

(No Model.)

W. F. CONDON.
SAFETY CAR BRAKE.

No. 559,121.

Patented Apr. 28, 1896.

Fig. 1.

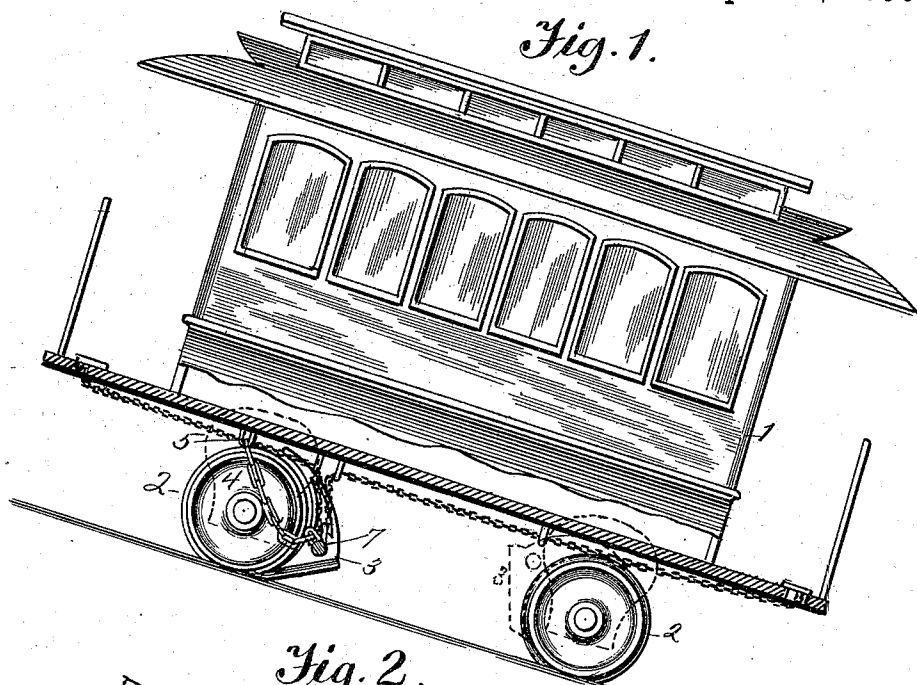


Fig. 2.

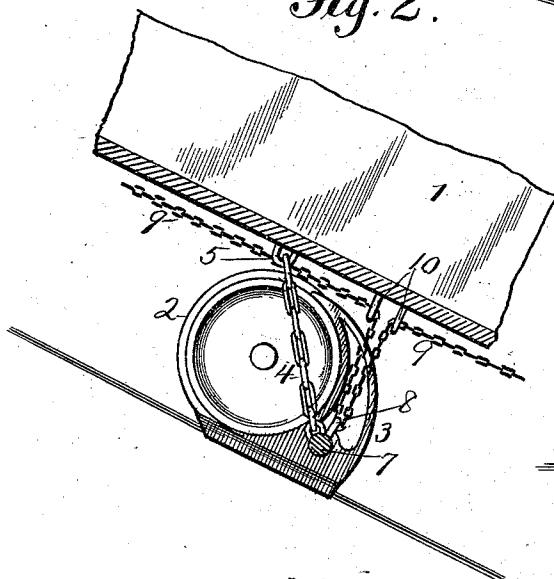


Fig. 3.

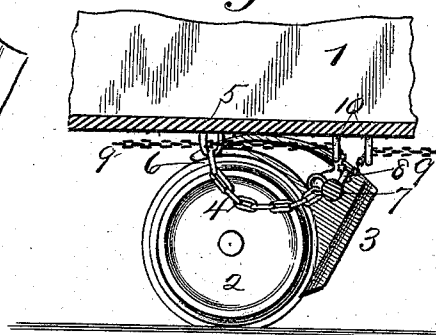


Fig. 5.

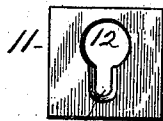
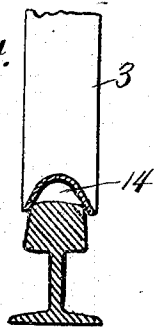


Fig. 4.



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SAFETY CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 559,121, dated April 28, 1896.

Application filed April 6, 1896. Serial No. 586,370. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. CONDON, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Safety Car-Brakes; and I do hereby 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 safety car-brakes, more particularly to a wheel and rail brake in which a chock-block is used.

The invention has for its object to provide a simple and efficient arrangement of parts in which the chock-block when raised will be held above the rim of the wheel by coming into contact with a surface or bearing beneath the body of the car, which surface or bearing may be the bottom of the car or one of its timbers, and, being wedged or pressed against said bearing, will be held up out of contact with the rim, thus dispensing with the necessity of employing levers or equivalent locking means for holding up the chock-block.

It has also for its object to provide an improved form of chock-block in which two opposite surfaces of the block will bear against opposite sides of the tread of the rail, so as to exert a gripping action on the opposite sides of the rail-tread, which will permit the block to grip the rail more quickly and more firmly.

To the accomplishment of the foregoing and such other objects as may hereinafter appear, the invention consists in the construction and combination of parts hereinafter particularly described, and then sought to be specifically defined by the claims, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a side view of a car with a part in section and illustrating my invention applied thereto with the chock-block in position to trail on the rail. Fig. 2 is a side view of a portion of a car, showing the chock-block in position to brake the car. Fig. 3 is a similar view showing the chock-block raised and bearing against the under side of the car, so

as to be held thereby out of contact with the rim of the wheel. Fig. 4 is a vertical section through a part of the chock-block and a rail, showing the formation of the block and its manner of gripping the rail; and Fig. 5 is a plan view of the locking-plate for the operating-chain.

In the drawings the numeral 1 designates a car, which may be of any form, and 2 designates the wheels.

The numeral 3 designates the chock-block, of which two will be employed, one for each of the wheels on one axle. The blocks are connected by chains 4 to the car-frame, said chains being suitably connected at one end to a connecting-rod 7 between the blocks and at the other end to a suitable staple 5 or other means attached to the car-frame, said chains being of such length that when the chock-blocks are in full engagement with the rail the chains will hold the blocks firmly under the wheels and in position to prevent the blocks from turning, whereby the wheels might run upon or over the same. The inner face of the block is made to conform to the periphery or rim of the wheel, as illustrated in Fig. 2 of the drawings, and its rear face is made on a curve or otherwise, so as to be eccentric to the circle of the wheel. This causes the chock-block when raised to bear at its rear against the under side of the car or a timber thereof, as illustrated in Fig. 3 of the drawings, and thus prevent the block from moving so far as to come in contact with the rim of the wheel, the block in this form being, as it were, wedged against the under side of the car or a timber thereof and thus held up out of engagement with the rim of the wheel, a space being left between the inner face of the block and the rim of the wheel, as indicated by the numeral 6 in Fig. 3 of the drawings.

The two blocks opposite the two wheels will be connected together by a connecting-rod 7, the end of which is shown in Figs. 1 to 3 of the drawings, and a chain 9 will be connected to this rod 7 by an eye 8 or otherwise and extends in opposite directions to the opposite ends of the car, so that it may be manipulated from either end of the car, as desired,

in the operation of raising and lowering the chock-blocks. This chain is passed through suitable guides, such as are designated by the numeral 10, and at each end of the car will be passed up through an opening in the platform, which opening will be faced by a metallic plate 11, having a central opening 12 and a lateral slot 13 leading therefrom sidewise of the car. In lifting the chock-blocks the chain is pulled through the opening 12 of the metallic plate and then moved laterally into the side slot 13, so that one of the links of the chain will rest upon the side walls of the slot, and thus secure the chain and hold the chock-block up out of action. When it is desired to lower the chock-block so as to brake the car, the chain is drawn out of the slot 13 and allowed to drop through the opening 12 and the registering opening in the platform, whereupon the chock-blocks will drop into engagement with the rail and the car-wheels pass up onto the same to the position shown in Fig. 2 of the drawings. The frictional contact of the chock-blocks with the rails will at once brake the car. In order that the chock-blocks may be dropped by manipulation of the chain at either end of the car, said chain should have a sliding movement through the eye 8, by which it is connected with the chock-blocks.

In order to insure a better gripping action of the chock-blocks on the rail, I form the under side of the blocks with a concave face, as designated by the numeral 14 and shown clearly in Fig. 4 of the drawings. This enables the face of the blocks to bear against opposite sides of the rail, and as the metal of which the block is made is not as hard as the steel rails a wedging action will take place between the face of the block and opposite sides of the tread of the rail when the block is thrown down, and a tight gripping action results and slipping avoided, so that the car is stopped in the minimum of time and space.

If desired, the chock-blocks may be applied at both ends to both sets of wheels, as I have indicated by dotted lines in Fig. 1 of the drawings, the operation of each set of the blocks being the same as that first described.

In Fig. 1 of the drawings I have illustrated a car upon an inclined way or track and have shown the chock-block in position to trail in going up the incline, so that if it should be necessary to brake the car in case of an accident and the car should start down the grade the block will be thrown against the rim of the wheel, and the latter will exert such pressure thereon as to at once check the momentum of the car. This will not interfere, however, with the car going up grade. It is obvious that if two sets of the chock-blocks are used the blocks next to the wheel on the ascending grade can be dropped into trailing position and the other set lifted.

In Fig. 3 of the drawings I have illustrated the car as running upon a horizontal track, as the invention is equally efficient for cars used upon a horizontal track as on an inclined track.

It is obvious that the invention is adapted for use on street-railway tracks, and also on cars used on inclined ways—as, for instance, in coal-mines or other places where inclined ways exist over which either merchandise or passengers are transported.

I have illustrated and described with particularity the preferred details of construction and arrangement of the several parts; but it is obvious that changes can be made in the details without departing from the spirit of my invention.

The purpose of making the under side of the chock-block concave is to cause its sides to diverge outwardly from the top downwardly, so that the sides will hug or grip by a wedge action the opposite sides of the tread of the rail and also lie above and out of contact with the top of the rail. This also causes the block to cut through snow or ice on the rail, so as to get a firm grip on the rail, and at the same time holds the block above the top face of the rail, so that it will not slide on the rail.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a railway-car brake, the combination with a car and its wheels, of a chock-block having a face to bear against the rim of the wheel and a rear face made eccentric thereto and adapted when the block is projected between the wheel and bottom of the car to contact with a bearing-surface beneath the car so as to be held against the same and hold the block out of contact with the wheel, a chain for connecting the chock-block to a part of the car and holding the block under the wheel when applied to brake the car, and an operating-chain connected to the chock-block and extending above the bottom of the car for lifting the chock-block, substantially as and for the purposes described.

2. In a railway-car brake, the combination with a car and its wheels, of a chock-block adapted to be thrown against and withdrawn from contact with the wheel, a chain connected with the chock-block and a part of the car to hold the block beneath the wheel when applied to brake the car, and a chain having a sliding connection with the chock-block and extended in opposite directions beneath the car to opposite ends of the car so as to adapt said chain to lift and drop the chock-block from either end of the car, substantially as and for the purposes described.

3. In a railway-car brake, the combination with a car and its wheels, of a chock-block adapted to be thrown into and out of engage-

ment with the car-wheel and having a concave face with diverging sides adapted to bear against opposite sides of a rail when brought into contact with the rail, a chain for holding
5 the chock-block beneath the wheel when applied to brake the car, and an operating-chain connected to said chock-block and extended above the bottom of the car to lift and lower

the chock-block, substantially as and for the purposes described.

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

WILLIAM F. CONDON.

Witnesses:

NATHAN H. ROBBINS,
E. E. OVERHOLT.