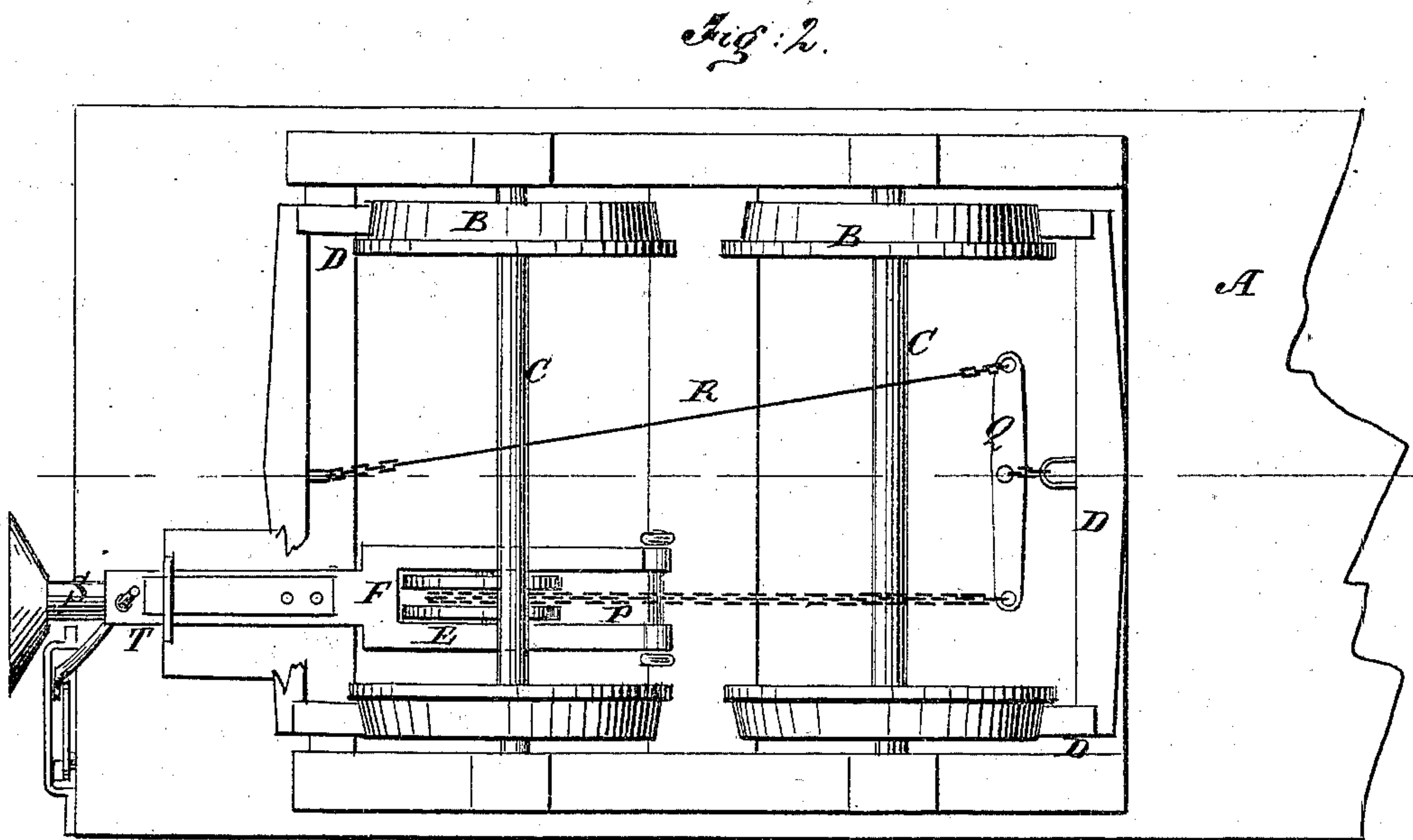
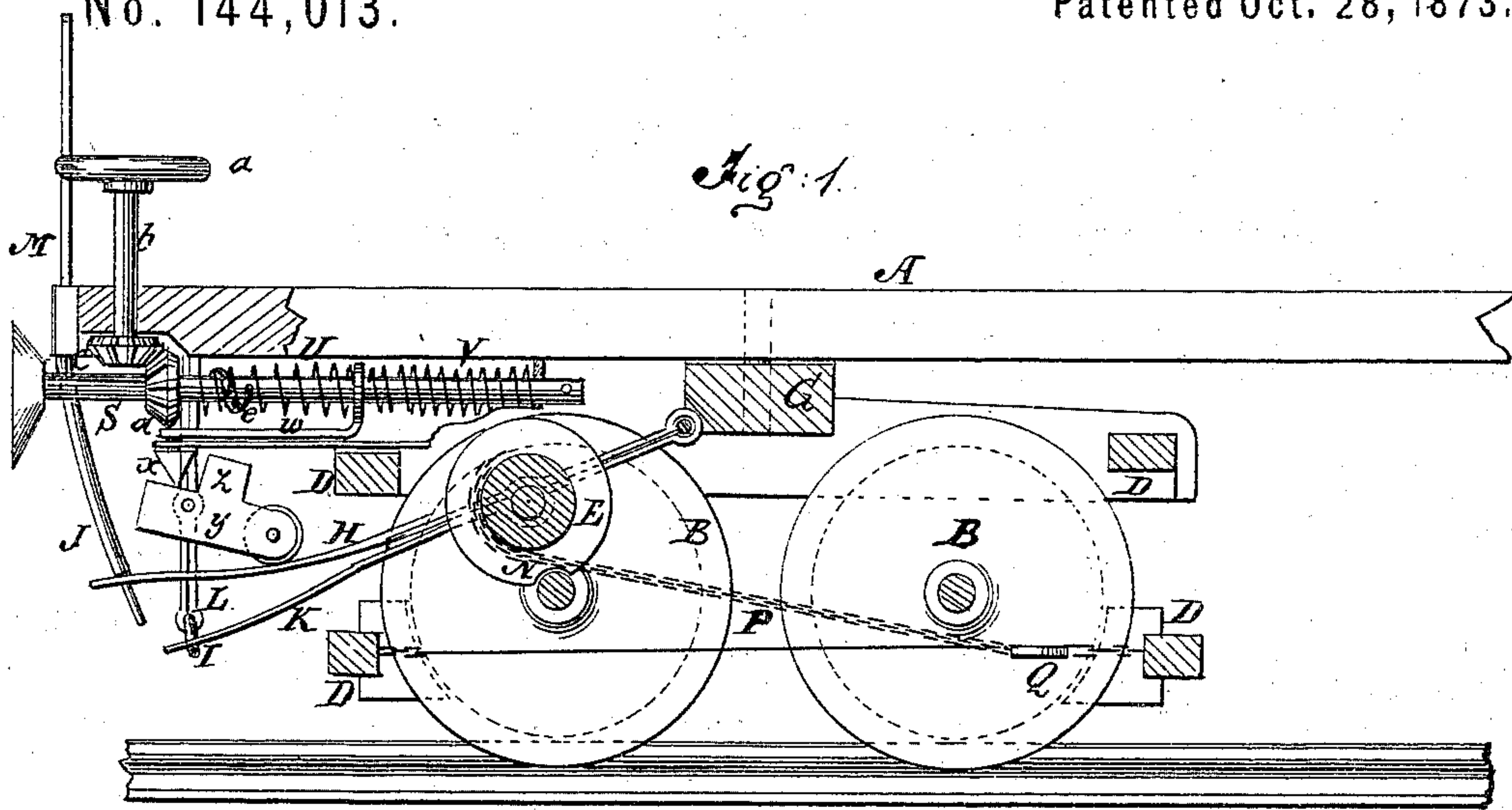


**L. ADAMS.**  
**Railway Car-Brakes.**

No. 144,013.

Patented Oct. 28, 1873.



**Witnesses:**

*Chas. Nida.*  
*Alex F. Roberts*

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*L. Adams*  
**Per** *Munn & Co.*  
**Attorneys.**



# UNITED STATES PATENT OFFICE.

LUTHER ADAMS, OF MATTOON, ILLINOIS.

## IMPROVEMENT IN RAILWAY-CAR BRAKES.

Specification forming part of Letters Patent No. **144,013**, dated October 28, 1873; application filed July 12, 1873.

*To all whom it may concern:*

Be it known that I, LUTHER ADAMS, of Mattoon, in the county of Coles and State of Illinois, have invented a new and useful Improvement in Car-Brakes, of which the following is a specification:

The invention relates to apparatus for stopping or retarding the speed of railroad-cars; and consists in the construction, arrangement, and combination of parts, as hereinafter described, and specifically indicated in the claims.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of Fig. 2, taken on the line *x x*. Fig. 2 is a bottom side plan view.

Similar letters of reference indicate corresponding parts.

The platform A, wheels B, axles C, and brakes D of the car are constructed after the ordinary plan; and, as has been heretofore done, I make a friction disk or wheel, E, having a notch, N, the chief medium for bringing the brake mechanism into action. This disk is mounted on journals in the bifurcated end of a plate, F, which is hinged to the cross bar or timber G. A spring, H, is attached to the forward end of said plate, and has a hole in its free end to receive the rod J, which forms the short arm of the bent lever M. This last extends above the platform, and is pivoted thereto so as to be easily accessible for use as the chief brake-operating device. A spring, K, is also attached to the plate F at one end, and it rests at the other end on a stirrup, L. The disk E is held up out of contact with the axle C by means of the spring K. When it is desired to apply the brakes, the lever M is operated to depress the spring-plate H, and thus bring the disk E to come in frictional contact with the axle C, which causes it to revolve one-half a revolution, or until the axle enters the groove N, when the disk will remain locked until the pressure on spring H is relieved. This movement of the disk upon its axis applies the brakes, since it winds up the chain P, which is secured in a circumferential groove of said disk, and extends back and connects with one end of a bar, Q, that

is pivoted to the brake-beam D. The other end of the bar Q is connected with the other brake D by the rod R.

It will be seen that while the friction-wheel E is revolving the half-revolution the chain is winding up in the groove of the wheel, and the brakes are being applied, the lever M being operated by hand with a side guide and pin, by means of which the latter may be retained in any desired position.

The action of the friction-wheel is made automatic by means of the adjustable spring-bar S. This bar is confined in a case, T, which contains spiral springs U and V. W is an angular plate, through which the bar S passes and carries when it moves longitudinally. X is a V-shaped block of metal attached to the end of the plate W. Y is a block, which is pivoted to the stirrup L. Z is a lug on this block, which the V strikes when the bar is pushed back. The back end of the pivoted block Y is provided with a friction-roll, and when the V strikes the lug Z the roll is pressed onto the spring H, which presses the friction-wheel E onto the axle, and produces the effect before described. The bar S is pushed inward, and the brakes are thus automatically applied by the bumper of the opposite car. Thus, the brakes may be simultaneously applied to all the cars in case of a collision or break-down, or in case the motion of the locomotive is retarded. The bar S is adjusted longitudinally, so that this automatic action cannot take place except when desired by means of the band-wheel *a*, shaft *b*, the bevel-wheels *c d*, and a finger, *e*, the latter being attached to the bar. The bar is grooved, and is revolved by means of a feather through the bevel-wheel *d*, which feather works in the groove. As the bar revolves the finger *e* works in the convolutions of the spring *u*, as in a screw-thread, and carries back the bar so that the opposite bumper will not strike it.

The brake is thus operated automatically or by hand, as may be desired, and the arrangement is such that one operation does not interfere with the other, and both may be in operation at the same time, if desired.

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

1. The combination, with the brake-chain, of a notched friction-disk, E, spring-plate H F, lever M, and spring K, having a stirrup or bearing-point, L, substantially as shown and described.

2. The combination, with the disk E and springs H K, of the pivoted block Y, having lug Z, the plate W carrying block X, and the

sliding bar or bumper S, substantially as shown and described.

3. The combination of the hand-wheel *a*, bevel-gears *c d*, feathered bar S, finger *e*, and spiral spring W V, as and for the purpose specified.

LUTHER ADAMS.

Witnesses:

J. F. HUGHES,  
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