

B. O. THOMPSON.
Railway Car Brake.

2 Sheets—Sheet 1.

No. 83,674.

Patented Nov. 3, 1868.

Fig. 1,

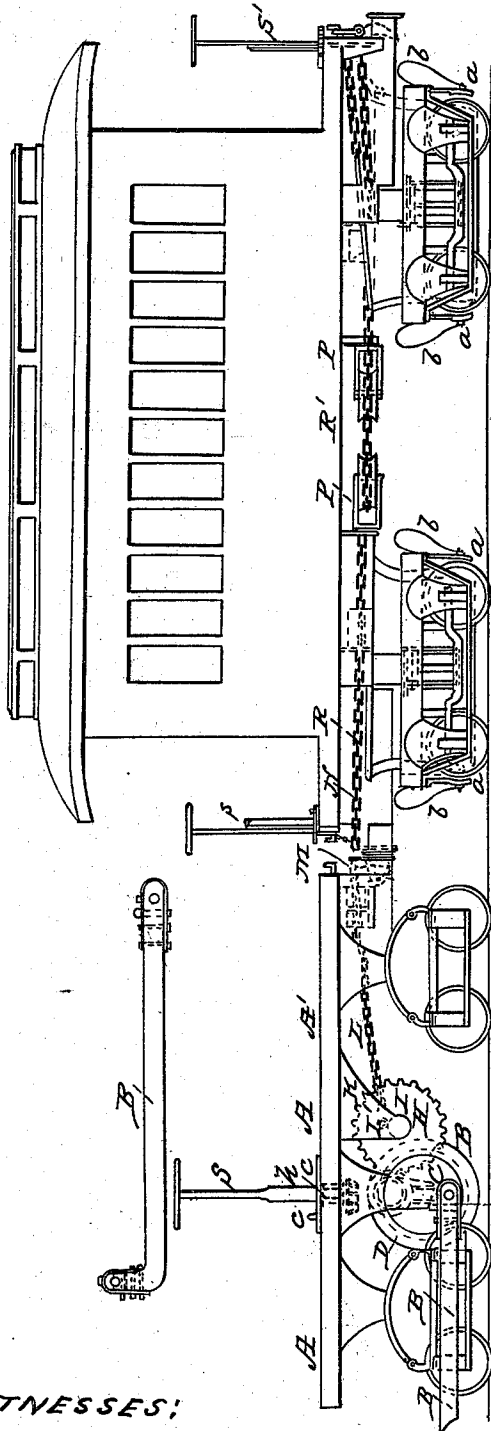


Fig. 2,

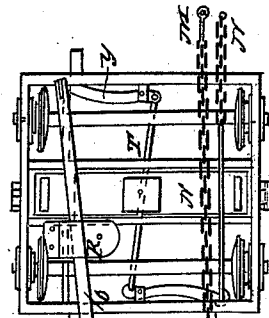


Fig. 3,

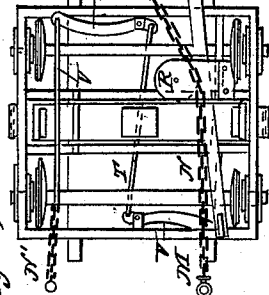


Fig. 4,

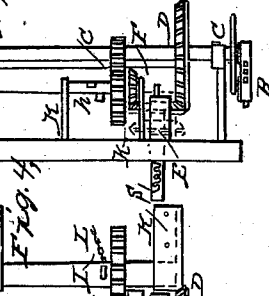
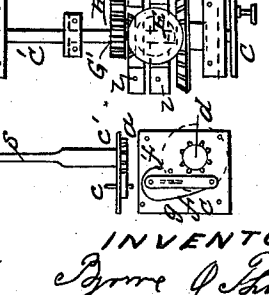


Fig. 5,



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D. W. Proctor

INVENTOR:
B. O. Thompson

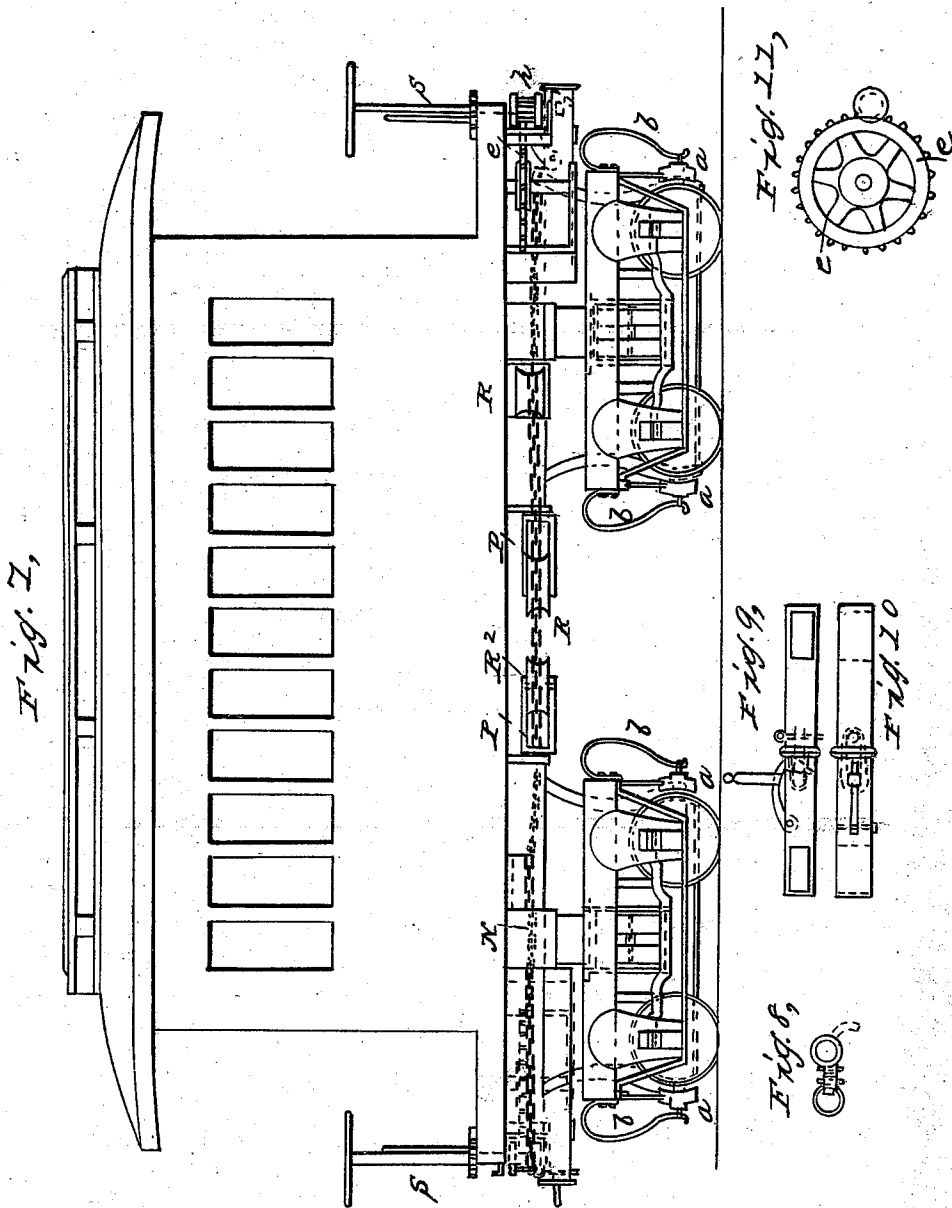
B. O. THOMPSON.

2 Sheets—Sheet 2.

Railway Car Brake.

No. 83,674.

Patented Nov. 3, 1868.



Witnesses:

E. B. C. Brown
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Inventor:

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United States Patent Office.

BJARNE O. THOMPSON, OF CHICAGO, ILLINOIS.

Letters Patent No. 83,674, dated November 3, 1868.

IMPROVED RAILWAY-CAR BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, BJARNE O. THOMPSON, of Chicago, in the county of Cook, and in the State of Illinois, have invented a new and useful Improvement in Train or Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of a railroad-car and part of a locomotive;

Figure 2 is a bottom view of a railroad-car;

Figure 3 is an end view of part of a locomotive;

Figure 4 is a top view of a locomotive, with the platform A' removed;

Figure 5 is an elevation of the vertical brake S;

Figure 6 is a device for securing the brake in its position;

Figure 7 is a side elevation of a railroad-car;

Figure 8 is a chain-coupling;

Figure 9 is a side elevation of the car-coupling;

Figure 10 is a top view of the car-coupling; and

Figure 11 is a plan view, showing the pinion keyed to the shaft of the vertical brake, on the car, and the cog-wheel communicating motion to the brakes.

The same letters of reference, where employed, denote identical parts.

This invention relates to a new device for operating car-brakes from the locomotive. It is so arranged that the brakes of a whole train of cars can be applied to the wheels of the cars from the locomotive, whenever desired, and be applied with any desired degree of force, and all be released or applied simultaneously by the engineer.

In order to enable others skilled in the art to make and use my improvement, I will proceed to describe its operation and construction.

A is a locomotive;

A', the platform; and

B B are arms, attached to the large side wheels of a locomotive, one arm on each side.

At their other ends, the arms B B are secured near the circumference of the circular disks C C, at B' B', where they are pivoted, and will communicate motion to said disks C C when the large side wheels of the locomotive are revolving.

Fig. 5 shows the vertical brake S passing through the plate c, and extending below the same.

A cog-wheel, d, is keyed to the shaft of the brake, (or cogs may be cut in a flange projecting from the shaft of the brake,) immediately below the plate c, and to the lower face of the same is attached a pawl, f, pivoted to the plate at f'.

The side turning toward the cog-wheel or serrated flange d is provided with a projection, f², and the spring g, bearing on the outside of the pawl f, will keep the projection f² between the teeth of the flange d, and prevent the brake being turned.

A pin, e, is attached to the top part of the pawl,

passing through the plate c, and extending a few inches above the plate.

A slot is cut in plate c, (shown in red lines in fig. 6,) in which the pin may slide.

If the operator wants to turn the vertical rod S, he may, with his foot, push the pin e so far back that the projection f² is not in contact with the serrated flange d.

A square shaft, h, extends below the platform A', secured to the vertical brake-rod S by a screw, h', cut into the lower part of the brake S. The upper part of the shaft h forms the screw h', and the shaft h will either be lowered or raised when the vertical brake-rod S is turned.

To the lower part of the shaft h is keyed a bevel-pinion, E, placed in such position that, when it is lowered sufficiently, (as seen in fig. 3,) it will mesh into the bevel-wheel D, and communicate motion to the bevel-pinion F, into which it meshes.

D is a bevel-wheel, keyed on the same horizontal shaft C' as the disks C C. As the arms B B are secured to the large side wheels of the locomotive, and to the disks C, the bevel-wheel will consequently revolve when the side wheels are in motion.

When the brakes are desired to be applied, the vertical brake S on the locomotive is turned, and the bevel-pinion lowered till it gears into the bevel-wheel D, on the shaft C', and the bevel-wheel F, keyed on horizontal shaft k.

The shaft k rests on bearings k' k', and supporting, besides the bevel-wheel F, the pinion G, into which meshes a cog-wheel, H.

The shaft I, on which the cog-wheel H is keyed, rests in bearings K K, which are so constructed that they incline a little toward the front of the locomotive, in order to offer a better resistance when the pressure of the chain connecting the brakes is brought to bear on it.

On shaft I is a projection, I', to which the brake-connecting chain is secured, (see fig. 5,) the chain L running the whole length of the train, in the same manner as is shown in fig. 2.

I may employ any ordinary car-truck and car-brake, and the chain L may be employed, arranged in the same manner as in any ordinary car.

The chain L is run under the bottom of the cars, and, in order to brake the wheels simultaneously, I adopt the following device:

Fig. 2 shows a pulley, R', resting in a bearing attached to the bottom of the car.

An arm, O, is suspended in bearings, and at one end the arm is attached to the lever V.

As my improvement does not extend to the construction of the brakes, I will not enter into any description of these, but only state the arms O are respectively attached to the levers working the brakes a. The ends of the arms O, which extend toward the centre of the car, are provided with a pulley, R, resting in bearings P.

When the connecting-chain is not operated, the arms O will occupy a position as shown in fig. 2. The chain leading from the locomotive or forward car will pass over the pulleys R¹, R, and R², and then pass to the next car. If wound up on the shaft I, it will draw the pulleys R R², placed at the ends of the arms O O, toward each other.

When these pulleys come nearer to each other, the levers *u u* will be drawn in the same direction, and the more the chain is tightened, the stronger is the pressure of the brakes on the car-wheels.

My improvement may also be applied when there is no connection with the locomotive.

The arms O may be worked in connection with the now common device of a vertical brake on each platform of a car.

A chain, N', attached to the end of connecting-rods V, winds round the vertical shaft *m*.

The horizontal wheel *l*, which is keyed to said shaft, meshes into a pinion, *h*, attached to the lower end of

the vertical brake S, immediately below the platform of the car.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the arms B, when connected to the driving-wheels of a locomotive, and to disk C, thereby giving motion to bevel-wheel D, keyed on the same shaft C' as the disk C, when the driving-wheels are in motion.

2. The combination of the vertical brake-shaft S', slotted plate *c*, pin *e*, shaft *h*, pinion or serrated flange *d*, pawl *f*, spring *g*, bevel-pinions E and G, cog-wheel H, shaft I, projection I', and chain L, substantially as and for the purpose set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: BJARNE O. THOMPSON.
CARL F. CLAUSEN,
H. S. MILLER.