

No. 617,650.

Patented Jan. 10, 1899.

E. B. & A. L. GESCHE.
CAR BRAKE.

(Application filed Apr. 20, 1898.)

(No Model.)

FIG 1

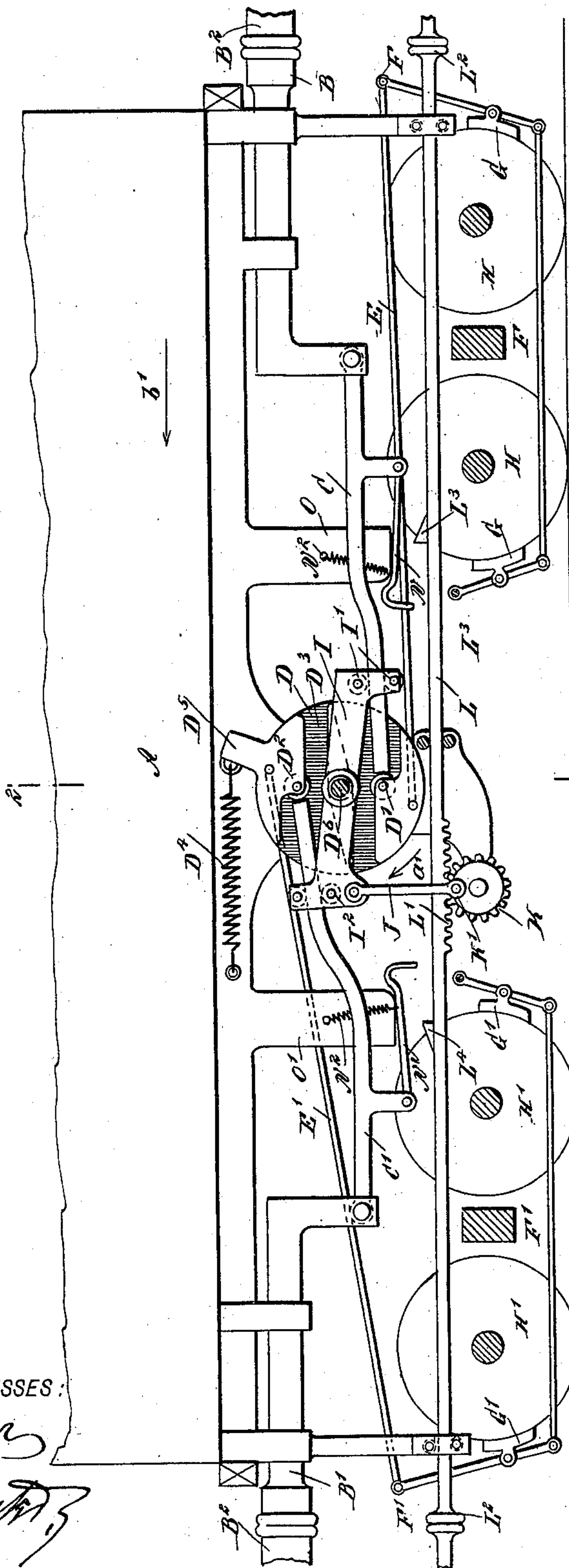
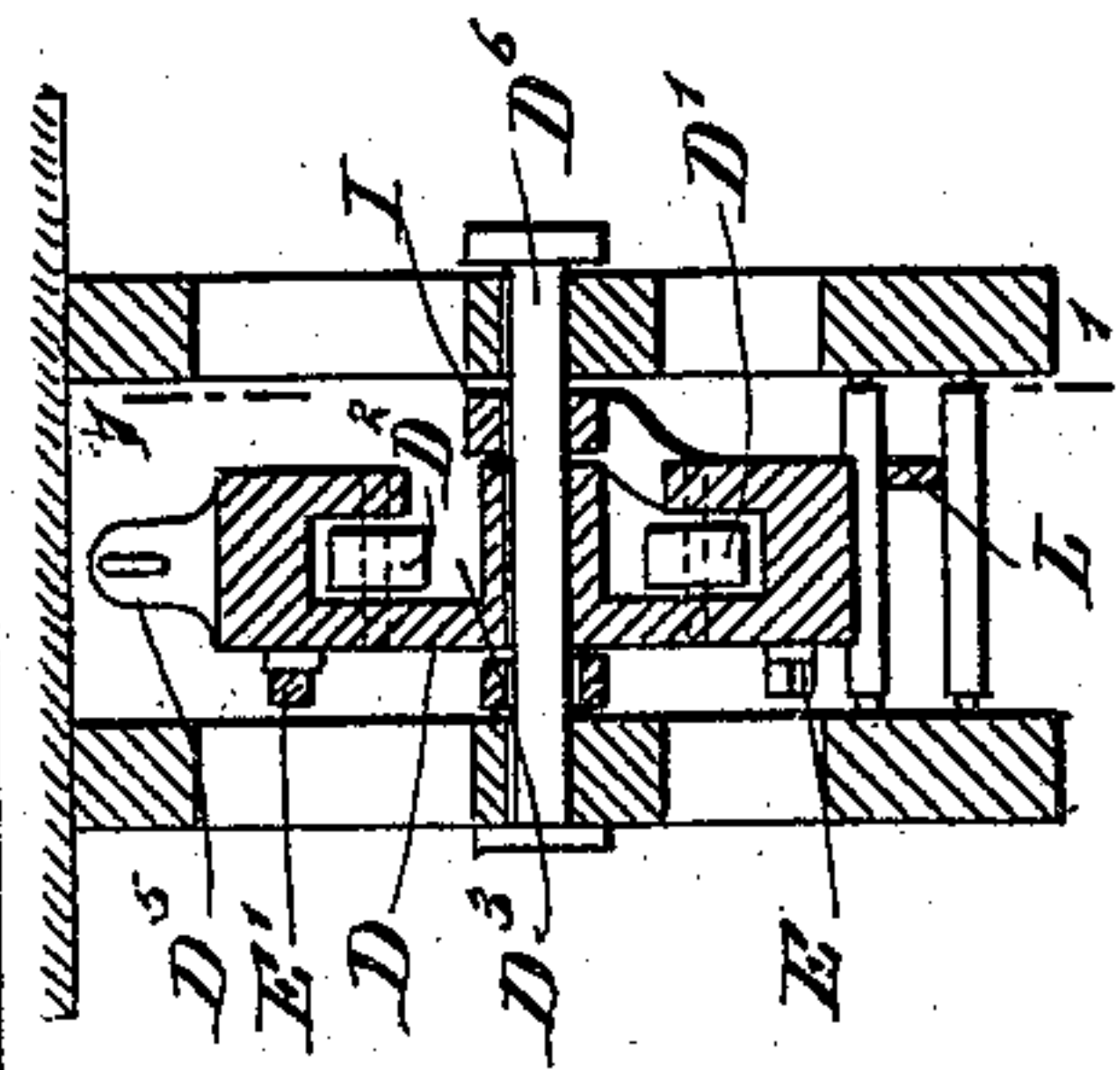


FIG 2



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UNITED STATES PATENT OFFICE.

ERNEST B. GESCHE AND ADOLPH L. GESCHE, OF BINGHAM LAKE, MINNESOTA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 617,650, dated January 10, 1899.

Application filed April 20, 1898. Serial No. 678,218. (No model.)

To all whom it may concern:

Be it known that we, ERNEST B. GESCHE and ADOLPH L. GESCHE, of Bingham Lake, in the county of Cottonwood and State of Minnesota, have invented a new and Improved Car-Brake, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-brake controlled mainly from the draw-heads of the car and to apply the brakes upon the inward movement of said draw-heads, the movement inward being incident to the stopping of the locomotive and the bumping together of the several cars in the train.

The invention consists of novel features and parts and combinations of the same, as will be hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of the improvement as applied and with parts of the truck shown in section on the line 1 1 in Fig. 2, and Fig. 2 is a transverse section of the same on line 2 2 of Fig. 1.

The car A, on which the improvement is applied, is provided with the usual draw-heads B B', mounted to slide in suitable bearings on the ends of the car and having springs (not shown) for returning the draw-heads to their normal outermost position after two cars have bumped together and then separated. The draw-heads B B' are pivotally connected at their inner ends with pitmen C C', having their free ends arranged to engage friction-rollers D' D², journaled diametrically opposite each other on a crank-disk D, journaled in suitable bearings depending from the car. The free ends of the pitmen C C' extend into the recessed portion D³ of the crank-disk D, the friction-rollers forming wrist-pins for the said pitmen to operate on in order to turn the crank-disk D.

When either draw-head B or B' is pushed inward, its pitman C or C' imparts a turning motion to the crank-disk D in the direction of the arrow a', and, as illustrated in Fig. 1,

both draw-heads B and B' have been pushed inward by the draw-heads B² of adjacent cars, and the crank-disk D is shown turned in the direction of the arrow a' for applying the brakes and stopping the progress of the car. For this purpose the crank-disk D is pivotally connected at diametrically opposite points by links E E' with the usual brake mechanisms F F', respectively, carrying the brake-shoes G G', respectively, adapted to engage the peripheral surfaces of the car-wheels H H', respectively. Thus when the crank-disk has been moved into the position shown in Fig. 1 the links E E' have actuated the brake mechanism and thereby caused the brake-shoes to move in contact with the car-wheels H H' to brake the same and interrupt further progress of the car. As soon as either of the draw-heads B B' returns to its outermost position a return movement in the inverse direction of the arrow a' is given to the crank-disk D by a spring D⁴, pulling on a lug D⁵ on the crank-disk D, so that the brake is released and the brake-shoes G G' move out of contact with the car-wheels H H'.

When it is desired to back a train or car without applying the brakes upon the inward movement of the draw-heads, the pitmen C C' are lifted out of engagement with the friction-rollers D' D², so as not to effect a turning of the crank-disk at the time. For this purpose the free ends of the pitmen C C' are held between sets of friction-rollers I' I², journaled on the ends of a lever I, fulcrumed loosely on the shaft D⁶ for the crank-disk D. The lever I is connected by a link J with a wrist-pin K' on a gear-wheel K, journaled on a bracket depending from the car. The gear-wheel K is in mesh with a rack L' on a shifting rod L, mounted to slide longitudinally in suitable bearings carried by the car. The shifting rod L is provided at each end with a head L² for engagement with a similar head on the rod L of the adjacent car or cars. The shifting rod L is also provided with lugs L³ and L⁴, adapted to be engaged by longitudinally-extending hooks N N', respectively, fulcrumed on the pitmen C C', respectively, the hooks N N' being normally held out of engagement by springs N², carried on the brack-

ets O O', depending from the car A. The lower rounded-off ends of the brackets form cam-surfaces for engagement by the hooks N N' to swing either of the latter downward
5 into the path of the corresponding lug L³ or L⁴.

Now when the locomotive is backed up and the several draw-heads are pushed inward, as shown in Fig. 1, then the heads L² of the adjacent shifting rods L are in contact with
10 each other throughout the train, and the engineer in charge of the train can now by the use of a suitable lever arrangement connected with the shifting rod L on the first car shift all the rods L simultaneously to cause the
15 racks L' to turn the gear-wheels K, which by the links J impart a swinging motion to the levers I, so that the pitmen C C' on each car are swung out of engagement with the friction-rollers (wrist-pins) D' D² to permit the spring
20 D⁴ to pull on the lug D⁵ and turn the crank-disk D to release the brakes, as before explained. It is to be understood that the shifting rod L under each car is of such a length that when the draw-heads B B' are pushed
25 into an innermost position then the distance between the outer faces of the said draw-heads B B' corresponds to the length of the shifting rod L. Now after the train has been backed up to the desired position and the loco-
30 motive pulls the train ahead again then the draw-heads B B' are moved outward to their normal position by the action of their springs, the draw-heads pulling the pitmen C C' along. Now during this outward movement of the
35 pitmen they carry along the hooks N, which swing downward by the action of the cam-surfaces on the brackets O O'. Now one of the hooks will move in engagement with the corresponding lug L³ or L⁴, and on the out-
40 ward movement the hook will draw the shifting rod L in the same direction to bring the rod back to its normal position (shown in Fig. 1) to bring the free ends of the pitmen C C' directly again into the paths of the friction-
45 rollers D' D². For instance, if the train is backed up in the direction of the arrow b' then the engineer shifts the rod L in the same direction to move the lug L³ close under the hook end of the hook N, so that when the
50 draw-head B moves outward on its release after backing up the train then the hook N engages the lug L³ and pulls the shifting rod L in the inverse direction of the arrow b'—that is, back to its normal position.

55 Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A car-brake-operating mechanism, comprising a pivoted disk operatively connected
60 with the brake mechanism and having rollers projecting therefrom on opposite sides of its pivot, pitmen adapted to move with the draw-heads, guides engaging the pitmen to cause them to engage or clear the rollers, a slidably-
65 shifting rod extending lengthwise the car and adapted to engage a similar shifting rod on an adjacent car whereby the movement of

said rod on one car will move the corresponding rods of other cars in the train, and connections from said shifting rod to the pitman-
70 guides.

2. A controlling mechanism for automatic brakes, comprising a shifting rod extending lengthwise the car and adapted to be engaged
75 by corresponding rods on connected cars, said rod having a toothed section, a gear meshing therewith and carrying a crank-pin and brake-controlling mechanisms connected with said
80 crank-pin whereby the brakes on all connecting cars may be thrown into or out of gear simultaneously.

3. A controlling mechanism for automatic brakes, comprising a shifting rod extending lengthwise the car and adapted to be engaged
85 by corresponding rods on connected cars, connections from said shifting rod to the brake mechanism, and a catch or dog adapted to move with the draw-head and to engage
90 said shifting rod to place it into the brake-operating position.

4. A car-brake provided with a crank-disk having connection with the brake mechanism, a pitman having a removable connection with
95 said crank-disk and pivotally connected with one of the draw-heads, and a shifting rod controlling the connection of the pitman with the crank-disk, the shifting rods upon all cars being mutually engageable.

5. A car-brake, provided with a crank-disk carrying wrist-pins and being also connected
100 with the brake mechanism, a pitman connected with the draw-heads and having its free end removably connected with the wrist-pin of said crank-disk, a lever connected with
105 said pitman for lifting it out of engagement with the wrist-pin, a shifting rod operatively connected with said lever, the shifting rods of all cars being mutually engageable and
110 hand means for shifting one of said shifting rods.

6. A car-brake, provided with a crank-disk carrying wrist-pins and also connected with
115 the brake mechanism, a pitman connected with the draw-head and having its free end removably connected with the wrist-pin of said crank-disk, a lever pivotally connected
120 with said pitman for lifting it out of engagement with the wrist-pin, a shifting rod slidable lengthwise the car and having its ends engageable with similar rods on adjacent cars,
125 means under the control of the operator for shifting the rod upon one car, and means for connecting the shifting rod with the pitman-controlling lever.

7. A car-brake, provided with a crank-disk
130 connected with the brake mechanism, a pitman connected with the draw-head and having its free end removably connected with the wrist-pin of said crank-disk, a lever pivotally
135 connected with said pitman for lifting it out of engagement with the wrist-pin, a shifting rod slidable lengthwise the car and under the control of the operator, means for connecting
140 the rod with the pitman-controlling lever, and

a dog movable with the brake and engaging the shifting rod to automatically return it to its normal position.

5 8. A car-brake, provided with a crank-disk having connection with the brake mechanism, a pitman having a removable connection with said crank-disk, and pivotally connected with one of the draw-heads, means, substantially as described, for moving the free end of the

pitman out of engagement with said crank-disk, and means controlled by the pitman, for automatically returning the pitman to its normal position, as set forth.

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