(No Model.) 2 Sheets—Sheet 1.

H. M. LOFTON.

BRAKE.

No. 476,283. Patented June 7, 1892.

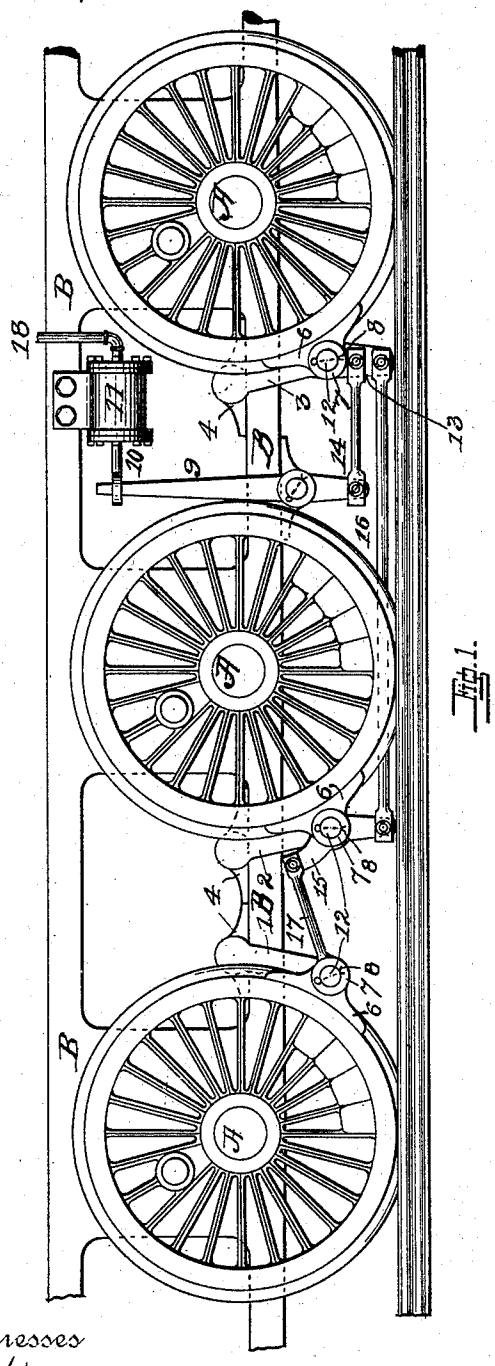

Fig. 1.

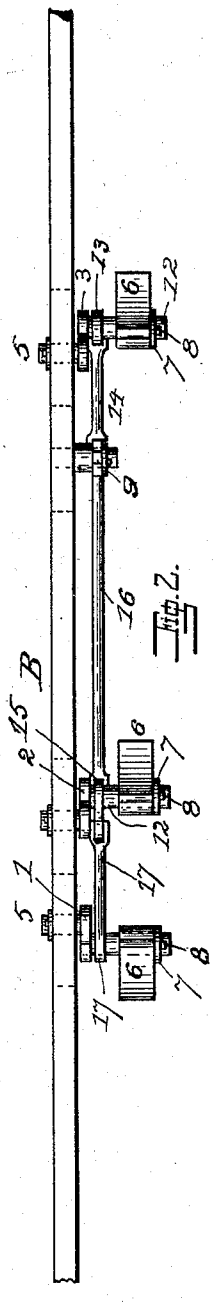

Fig. 2.

Witnesses
L. P. Hayden.
O. D. Wheeler

Inventor
Herbert M. Lofton
By his Attorneys
A. Wood & Son

(No Model.) 2 Sheets—Sheet 2.

H. M. LOFTON.

BRAKE.

No. 476,283. Patented June 7, 1892.

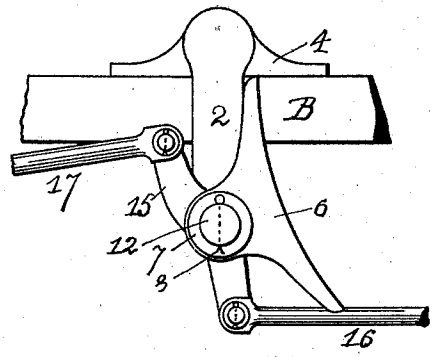

Fig. 3.

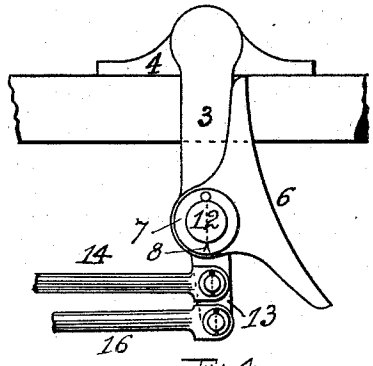

Fig. 4.

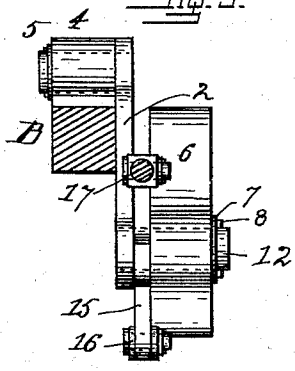

Fig. 5.

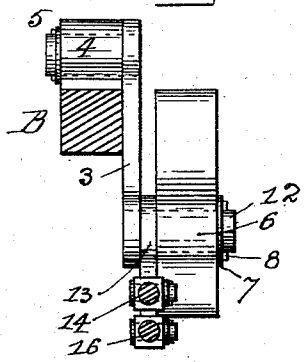

Fig. 6.

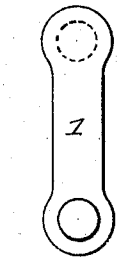

Fig. 7.

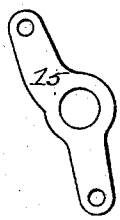

Fig. 8.

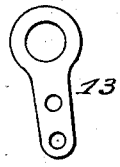

Fig. 9.

Witnesses
L. F. Haydon.
O. D. Wheeler

Inventor
Hubert M. Lofton
By his Attorneys.
Atwood & Son

UNITED STATES PATENT OFFICE.

HERBERT M. LOFTON, OF SAVANNAH, GEORGIA.

BRAKE.

SPECIFICATION forming part of Letters Patent No. 476,283, dated June 7, 1892.

Application filed August 29, 1891. Serial No. 404,117. (No model.)

To all whom it may concern:

Be it known that I, HERBERT M. LOFTON, of Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to brakes, and particularly to that class of brakes operated by steam or air pressure, the object of the invention being to supply a brake of this class which shall be quickly, easily, and inexpensively attached to a locomotive and in which the functions shall be performed in a uniform and superior manner, the details of all of which are hereinafter fully specified.

In the accompanying drawings, Figure 1 is a side elevation of the device, showing the frame and driving-wheels of a locomotive and showing the elements in the positions they will assume upon the application of the brakes. Fig. 2 is a top view of Fig. 1 with the wheels removed. Fig. 3 is a detail in side elevation of the brake to the center wheel, showing the modified bell-crank lever and connections. Fig. 4 is a side elevation of the front brake, more clearly showing the levers and pitman. Figs. 5 and 6 are views from the left hand of the parts shown in Figs. 3 and 4, respectively. Fig. 7 is a view of the brake-shoe carrying-arm. Fig. 8 is a side view of the bell-crank lever shown in Fig. 3, and Fig. 9 is a side view of the lever shown in Fig. 4.

In the figures like reference-marks indicate corresponding elements of construction.

A is the driving-wheels, and B the frame carrying same, which may be of any approved form, so long as they are adapted to perform the desired functions and to carry the elements which form the subject of these present improvements. Pendent levers 1, 2, and 3 are pivoted upon the frame B in bearing-block 4 of suitable construction, the construction shown being a block 4, having a bearing therein, in which the wrist 5 on the lever is seated, and a washer and spring-key driven in said wrist 5, thereby securing said lever in place and rendering its removal easily and quickly performed. Upon a pin 12 on the lower end of each of these arms 1, 2, and 3 are hung the brake-shoes 6, being secured thereon preferably by a washer 7 and a spring or other key 8. Also hung on a block on the frame is a lever 9, the longer arm of which projects upward and engages by suitable means the piston-rod 10 of the cylinder 11, wherein the pressure of steam or air acts upon a piston secured to said rod 10. Pivoted on the pin 12 of the arm 3, near its joinder to said arm, is a lever 13, which is connected near its middle portion with the lever 9 by a pitman 14. An equalizing-lever 15 is pivoted near its middle on the pin 12 of the lever 2, and a pitman 16 connects the downwardly-projecting arm with the lower end of the lever 13. A pitman 17 connects the upwardly-projecting arm of the lever 15 with the lower end of the lever or arm 1, which carries the brake-shoe bearing upon the back driving-wheel.

Upon reference to Fig. 1 of the drawings it will be seen that any part of the device may be removed easily and while the other parts are in position, the disconnection of one or two pitmen and the removal of one or two parts enabling the removal of any element. It is also plain that the removal of a brake-shoe is simply the work of a few minutes, and its renewal will take the same short time.

The operation of this device is as follows: The steam or air being turned into the cylinder and exerting force upon the piston will force the rod 10 outwardly, which will cause the movement of the lever 9, which, through the pitman 14, will move the lever 13, which movement will be communicated through the pitman 16 to the lever 15, and thence through the pitman 17 to the lever 1. It is obvious that these levers being progressive, the action of the shoes will be uniform in every particular and will act absolutely in unison.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class specified, the truck-frame and driving-wheels thereon, the arm 3, pivoted to the said frame and carrying a brake-shoe bearing against one of the driving-wheels, a pendent lever 13, pivoted on said

arm 3, the pitman 14, connected therewith and with a motive power, the pitman 16, connected to said arm farther from the pivotal point than the pitman 14, and connected at its opposite end to a second pendent arm carrying a brake-shoe bearing on one of the other driving-wheels, all combined, arranged, and operating substantially as and for the purpose specified.

2. In a device of the class specified, the truck-frame and driving-wheels thereon, the arm 3, pivoted to the said frame and carrying a brake-shoe bearing against one of the driving-wheels, a pendent lever 13, pivoted to said arm 3, the pitman 14, connected therewith and with a motive power, the pitman 16, connected to said arm farther from its pivotal point than the pitman 14, and connected at its opposite end to one arm of a bell-crank lever 15, pivoted on an arm 2, said arm pivoted to the frame B and carrying a brake-shoe bearing on the second driving-wheel, and a pitman 17, connecting the other arm of said bell-crank lever with the arm 1, pivoted to the frame and carrying a brake-shoe bearing on the periphery of the third driving-wheel, all combined, arranged, and operating substantially as and for the purpose specified.

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

HERBERT M. LOFTON.

Witnesses:
S. P. QUARTERMAN,
D. B. MORGAN.