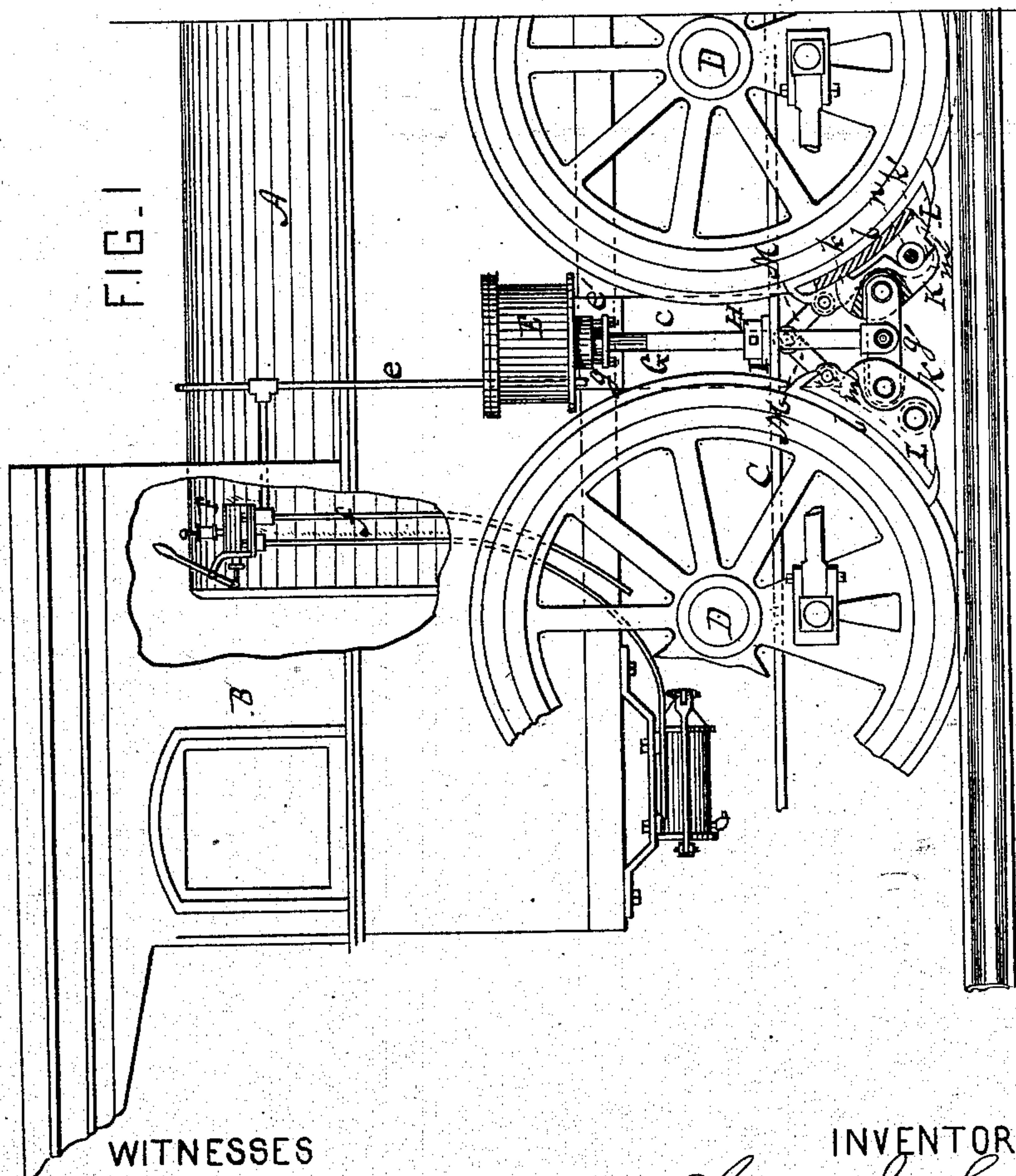
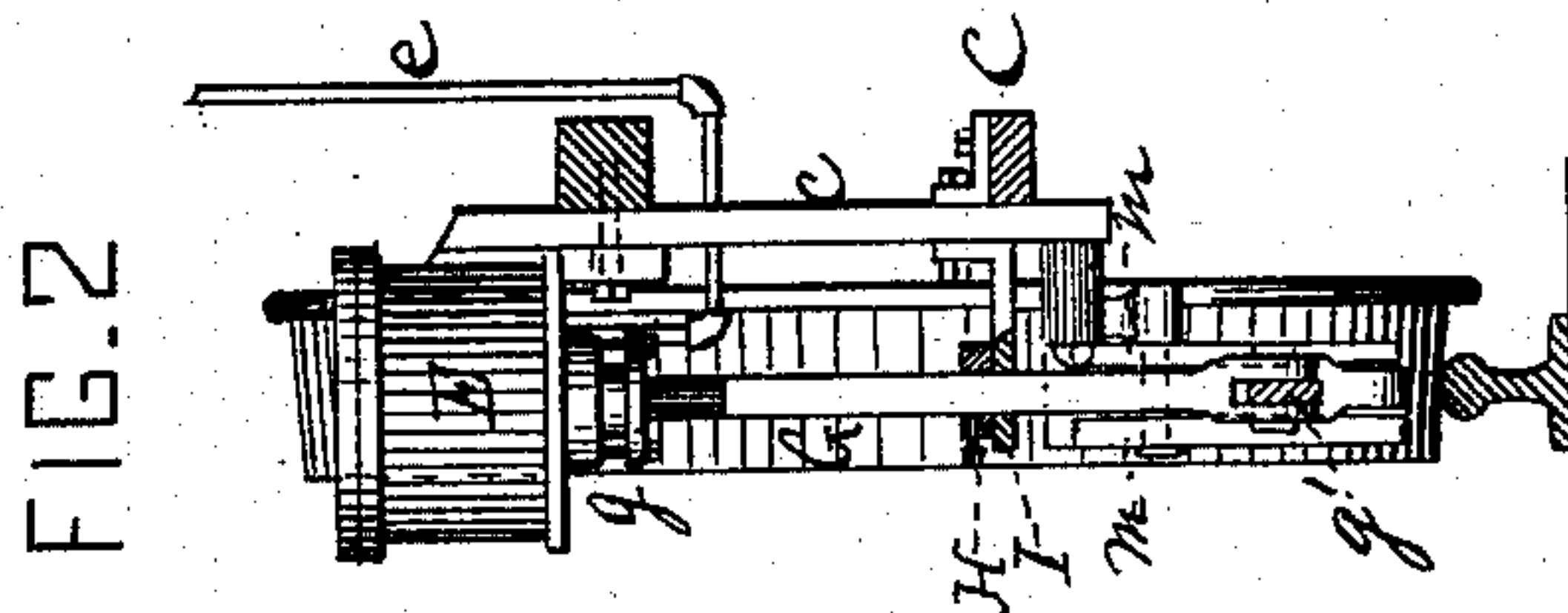


(No Model.)

C. J. SCHILLER.
LOCOMOTIVE BRAKE.

No. 283,028.

Patented Aug. 14, 1883.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES J. SCHILLER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE AMERICAN
BRAKE COMPANY, OF SAME PLACE.

LOCOMOTIVE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 283,028, dated August 14, 1883.

Application filed May 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. SCHILLER, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Locomotive-Brakes; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a side elevation of a locomotive having applied thereto a brake mechanism embodying my invention. Fig. 2 is a side elevation of the devices, one of the brake-shoes having been removed.

Like letters refer to like parts wherever they occur.

My invention relates especially to that class of brake mechanism used on locomotives, and has for its object to simplify the construction, reduce the number of parts, and so combine the same that the maximum power shall be obtained and the minimum of space occupied, which is a great desideratum on closely-connected or close-coupled locomotives.

To this end it consists, mainly, in operating the brake-heads by two independent pivoted and sliding wedge-faced blocks located between the driving-wheels and acting upon the opposite brake-heads; secondly, in loosely pivoting the blocks to and operating the same directly from the piston or like rod, whereby the shoes are permitted to adjust themselves to the periphery of the wheel with a yielding and evenly-applied force; and, finally, in details of construction, which will hereinafter more fully appear.

I will now proceed to describe my invention more specifically, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the boiler, B the cab, C the frame, and D the drive-wheels, of a locomotive. Secured to the frame A, at a point opposite the space between the drive-wheels D, is a bracket, *c*, for the attachment of the brake mechanism.

E indicates the cylinder, by which means I prefer to apply the power, and this cylinder has a supply-pipe, *e*, leading from a three-way cock, F, arranged within reach of the engineer, and there is also an exhaust-pipe, *f*, which may lead from the three-way cock F to the ash-

box or other suitable place. In order to attach this cylinder, which is arranged vertically in the space between the wheels D, to the bracket *c*, I prefer to cast thereon a flange, *e'*, and then the bolts which secure the cylinder to bracket *c* may pass through flange *e'* and bracket *c* into the frame C, as shown in Fig. 2. The piston of cylinder E may be actuated by steam, (in which case connection is made with the boiler,) by compressed air, (which latter will necessitate the use of a main reservoir for compressed air,) or by any other suitable means.

G indicates the piston-rod, which passes through a stuffing box or gland, *g*, and extends down to a point between the brake-heads, where it is provided with a loosely-pivoted cross-piece or cross-head, *g'*, for carrying the wedge-faced sliding pressure-blocks which actuate the brake-heads. On the piston-rod G is a loose collar or ring, H, provided with a set-screw, by which it can be secured when adjusted to any desired point on the piston-rod, and said rod passes through a guide-bracket, I, bolted or otherwise secured to the bracket *c* at a point just above the brake-shoes. The point at which the ring H is set determines the distance of the downward movement of rod G, as when the ring comes in contact with bracket I the downward movement of rod G is arrested, and as rod G carries the sliding blocks which apply the brake-heads, the drop of such blocks will determine the distance the brakes can swing back from the wheels when the power is withdrawn. Bracket I also keeps the shoes and blocks from swinging out from the wheels.

K indicates the wedge-faced sliding pressure-blocks, which are loosely secured to the arms of cross-piece *g'*, (which makes the whole arrangement flexible, and allows the same to adjust itself in relation to the brake-shoes and the unevenness of the track.) Each of these sliding blocks has at its upper end a projection or nose-piece, *k*, which bears against the brake-heads between the jaws or flanges, and an inclined face, *k'*, which moves over a roller journaled between the jaws of the shoe.

L indicates the brake-heads, provided with suitable shoes, *l*, and cast or otherwise formed with lateral flanges or jaws *m*, between which

the blocks K slide, and which retain the blocks in place. Each shoe has an anti-friction roller, *n*, journaled between the jaws *m*, and is suspended by a hanger, M, which is pivoted on a pin or pivot which projects from the lower end of bracket *c*.

The devices, being substantially such as described, will operate as follows: Power being applied to the lift-rod G, preferably by admitting steam or air to the under side of the piston of cylinder E, the rod, in its upward movement, will carry with it the blocks K, which will slide upon the rear surface of the brake-head, gradually forcing them apart and against the peripheries of the wheels D. The nose piece or projection *k* will support and force outward the upper part of the brake-head L, while the inclined face *k'* will perform the same function for the lower part of the brake-head, and as the connection between the sliding blocks K and the cross-piece *g'* are sufficiently loose to permit the block to rock somewhat, the brake-shoe will be at liberty to adjust itself to the periphery of the wheel, and the power will be applied uniformly over the whole of the brake-head. When the power is withdrawn from rod G, it will sink or drop until the ring H comes in contact with the bracket I, when it can drop no farther. As the blocks K also descend with rod G, to which they are attached, the brake-heads L will, by their own weight, swing toward each other and away from the wheels until arrested by striking against the blocks K.

The great advantages of my invention are, the simplicity and compactness of the devices and the ability of applying the brakes to any locomotive, no matter how closely the drivers may be set.

Having thus described the nature and advantages of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a locomotive or like brake, the combination, with two swinging or pivoted brake-heads, of two loosely-pivoted wedge-faced sliding pressure-blocks arranged between the brake-heads, and a rod for actuating the sliding blocks, substantially as and for the purposes specified.

2. In a locomotive or like brake, the combination of two swinging or pivoted brake-heads, each provided with an anti-friction roller, two loosely-pivoted wedge-faced sliding pressure-blocks arranged between the brake-heads, and a rod for actuating the sliding blocks, substantially as and for the purposes specified.

3. The combination, with two pivoted or swinging brake-heads, of two rocking, sliding, wedge-faced blocks arranged between the brake-heads, and a rod for actuating the sliding blocks, and to which said blocks are loosely connected, substantially as and for the purposes specified.

4. The combination, with two brake-heads having jaws or flanges, of sliding wedge-faced blocks arranged between and which enter the jaws of the brake-head, and a rod for actuating the sliding blocks, substantially as and for the purposes specified.

5. The combination of two swinging or pivoted brake-heads, sliding wedge-faced blocks arranged between the brake-heads, a rod for actuating the sliding blocks, a rod-guide, and a ring adjustable on the rod, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 3d day of May, 1883.

CHARLES JOHN SCHILLER.

Witnesses:

E. B. LEIGH,
S. W. McMUNN.