(No Model.)

N. F. CORNE.

CAR BRAKE.

No. 570,004. Patented Oct. 27, 1896.

FIG. 1.

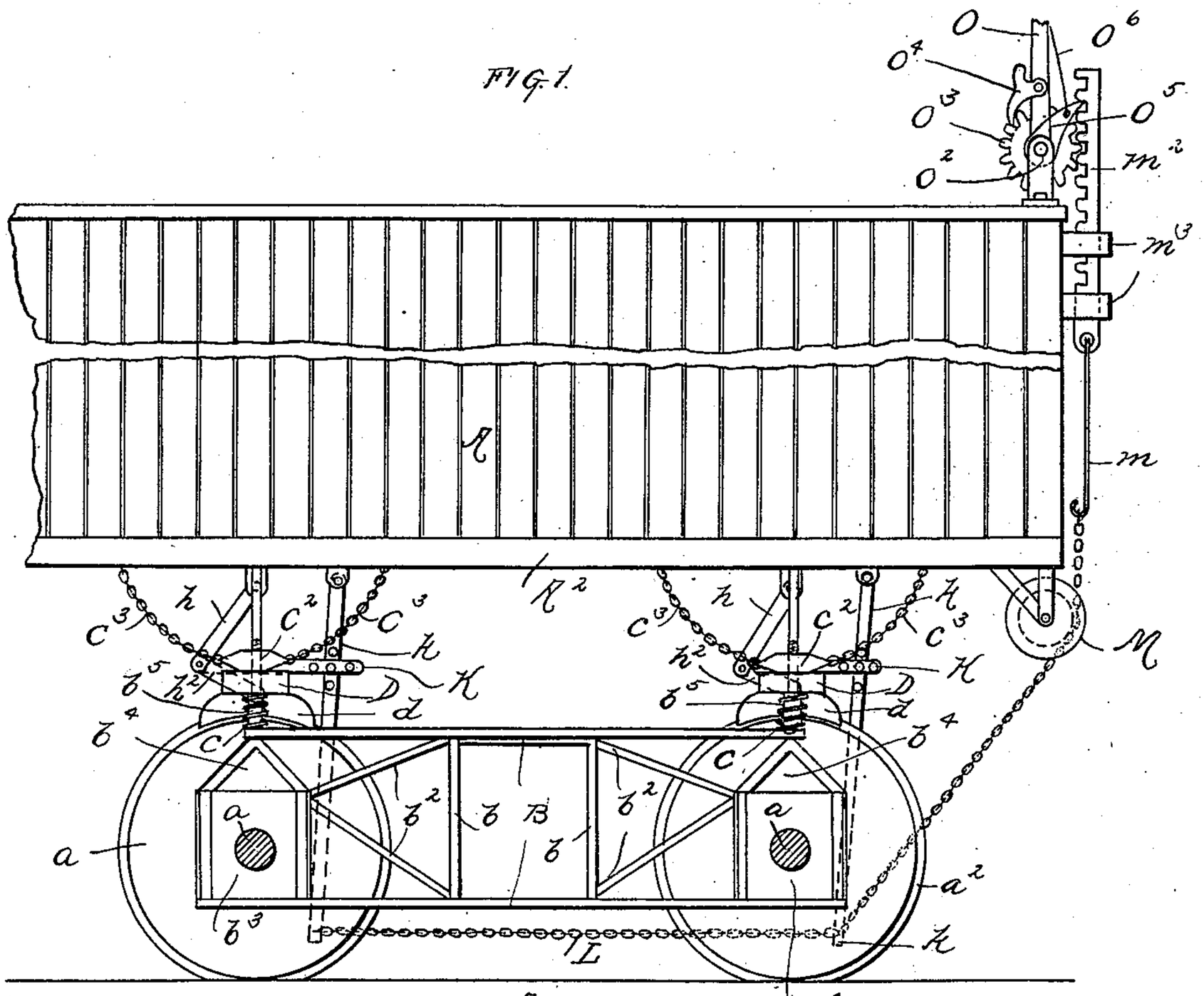

FIG. 2

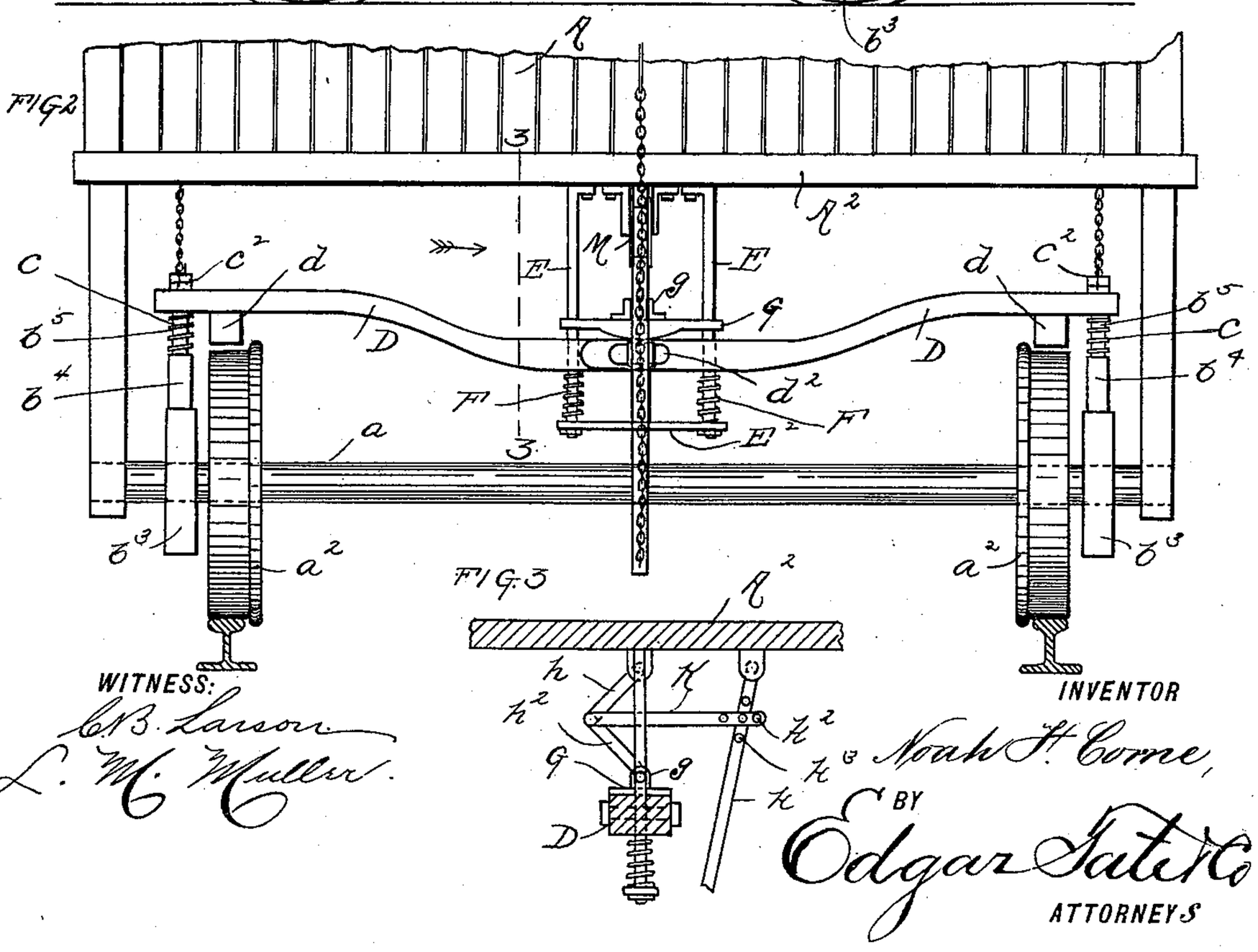

FIG. 3

WITNESS:
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UNITED STATES PATENT OFFICE.

NOAH FRANKLIN CORNE, OF SALUDA, NORTH CAROLINA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 570,004, dated October 27, 1896.

Application filed August 5, 1896. Serial No. 601,748. (No model.)

To all whom it may concern:

Be it known that I, NOAH FRANKLIN CORNE, a citizen of the United States, and a resident of Saluda, in the county of Polk and State of North Carolina, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to car-brakes, and the object thereof is to provide an improved device of this class which is adapted to be connected with all classes of cars, and particularly with freight and similar cars, and which is simple in construction and operation, and by means of which a car may be quickly and easily stopped.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of a section of a car and one of the brakes thereof provided with my improvement; Fig. 2, an end view thereof, and Fig. 3 a partial section on the line 3 3 of Fig. 2.

In the drawings forming part of this specification, A represents a car of any desired form or construction, the form shown being similar to that of an ordinary freight-car, and a the axles of one of the trucks, said trucks being of the usual or any desired form, and connected with the car in the usual manner and mounted on the axles a are the usual wheels a^2; and in the practice of my invention I mount on said axles, outside of the wheels, a frame which consists of top and bottom bars B, which are connected by vertical cross-bars b and stays or braces b^2, and each end of the frame is provided with suitable boxes or housings b^3, through which the axles pass.

The boxes or housings b^3 are provided with upwardly-directed extensions b^4, which are provided with standards b^5, which pass through the ends of the top plate or bar B, and on which are mounted strong spiral springs C, and the upper ends of the standards b^5 are screw-threaded and provided with oblong nuts C^2, the ends of which are connected by means of chains C^3 with the bottom of the car or with the truck, by means of which the ends are held in position, said chains constituting a lock which prevents the nuts from coming off. I also provide brake-levers D, through the outer ends of which said standards pass, and the nuts C^2 are screwed down onto the ends of said brake-levers and hold them in place, and each of said levers is provided with a brake-shoe d, which is adapted to bear upon the upper surface of the adjacent wheel a^2, and the inner ends of said brake-levers are provided with slots d^2 and overlap each other, and secured to the bottom of the car A^2, as shown in Figs. 2 and 3, are hangers E, the lower ends of which are connected by a cross-plate E^2, and said hangers pass through the brake-levers D, and mounted below said brake-levers are spiral springs F.

Mounted on the hangers E, above the ends of the brake-levers D, is a vertically-movable cross-head G, the central portion of which bears upon the ends of the brake-levers D, and secured to the bottom of the car between the hangers E are hangers H, between which is pivoted a lever h, to the lower end of which is pivoted a corresponding lever h^2, which is pivotally connected with the cross-head G at g, and pivotally connected with the levers h and h^2 is a bar K, which projects outwardly and is pivotally connected with a depending lever k, and the bar K is provided with a plurality of perforations or openings k^2, and the lever k with a similar number of perforations k^3, and said bar and said lever are connected by a pin or bolt which passes through said perforations, and the object of providing a plurality of the perforations or openings in said bar and said lever is to provide means for properly adjusting these parts.

The levers h and h^2 constitute a pair of toggle-levers by which the cross-head G is depressed on the inner ends of the brake-levers D, and it will be understood that this arrangement of the toggle-levers and their connected parts, including the hangers E, the cross-head G, and their operative devices, is duplicated, as shown in Fig. 1, said parts being connected with the car over each of the axles.

I also provide a chain, cord, or similar device L, which is connected with the lower

ends of each of the levers *k*, and carried outwardly and upwardly and passed over a pulley M, which is suitably supported at the end of the car, and said chain, cord, or other device L is connected, by means of a hook or other device *m*, with a vertically-movable rack-bar m^2, which passes through suitable keepers m^3, and above the car or on the top thereof is pivotally supported a lever O, said lever being pivotally connected with the standard O^2, and mounted on said standard is a gear or sprocket wheel O^3, which is adapted to operate in connection with the rack-bar m^2, and pivotally connected with said lever is a pawl O^4, which operates in connection with said gear-wheel, and said standard is also provided with a pawl O^5, which operates in connection with the rack-bar, and pivotally connected with said pawl O^5 is a rod or lever O^6, by which said pawl may be operated or disengaged from the rack-bar.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. Whenever it is desired to apply the brake or brakes, the lever O is pulled backwardly, and this operation raises the rack-bar m^2, by means of the gear-wheel O^3, and by this movement of the rack-bar m^2 the lower ends of the levers *k* are pulled outwardly. The pivoted ends of the toggle-levers *h* and h^2 are also forced outwardly and the cross-head G is depressed. The inner ends of the brake-levers are depressed by said cross-head and the brake-shoes *d* are forced into contact with the wheels a^2. The object of the springs C is to afford a yielding support for the outer ends of the brake-levers D and also to assist in freeing the shoes from the wheels when it is desirable to remove the brakes therefrom, and the brake-shoes are released from their connection with the wheels a^2 by raising the pawl O^5 and reversing the operation of the lever O, which operation depresses the rack-bar m^2, and the springs F on the hangers E will force the cross-head G and the ends of the brake-levers D upwardly, as will be readily understood.

This device is simple in construction and operation, and by means thereof great pressure may be applied to the wheels through the brake-shoes *d*, and the car may thus be quickly brought to a stop.

It is evident that changes in the form, construction, and arrangement of the various parts of my improved brake may be made without departing from the spirit of my invention or sacrificing its advantages, and I reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of the invention.

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

1. A brake for cars comprising side frames which are mounted on the axles outside of the wheels of the truck, said side frames being provided at each end with suitable boxes or housings through which the axles pass, and said boxes or housings being provided with upwardly-directed standards, brake-levers which extend transversely of the truck above the axles, and through the outer ends of which said standards pass, the inner ends of said brake-levers being overlapped, and being also vertically movable on hangers suspended from the car, and said brake-levers being also provided with brake-shoes which are adapted to be brought in contact with the wheels of the truck by depressing the inner ends of said levers and means for depressing said ends of said levers, substantially as shown and described.

2. A brake for cars comprising side frames which are mounted on the axles outside of the wheels of the truck, said side frames being provided at each end with suitable boxes or housings through which the axles pass, and said boxes or housings being provided with upwardly-directed standards, brake-levers which extend transversely of the truck above the axles, and through the outer ends of which said standards pass, the inner ends of said brake-levers being overlapped, and being also vertically movable on hangers suspended from the car, and said brake-levers being also provided with brake-shoes which are adapted to be brought in contact with the wheels of the truck by depressing the inner ends of said levers and means for depressing said ends of said levers, consisting of a pair of toggle-levers pivotally connected with the car, and with a vertically-movable cross-head mounted on the hangers with which the inner ends of the levers are connected, and means connected with said toggle-levers for depressing said brake-levers, substantially as shown and described.

3. A brake for cars comprising side frames which are mounted on the axles outside of the wheels of the truck, said side frames being provided at each end with suitable boxes or housings through which the axles pass, and said boxes or housings being provided with upwardly-directed standards, brake-levers which extend transversely of the truck above the axles, and through the outer ends of which said standards pass, the inner ends of said brake-levers being overlapped, and being also vertically movable on hangers suspended from the car, and said brake-levers being also provided with brake-shoes which are adapted to be brought in contact with the wheels of the truck by depressing the inner ends of said levers and means for depressing said ends of said levers consisting of a pair of toggle-levers pivotally connected with the car and with a vertically-movable cross-head mounted on the hangers with which the inner ends of the levers are connected, and means connected with said toggle-levers for depressing said brake-levers consisting of a bar which is pivotally connected therewith,

and with a depending lever which is pivotally connected with the car, said lever being connected at its lower end with a chain which extends upwardly and passes over a pulley at the end of the car, and is connected with a vertically-movable rack-bar, substantially as shown and described.

4. A brake for cars comprising side frames which are mounted on the axles outside of the wheels of the truck, said side frames being provided at each end with suitable boxes or housings through which the axles pass, and said boxes or housings being provided with upwardly-directed standards, brake-levers which extend transversely of the truck above the axles, and through the outer ends of which said standards pass, the inner ends of said brake-levers being overlapped, and being also vertically movable on hangers suspended from the car, and said brake-levers being also provided with brake-shoes which are adapted to be brought in contact with the wheels of the truck by depressing the inner ends of said levers, and means for depressing said ends of said levers, consisting of a pair of toggle-levers pivotally connected with the car and with a vertically-movable cross-head mounted on the hangers with which the inner ends of the levers are connected, and means connected with said toggle-levers for depressing said brake-levers, consisting of a bar which is pivotally connected therewith, and with a depending lever which is pivotally connected with the car, said lever being connected at its lower end with a chain which extends upwardly and passes over a pulley at the end of the car, and is connected with a vertically-movable rack-bar, and means for operating said rack-bar consisting of a lever which is pivotally connected with the top of the car, and which is provided with a gear-wheel which operates in connection with said rack-bar, said lever being also provided with a pawl which operates in connection with said gear-wheel and with another pawl which operates in connection with said rack-bar, substantially as shown and described.

5. The combination with a car, and the truck thereof, of brake-levers which extend transversely of said truck, over each axle, said brake-levers being supported on frames mounted on the axles outside of the wheels, and provided with shoes which are adapted to be brought to bear upon the wheels, the inner ends of said brake-levers being movably connected with hangers which are connected with the car, and means for depressing the inner ends of said levers so as to bring the shoes in contact with the wheels, substantially as shown and described.

6. The combination with a car, and the truck thereof, of brake-levers which extend transversely of said truck, over each axle, said brake-levers being supported on frames mounted on the axles outside of the wheels, and provided with shoes which are adapted to be brought to bear upon the wheels, the inner ends of said brake-levers being movably connected with hangers which are connected with the car, and means for depressing the inner ends of said levers so as to bring the shoe in contact with the wheels, consisting of a vertically-movable cross-head mounted on said hangers, and toggle-levers which are adapted to depress said cross-head and devices for operating said toggle-levers which are connected therewith, substantially as shown and described.

7. The combination with a car, and the truck thereof of brake-levers which extend transversely of said truck, over each axle, said brake-levers being supported on frames mounted on the axles outside of the wheels, and provided with shoes which are adapted to be brought to bear upon the wheels, the inner ends of said brake-levers being movably connected with hangers which are connected with the car, and means for depressing the inner ends of said levers so as to bring the shoe in contact with the wheels, consisting of a vertically-movable cross-head mounted on said hangers, and toggle-levers which are adapted to depress said cross-head, and devices for operating said toggle-levers which are connected therewith, both the outer and the inner ends of said brake-levers being supported by springs, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of April, 1896.

NOAH FRANKLIN CORNE.

Witnesses:
C. M. PACE,
J. STEWART HERIOT.