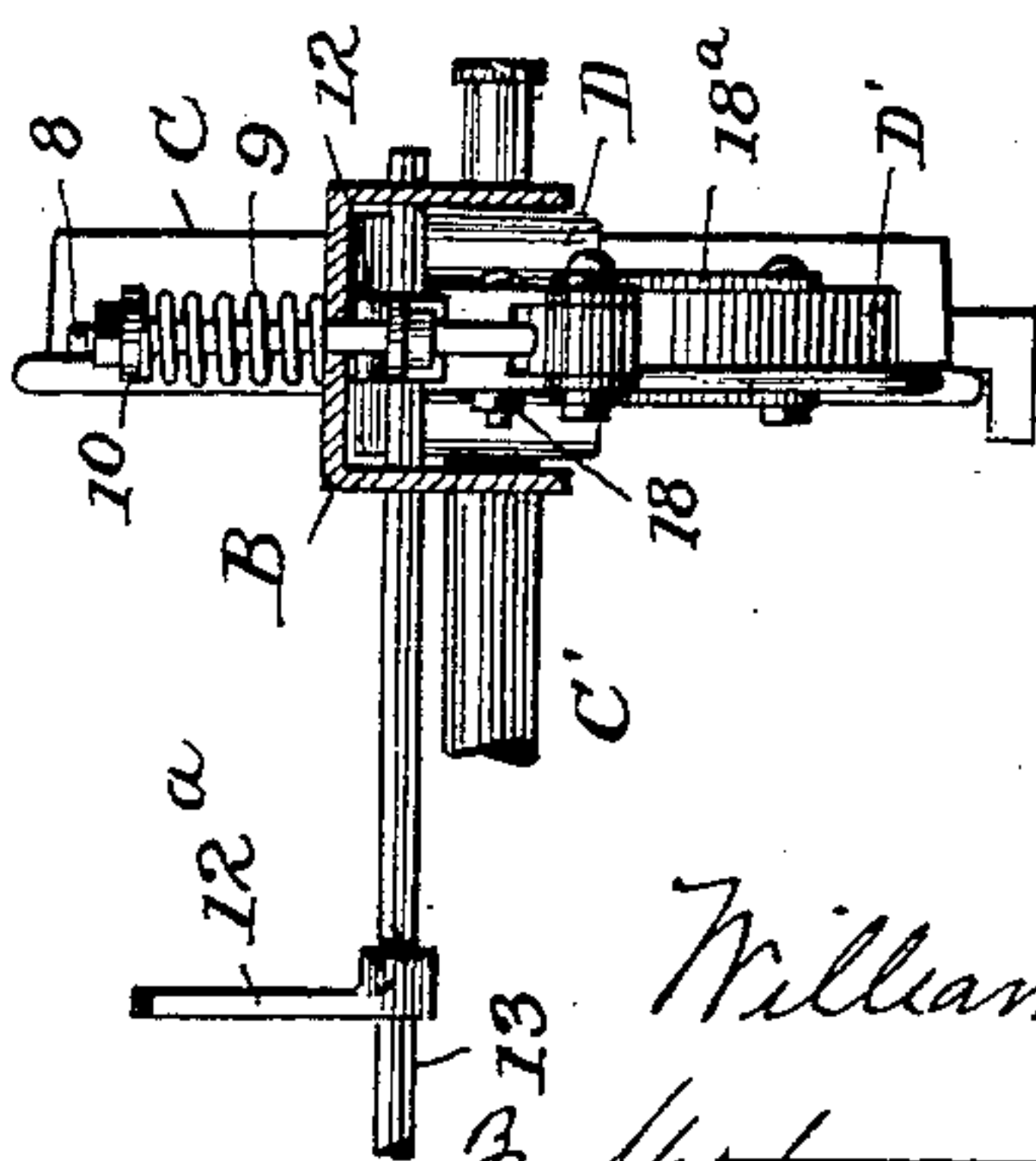


Fig. 4.



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WILLIAM TIMMIS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO FRANK W. BAILEY AND CAROLINE B. PIER, OF SAME PLACE.

COMBINED TRACK AND WHEEL BRAKE.

SPECIFICATION forming part of Letters Patent No. 630,950, dated August 15, 1899.

Application filed December 23, 1898. Serial No. 700,142. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TIMMIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Track and Wheel Brake, of which the following is a specification.

My present invention relates to railway-brakes, and more particularly to that class of such brakes known as "track and wheel brakes."

My objects are to provide a simple but strong construction in which the brakes are applied simultaneously, too great pressure upon the wheel-brake is prevented, and regulation as to the amount of force exerted upon the wheel-brake is afforded.

To these ends and also to improve generally upon devices of the nature indicated the invention consists in the various matters hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a portion of a car provided with the present invention. Fig. 2 is a detail chiefly in section, showing a single wheel with the invention applied. Fig. 3 is a top plan view, partly in section, of the parts shown in Fig. 2; and Fig. 4 is a section on the line 4 4 of Fig. 2.

Referring now more particularly to the drawings, A represents the lower framework of a car, to which are applied the usual brake rods and levers A', while B represents a portion of the frame of the truck for the wheels C. Suitably pivoted upon the truck-frame B are wheel-brake shoes 1, depending from their pivots and located on the outer sides of the wheels, these brake-shoes having cam-surfaces 2 upon their outer faces, for a purpose to be more fully hereinafter explained.

Pivoted intermediate their ends upon the axles C' of the wheels or concentric with the axles are brake frames or levers D, these frames comprising side plates 3 and an end plate 4, the side plates lying upon opposite sides of the wheels and the end plate 4 lying beyond the wheel-brake shoe 1, the wheel and its brake-shoe being thus included between the walls of the brake-frame. From the end

plate 5 of the brake-frame (which end plate is at the end opposite the plate 4) extends the arm 6, this arm being slotted at its inner end, as at 7, to receive a rod 8, pivoted to swing in the slot. The upper end of this pin projects through the side frame B of the wheel-truck and has about it a coiled spring 9, interposed between the upper surface of said side frame and a suitable washer 10 on said pin. Below the upper portion of the side frame the pin is provided with a shoulder 11, upon which bears the arm 12, said arm being mounted on a shaft 13, having bearings in the truck-frame. Suitable chains 14 and 15, running over pulleys 16, connect upwardly-extending arms 12^a of the shafts 13 and the usual drums upon the brake-rods A'.

Suitably secured upon the arm 6 of the brake-frame D is the track-brake D', this brake, as here shown, having at its upper end a lug 17, extending into a slot in the arm 6, the lug being held in place by means of a bolt 18. This track-brake can be braced as may be desired, and I have here shown brace-rods 18^a between the track-brake and the arm 6. The outer end plate 4 of the brake-frame is provided with openings, in which slide pins 19 upon a brake-block 20, located on the inner side of the plate 4, this brake-block being in juxtaposition to the wheel-brake shoe 1, so that as the arm 6 of the frame D is thrown downwardly the outer end of the frame moves upwardly, and the block 20, moving along the cam-face 2 of the wheel-brake 1, forces said brake against the wheel. The pins 19 are threaded at their outer ends, as at 21, and nuts 22 upon the threaded portions of the pins provide a means whereby the inward movement of the brake-block is limited. A set-screw 23, seated in a thread-bearing in the end plate 4, bears upon the outer face of the brake-block, and thus limits the outward movement of said block.

It will now be apparent that in the present device when it is desired to apply the brakes a brake-shaft A' is operated in the usual manner, and this action, through the chains and the levers 12^a and 12, serves to depress the arms 6 of the brake-levers, and consequently to swing said levers on their fulcrums—i. e., on

the axles C'. This swinging movement carries the outer ends of the levers upwardly, and the brake-blocks 20 ride upon the cam-surfaces of the wheel-brake shoes and force said shoes against the periphery of the wheels, as previously explained. This upward movement of the end of the brake-levers carrying the brake-blocks continues until the track-brakes D' have reached their ultimate positions upon the track. The brake-blocks 20 are of course so adjusted that when the limit of movement has been reached the wheel-brakes are applied with sufficient force; but when the track-brakes reach the track the movement of the levers is arrested, and therefore no further pressure can be exerted on the wheel-brakes. In this way a powerful braking action results; but at the same time it is impossible to so forcibly apply the wheel-brakes as to arrest the rotation of the wheels while the car is in motion, and thus wear the wheels flat by reason of their sliding upon the track. As the wheel-brake shoes and the wheels wear away, however, the limit of movement of the brake-blocks is regulated by means of the nuts 22 and the set-screw 23, so that such wear is compensated for. When the brake-shafts A' are released, the springs 9 return the brake-levers D and their attached members to their normal positions, the wheel-brake shoes 1 falling by gravity out of contact with the wheels.

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

1. In a brake mechanism for railway-cars, a brake-shoe supported in proximity to the wheel and movable toward and away from said wheel, a lever pivoted concentric with the axle, a track-brake upon said lever, a block upon said lever adapted to operate against the wheel-brake shoe and move the same against the wheel, when the lever is swung to apply the track-brake, and means for swinging the lever, substantially as described.

2. In a brake mechanism for railway-cars, a brake-shoe pivoted upon the truck-frame in proximity to the wheel, a brake-lever pivoted concentric with the wheel-axle, a track-brake upon said lever upon the side of the wheel opposite the said brake-shoe, a brake-block upon the brake-frame outside of the brake-shoe and adapted to cooperate with said shoe to force the same against the wheel,

and means for swinging the brake-frame, substantially as described.

3. In a brake mechanism for railway-cars, a brake-shoe supported in proximity to the wheel and movable toward and away from said wheel, a lever pivoted concentric with the axle, a track-brake upon said lever, a block upon said lever adapted to operate against the wheel-brake shoe and move the same against the wheel when the lever is swung to apply the track-brake, and means for varying the distance between the brake-shoe and the block, whereby the pressure exerted upon the brake-shoe is regulated, substantially as described.

4. In a brake mechanism for railway-cars, a brake-shoe supported in proximity to the wheel and having movement toward and away from the same, a brake-lever pivoted upon the wheel-axle, a track-brake upon said frame on the side of the wheel opposite to that upon which the said brake-shoe is supported, a plate upon said frame on the outer side of the brake-shoe, a brake-block between said plate and the brake-shoe and adapted to apply said brake-shoe on the movement of the lever, guide-pins upon said block operating in openings in said plate, means for adjusting the brake-block, and means for swinging the brake-lever, substantially as described.

5. In a brake mechanism for railway-cars, a brake-shoe pivoted upon the framework in proximity to the wheel, said brake-shoe having a cam-shaped outer surface, a brake-lever pivoted upon the wheel-axle and embracing the wheel and brake-shoe, an arm extending from said lever upon the side of the wheel opposite the brake-shoe, a track-brake upon said arm, an end plate on said lever, a brake-block intermediate the brake-shoe and the end plate, pins upon said block and extending into openings in the said end plate, a set-screw seated in said end plate and bearing against the brake-block and means for swinging the brake-lever, substantially as described.

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

WILLIAM TIMMIS.

Witnesses:

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M. C. WATSON.