C. E. DATH.
HAND BRAKE FOR RAILWAY CARS.
APPLICATION FILED AUG. 20, 1917.

1,300,350.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

WITNESSES:

Wm. Steiger

INVENTOR.
Charles E. Dath

BY
Geo. I. Haight
ATTORNEY

Patented Apr. 15, 1919.
UNITED STATES PATENT OFFICE.

CHARLES E. DATH, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIAM H. MINER, OF CHAZY, NEW YORK.

HAND-BRAKE FOR RAILWAY-CARS.

1,300,350.


To all whom it may concern:

Be it known that I, CHARLES E. DATH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Hand-Brakes for Railway-Cars, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in hand brakes for railway cars.

The object of the invention is to provide a simple and efficient hand brake adapted more particularly for railway cars and wherein is employed a casing having integral bearings therein for the journals on the ends of a chain winding drum to thereby avoid the use of bolts or other equivalent means for fastening the parts together and at the same time preventing possibility of binding of the rotatable parts.

In the drawing forming a part of this specification, Figure 1 is a side elevation, parts being broken away and other parts shown in section, of a brake embodying my improvements. Fig. 2 is a vertical, sectional view, taken on the line 2—2 of Fig. 1 and showing my improvements as applied to a wall of a car. Fig. 3 is a vertical, sectional view, taken on the line 3—3 of Fig. 2. And Fig. 4 is a horizontal sectional view, taken on the line 4—4 of Fig. 1.

In said drawing, 10 denotes the wall of a car to which my improved hand brake is adapted to be applied. The improved brake, as shown, comprises, broadly, a rotatable chain winding drum A; a chain B; pawl and ratchet mechanism C; and a casing or housing D.

The housing or casing D, as shown, comprises a member which is of substantially cylindrical form having a vertical inner wall 11, an outer vertical wall 12 and a cylindrical side wall 13. The inner wall 11 is provided with suitable ears 14—14 by which the casing is adapted to be secured to the car wall, as by rivets 15. The casing is open at the top between the turned horizontal flanges 16—16 (see Fig. 3) for the purpose hereinafter specified. The end walls 11 and 12 of the casing are provided with vertical slots or grooves 17 and 18 which extend clear to the top and are provided at their bottoms with curved bearings 19 and 20 for the short trunnions 21 and 22 of the chain winding member A. As will be apparent, the chain winding member A is inserted through the top and is rotatably supported within the casing and due to the fact that the walls 11 and 12 of the casing are formed integrally, there is no danger of the chain winding drum binding in its rotation.

The drum A is shown as provided with a conical section 23 near its outer end, said section having a radially extended hook 24 over which the upper link of the chain B is adapted to be attached. The drum A is also provided with a flange 25 in a plane 70 just outside of the hook 24 to thereby force the chain inwardly as it is wound around the drum and due to the long arm of the hook and the conical section 23 of the drum, the slack in the chain will be taken up relatively rapidly during the early rotation of the drum, as will be obvious. Outside of the flange 25, the drum member A is preferably provided with an integral ratchet wheel 26 with which the pawl 27 of the operating lever 28 is adapted to cooperate. The lever 28 is pivotally mounted on a stud 29 carried at the bottom of a supporting link 30, the latter being loosely seated on the journal 22. As most clearly shown in Fig. 1, the pawl 27 is normally disengaged from the ratchet wheel 26 due to the lever 28 assuming a vertical position under the influence of gravity but, as the lever 28 is actuated in the direction indicated by the arrow 2, as shown in Fig. 1, the drum will be rotated. In order to permit the movements of the lever 28, the side wall of the casing is recessed, as indicated at 31. To prevent the drum from rotating backward after the chain has been wound, a locking dog 32 is provided which cooperates with the ratchet wheel 26, said dog 32 being pivoted on a stud 33 formed integrally with the end wall 12. The handle 34 of the dog 100 extends through a suitable opening 35 in the casing and said handle 34 is made heavy enough so as to maintain the dog normally in engagement with the ratchet wheel 26 under the influence of gravity. The pawl 105 32 is prevented from lateral movement with respect to the stud 33 by the flange 35 of the drum A, as will be apparent from an inspection of Fig. 4.

In assembling the parts, the link 30 and
lever 28 are mounted on the drum A after which the latter is dropped into the casing, the dog 32 having first been inserted within the casing. To maintain the drum and associated parts within the casing, a cover plate 36 is finally applied to the top of the casing and secured thereto by any suitable means, such as the rivets 37. As clearly shown in Fig. 2, the cover plate 35 is provided with integral depending arms 38—38 which extend down the slots 17 and 18 and positively prevent lifting of the drum and associated parts.

I claim:

1. In a brake, the combination with a casing having an opening in the top and provided with inner and outer integrally formed end walls and side walls, said end walls being provided on the inner faces with vertically extended slots having journal bearings at their lower ends, the case being adapted to be secured to a car by means of its said inner wall, of a chain winding drum having journals at its ends, said drum being insertable vertically through said opening in the top of said casing and adapted to have its journal ends supported by said bearings, and pawl and ratchet mechanism for rotating said drum, the bottom of said casing being slotted to accommodate the chain and parts of said pawl and ratchet mechanism.

2. In a brake of the character described, the combination with a substantially cylindrical casing having integrally formed inner and outer end walls and open at the top, the casing being provided with integral means at its inner end adapting it for attachment to a vertical wall of a car, said end walls having journal bearings formed on their inner faces, of a rotatable chain winding drum insertible through said top opening, said drum having journals at its end cooperable with said journal bearings, a ratchet wheel formed on said drum, a link supported from one of said journals, and a gravity controlled pawl-operating lever pivotally suspended from said link and adapted to cooperate with said ratchet wheel.

3. In a brake, the combination with a generally cylindrical casing having inner and outer integrally formed vertical end walls and a curved side wall, said end walls being provided on the inner faces with vertically extended slots having journal bearings at their lower ends and the casing being open at the top, of a chain winding drum having journals at its ends, said drum being insertable vertically through the top of said casing and adapted to have its journal ends supported by said bearings, pawl and ratchet mechanism for rotating said drum, and a cover plate adapted to be fastened to the top of the casing and having means thereon extending into said slots for positively maintaining the drum in proper position, said casing having also integral ears at its inner end by which it is adapted to be secured to a car wall.

In witness that I claim the foregoing I have hereunto subscribed my name this 29 day of July, 1917.

CHARLES E. DATH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."