

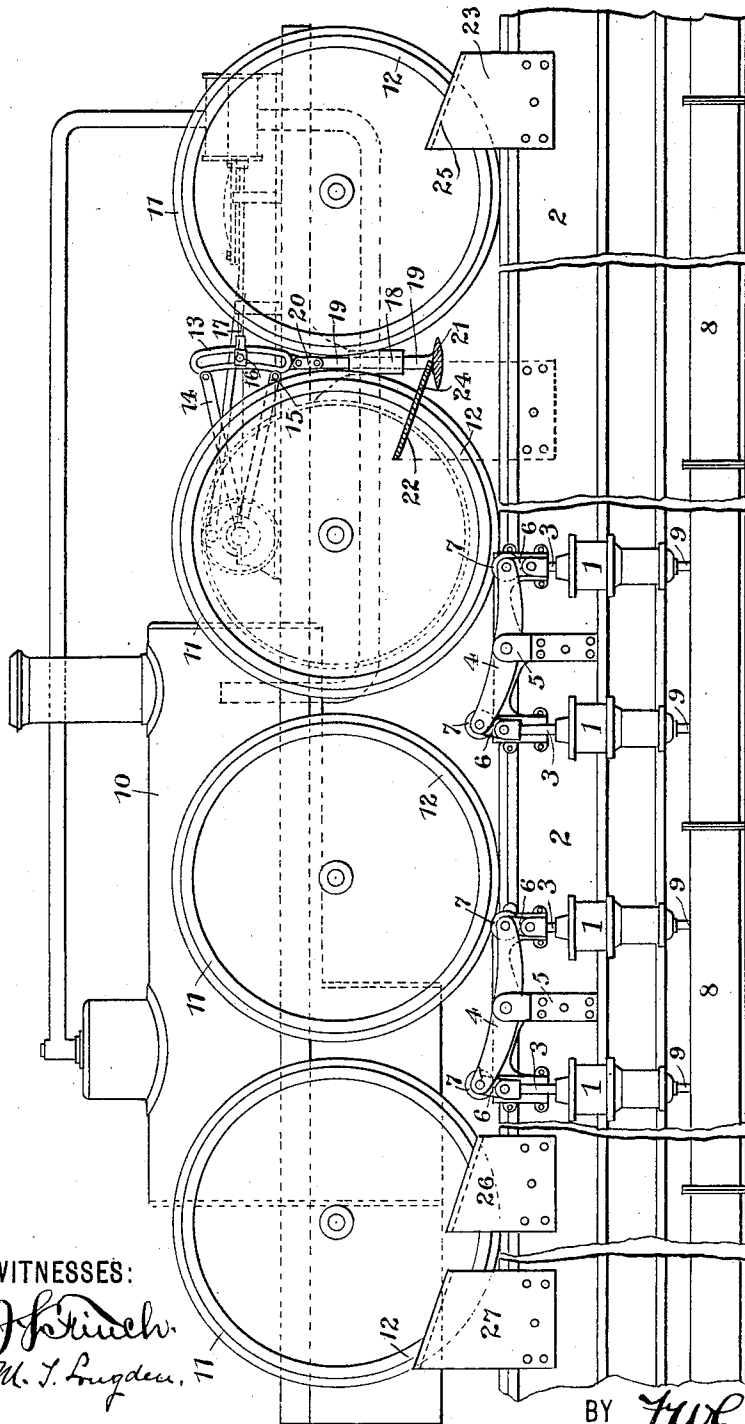
(No Model.)

E. CHAQUETTE.

APPARATUS FOR COMPRESSING AIR.

No. 565,429.

Patented Aug. 11, 1896.



WITNESSES:

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EPHRAIEM CHAQUETTE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
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APPARATUS FOR COMPRESSING AIR.

SPECIFICATION forming part of Letters Patent No. 565,429, dated August 11, 1896.

Application filed September 28, 1895. Serial No. 563,995. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIEM CHAQUETTE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Compressing Air; 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 certain new and useful improvements in apparatus for compressing air, but relates especially to the style and construction of an apparatus such as is shown and described in my pending application for Letters Patent filed December 14, 1894, and bearing Serial No. 531,821.

In the pending application referred to the apparatus comprised a circular track around which wheels ran for the purpose of operating to depress and elevate the pistons of the cylinders used for compressing the air; and the object of my present invention is to adapt my improvement set forth in said application for use in connection with a locomotive to be run upon a straight track.

The accompanying drawing is an elevation, partly in section, illustrating my present improvement.

My present invention has nothing whatever to do with the cylinders, the pistons, or the rocker-bars, and I will simply briefly refer to those parts without entering into any detailed description thereof.

1 are the cylinders, which are compound and which are bolted to the side of the track; 2, 3, the pistons within said cylinders; 4, the rocker-bars pivoted to brackets 5, which latter are secured directly to the side of the track, the extremities of such rocker-bars being connected to the pistons of each couplet of cylinders by means of links 6, so that it will be clearly understood that when the rocker-bars are operated said pistons will be alternately elevated and depressed.

7 are antifriction-rollers in the extremities of the rocker-bars.

8 is a conduit which extends below the track and leads to any suitable storage-reservoir, (not shown,) and 9 are pipes which

lead from the bottoms of the cylinders directly into said conduit, whereby the compressed air is delivered from the cylinders into the conduit and thence conveyed to the reservoir.

The locomotive which I employ is of very ordinary construction, and I will therefore enter into no description of the same, since the wheels and the valve-gear are the only parts thereof which have intimate relation with my present improvement.

The locomotive may carry an engineer or a fireman, if desired, although this is not necessary, since oil automatically supplied within the fire-box may be used as a fuel for the purpose of generating steam, or the locomotive may be stopped at either of the terminals and at certain intervals of time for the purpose of coaling.

10 is an ordinary locomotive, whose wheels 11 are constructed so that the center portion of the rim bears upon the track, while the sides of the rollers extend laterally to form hubs 12. The rocker-bars are arranged close to the track, so that the elevated end of each of the bars is above the horizontal plane of the bottom of the hubs and within the field of travel thereof, so that it will be readily understood that the wheels will operate during their travel to cause the rocker-bars to reciprocate and thereby operate the pistons in the cylinders.

The couplets of cylinders are arranged, preferably, on opposite sides of the track, as in my aforesaid pending application, although I have not deemed it necessary to illustrate in the drawing in the present instance such arrangement, since for the purposes of the explanation of my invention it is deemed sufficient to show the cylinders only on one side of the track.

It will thus be clearly understood that the travel of the locomotive back and forth along the track will effect the compression of the air in substantially the same manner as that heretofore described with reference to the construction shown in my aforesaid pending application, and I will now describe the contrivances by the automatic operation of which the reversal of the locomotive is effected.

13 is the valve-link of the locomotive; 14 15,

the rods, which are pivoted to opposite ends of the link and which are connected to the usual eccentrics of the engine; 16, the sliding block within the valve-link, and 17 the valve-stem pivoted to said block. All of these parts which I have just specified are very ordinary, both as to construction and operation, and their functions are well understood.

18 is a housing secured to the body of the locomotive, and within this housing is a slide-rod 19, whose upper extremity is pivotally connected to the lower end of the valve-link by means of a short link 20, while the lower end of said rod is provided with a laterally-extending head 21, which is preferably of a concavo-convex shape in cross-section. The rod 19, while capable of a vertical movement within the housing 18, is nevertheless snugly embraced by the latter, so as to prevent said rod from dropping by gravity. If desired, said housing may be lined with any suitable material, such as felt, for the purpose of still further insuring the rod as against accidental dropping.

At one of the terminals of the track are secured two angle-plates 22 23, both of which have their angular parts 24 25 extending, after the manner of a slanting roof, above the line of travel of the head 21, the highest points of such roof-like portions being nearest to said head. The innermost angle-plate 22 extends up higher than the outer angle-plate 23, and these plates are sixty or seventy-five feet or even a greater distance apart. As the locomotive travels along toward these angle-plates, the laterally-extending head 21 will pass beneath the roof 24, thereby causing the valve-link to be pulled down until the block 16 stands at a dead-center. The locomotive proceeds now slowly by its momentum, and when the head 21 passes beneath the roof 25 of the plate 23, the valve-link will be drawn still further downward, thereby throwing the valve-gear off from a dead-center and consequently reversing the line of travel of the locomotive. At the other terminal of the track are blocks 26 27, secured to the track and separated by sixty or seventy-five feet or more, the upper surfaces of said blocks being inclined down toward the locomotive. The block 26 does not stand as high as the block 27, so that when the head 21 strikes against

the block 26 and rides up the incline thereof, the valve-gear will again be brought to a dead-center and the locomotive will travel by its momentum until the head 21 rides up the incline of the block 27, when the valve-link will be thrown still further upward and the locomotive reversed.

Although a single inclined surface cooperating with the head 21 might be used at each terminal of the track, it would be inexpedient to do this because the sudden reversal of the locomotive would soon cause the wearing out of the tires.

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

1. In an apparatus for compressing air, the combination of a straight track, a series of air-compressing cylinders secured to said track, the pistons of said cylinders, the pivoted rocker-bars connecting said pistons in couplets, the locomotive having wheels which operate said rocker-bars whereby the pistons are elevated and depressed, the valve-gear of the locomotive, and means connected with said gear and cooperating with stationary devices at the terminals of said track for automatically effecting the reversal of said valve-gear and therefore the reversal of the locomotive, substantially as set forth.

2. In an apparatus for compressing air, the combination of a straight track, a series of air-compressing cylinders secured to said track, the pistons of said cylinders, the pivoted rocker-bars connecting said pistons in couplets, the locomotive having wheels which operate said rocker-bars whereby the pistons are elevated and depressed, the valve-gear of the locomotive, the vertically-reciprocating rod having at its lower end a laterally-extending head, the link whereby the upper end of said rod is pivotally connected to said valve-gear, and the angle-plates and inclined blocks secured to the terminals of said track, substantially as set forth.

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

EPHRAIEM CHAQUETTE.

Witnesses:

F. W. SMITH, Jr.,
M. T. LONGDEN.