B. T. BABBITT.

Attachment for Locomotive Engines.

No. 219,897. Patented Sept. 23, 1879.

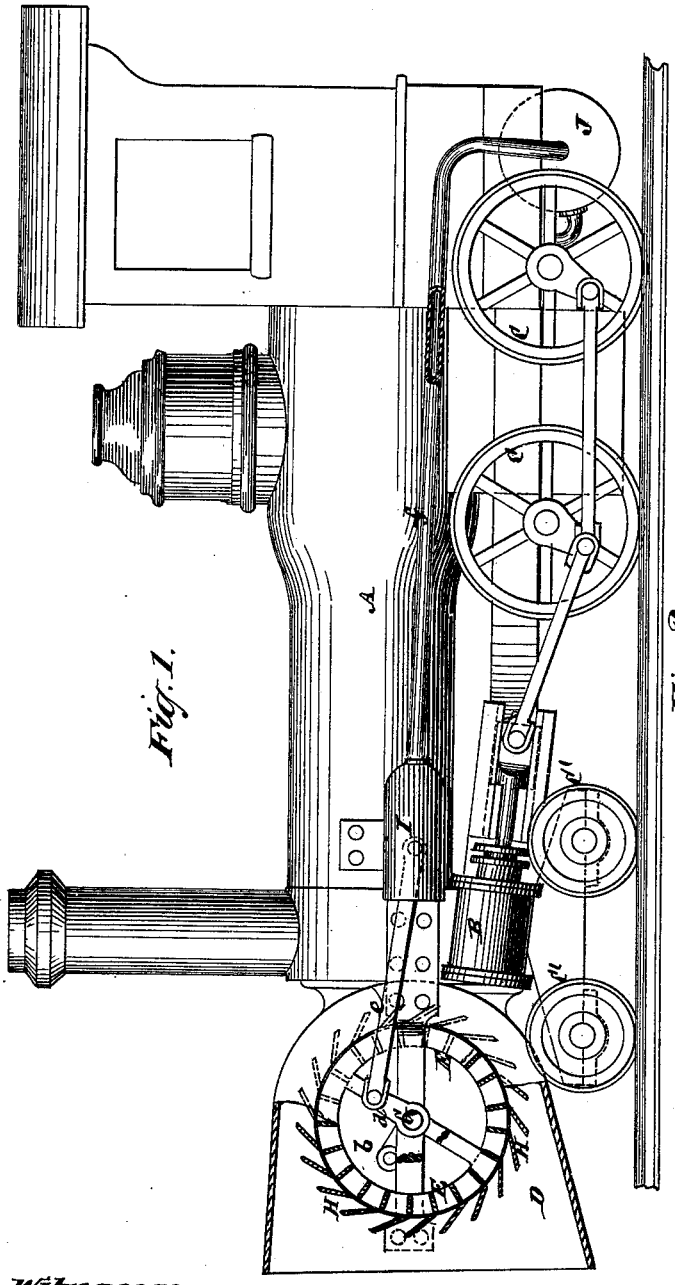

Fig. 1.

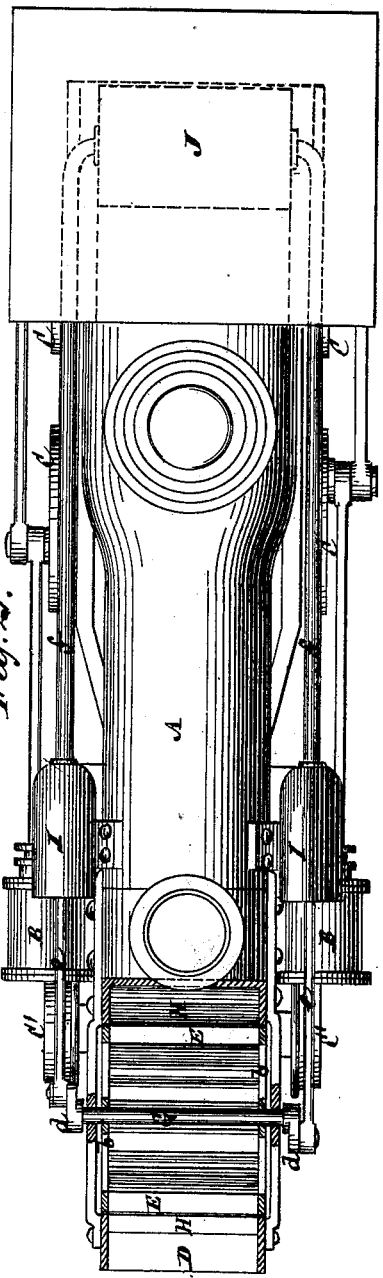

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT, OF NEW YORK, N. Y.

IMPROVEMENT IN ATTACHMENTS FOR LOCOMOTIVE-ENGINES.

Specification forming part of Letters Patent No. **219,897**, dated September 23, 1879; application filed April 7, 1879.

To all whom it may concern:

Be it known that I, BENJAMIN T. BABBITT, of the city and State of New York, have invented a new and useful Attachment for Locomotive-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention has for its object the storing of compressed air by a locomotive-engine while in motion within a reservoir, from which a supply of said air is taken to keep up a forced blast and free supply of oxygen to the furnace of the boiler of said engine, or for supplying a blast to ventilate one or more cars in rear of the locomotive, or for any other purpose that a supply of compressed air may be required.

The invention consists in the combination, with a locomotive and its boiler, of a wind or air receiver arranged in front of said boiler, a wind or bucket wheel arranged to rotate within said receiver, and preferably provided with exhaust-apertures at its ends and with a circular series of fixed deflectors around said wheel for conducting the air (encountered by the resistance of the locomotive while in motion) to said wheel for the purpose of rotating the latter, one or more air-compressing pumps operated by said wheel, and a compressed-air receiver supplied by said pump or pumps.

Referring to the accompanying drawings, Figure 1 represents a partly-broken or sectional side elevation of a locomotive-engine and its boiler with my invention applied, and Fig. 2 a partly-broken or sectional plan of the same.

A represents the boiler, and B B the working-cylinders, of a locomotive-engine, and C C′ the driving and running wheels thereof.

Arranged in front of the boiler is a fixed wind or air receiver, D, which has a wide or flaring front to catch the air encountered by the resistance of the locomotive while in motion, but is of curved or partially circular form at its back. Arranged to freely rotate within said fixed air-receiver D is a wind or bucket wheel, E, having a horizontal shaft, G; and surrounding said wheel is a circular series of tangentially-arranged deflectors, H, close to the inner ends of which the outer edges of the buckets of the wheel E work. These deflectors cause the wind or air as it is collected within the receiver D to be directed against the buckets of the wheel E to rotate the latter in a given direction.

Exhaust-apertures *b* in the ends of the wheel E and sides of the receiver D serve to pass off the air after it has performed its duty on said wheel.

Applied to the outer ends of the shaft G of the wheel E are cranks *d d*, preferably set at right angles with each other, and connected by rods *e e* with the plungers of air-compressing pumps I I, from which the air is compressed by said pumps through the agency of the wheel E, and is continuously delivered by pipes *f f* into a compressed-air receiver J, from whence the compressed air is or may be taken to furnish a forced blast and free supply of oxygen to the furnace, either for the purpose of promoting the combustion or consuming the smoke in the furnace, or for both purposes, or for supplying a blast to ventilate the cars in rear of the locomotive, or for any other purpose that a supply of compressed air may be required, including the introduction of air under pressure to the boiler to act conjointly with the steam in the latter as a motive agent on the pistons of the cylinders of the engine.

I claim—

1. The combination, with a locomotive-engine and its boiler, of a wind or air receiver arranged in front of said boiler and having a fixed relation thereto, a wind or bucket wheel arranged to rotate within said receiver, one or more air-compressing pumps operated by said wheel, and a compressed-air receiver supplied with compressed air by said pump or pumps, substantially as and for the purpose or purposes herein set forth.

2. The combination, with the locomotive-engine boiler A and its working-cylinders B B, of the fixed wind or air receiver D, having exhaust-apertures *b*, the wind or bucket wheel E, the circular series of tangentially-arranged deflectors H, the shaft G of the wheel E, the cranks *d d*, the air-compressing pumps I I, and the receiver J, essentially as and for the purpose or purposes described.

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