A. B. LARISON & E. BAPTIST.

LOCOMOTIVE.

APPLICATION FILED JULY 27, 1912. RENEWED AUG. 7, 1915.

1,158,814.

Patented Nov. 2, 1915.

3 SHEETS—SHEET 1.

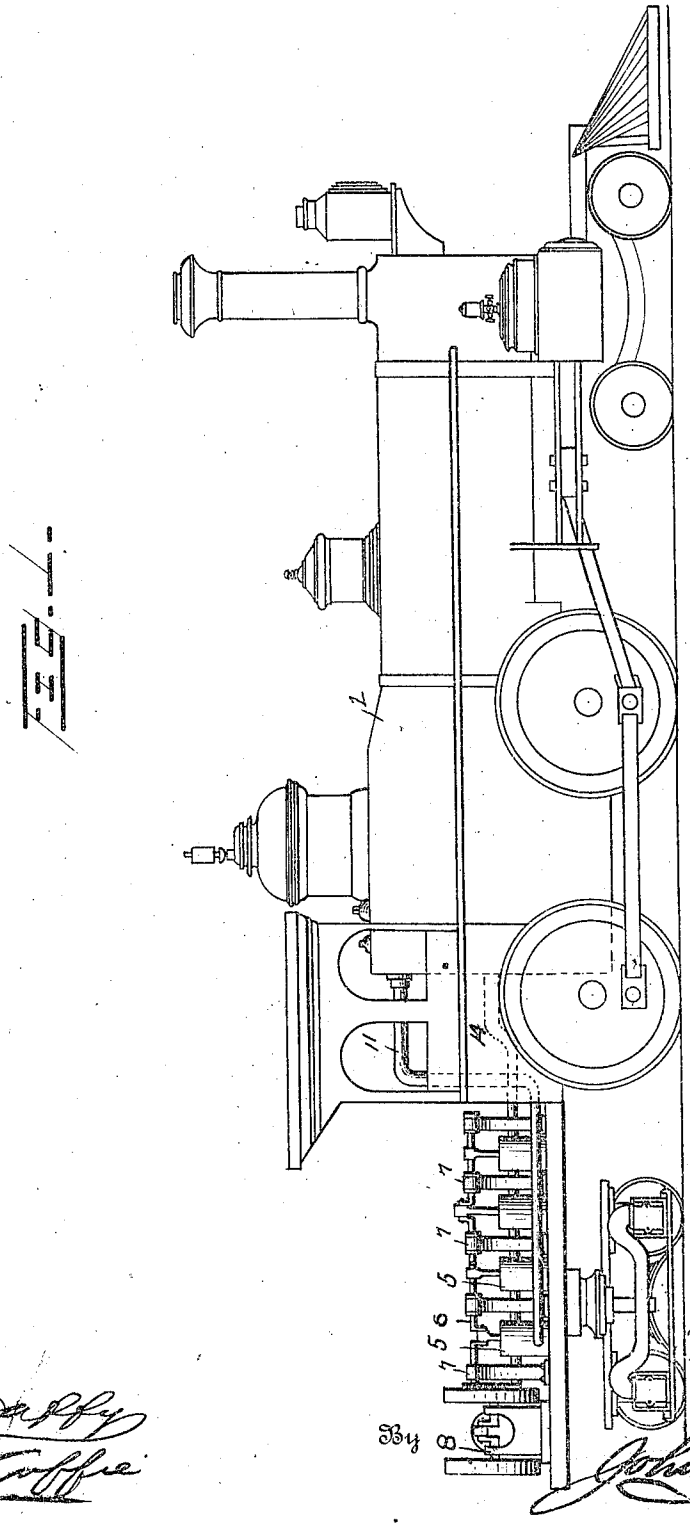


Fig. 1.

Witnesses

Inventors
A. B. Larison + E. Baptist

By

Attorney

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3 SHEETS—SHEET 2.

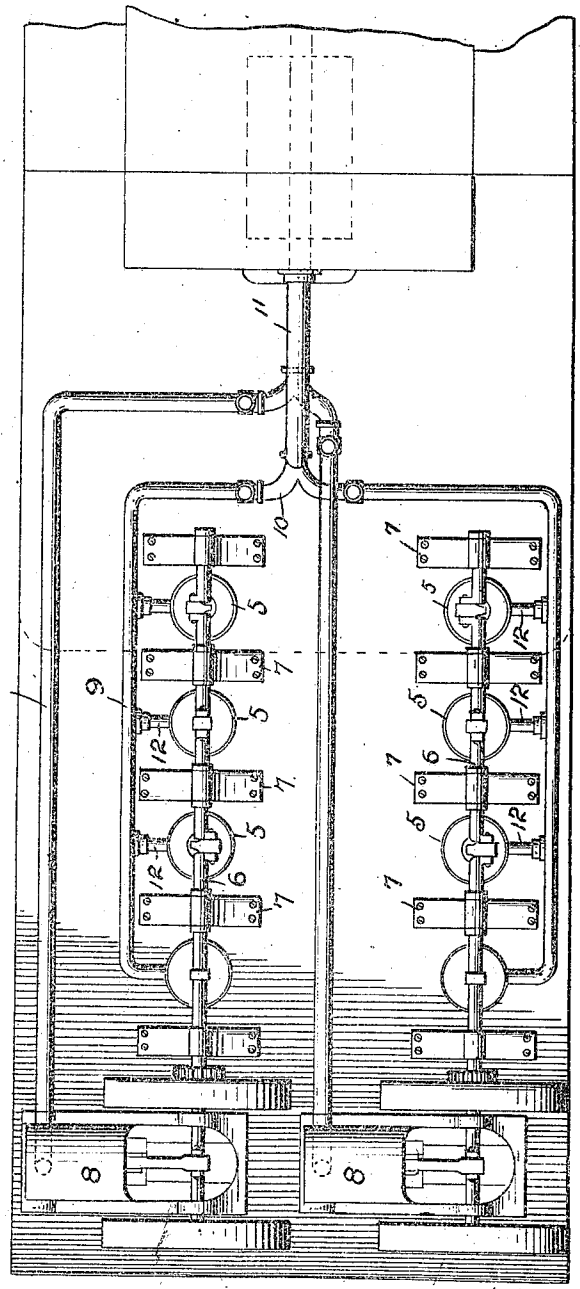


FIG. 2.

Witnesses

E. E. Duffy

R. R. Duffy

Inventors

A. B. Larison + E. Baptist

By John P. Duffy

Attorney

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3 SHEETS—SHEET 3.

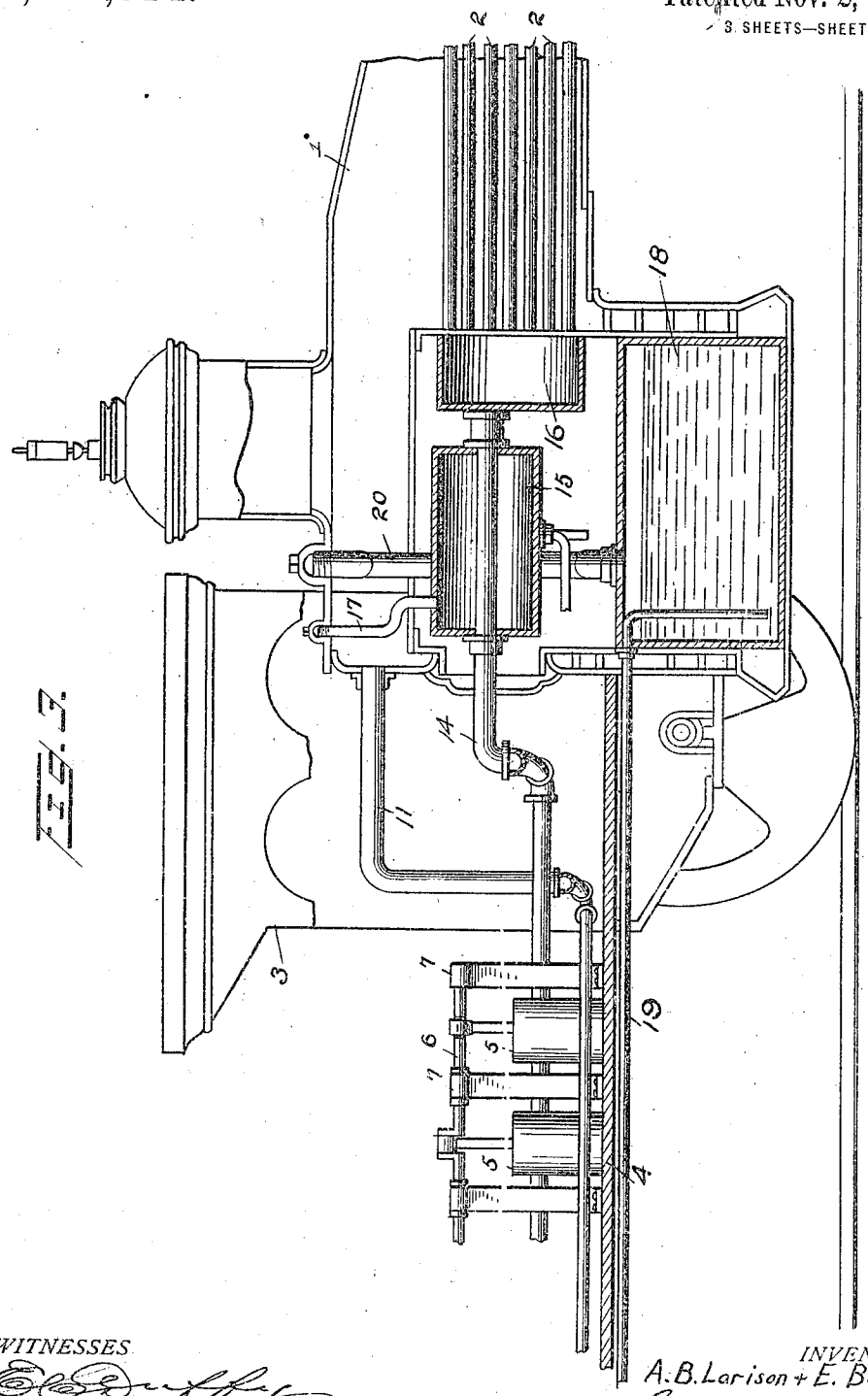


FIG. 3.

WITNESSES

R. R. Duffie

INVENTORS

A. B. Larison + E. Baptist

Attorney

UNITED STATES PATENT OFFICE.

ABEL B. LARISON AND EMANUEL BAPTIST, OF ATLANTA, ILLINOIS.

LOCOMOTIVE.

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Application filed July 27, 1912, Serial No. 711,884. Renewed August 7, 1915. Serial No. 44,322

To all whom it may concern:

Be it known that we, ABEL B. LARISON and EMANUEL BAPTIST, citizens of the United States, residing at Atlanta, in the counties of Logan and Sangamon and State of Illinois, have invented certain new and useful Improvements in Locomotives, of which the following is a specification.

This invention relates to improvements in locomotives.

The primary object of this invention is to construct a locomotive in which the motive power used is compressed air instead of steam.

In carrying out the invention, the compressed air is created or generated by air compressors driven by gasolene engines and the exhaust from the gasolene engines is utilized in keeping the boiler, which serves as a reservoir, sufficiently warm that the moisture collected from the air will not freeze during severe cold weather. The exhaust may also be utilized for heating the oil used for lubricating the cylinders, etc.

The advantages of our improvements are that they reduce the expense of fuel to a minimum and also eliminate water and coal stations.

With the foregoing objects in view the invention consists in the novel features of construction, combination and arrangement of parts illustrated in the drawings and more particularly pointed out in the appended claims.

In the accompanying drawings:—Figure 1 is a side elevation of a locomotive, diagrammatically illustrated, constructed to run by compressed air instead of steam in accordance with our invention. Fig. 2 is a top plan view of the frame of the locomotive at the rear of the cab showing the air compressors and gasolene engines mounted thereon with the parts represented on an enlarged scale and Fig. 3 is a sectional elevation of the rear half of the locomotive with the improvements applied.

Referring to the drawings for a more particular description of the invention, 1 indicates the boiler of the locomotive, 2 the heating flues and 3 the cab.

In constructing the locomotive in accordance with our invention, the engine frame is extended to the rear bevond the cab 3 forming a platform or support 4 for the air compressors 5. The air compressors 5 are arranged in two longitudinal series, four in each series, at opposite sides of the frame 4, each series being driven by a shaft 6 mounted in the bearings 7. The shafts 6 are driven by the gasolene engines 8 mounted at the rear end of the platform 4.

A compressed air supply pipe 9 communicates with the rear compressor of each series, said pipes extending forwardly and connected together at their front ends by the coupling 10 with the main supply pipe 11 which leads to the rear end of the boiler. The pipes 9 are connected with the individual air compressors by the branch pipes 12. The exhaust from the gasolene engines is conveyed by the longitudinally disposed pipes 13 to the main centrally disposed pipe 14 which passes through the cylinder 15 and communicates with the chamber 16 of the heating flues 2. In this way, the exhaust from the gasolene engines is utilized to keep the boiler warm so that the moisture collected from the air will not freeze during severe cold weather, it being understood that the boiler serves as a reservoir for the compressed air which is used in place of steam to drive the engine.

The cylinder 15 may be filled with oil to be used for lubricating the cylinders, etc., by the supply pipe 17 in which case the oil will be kept in a properly heated condition by the exhaust passing through the cylinder in the pipe 14. The chamber 18 may be employed as a reservoir for the gasolene used to run the gasolene engines being conveyed from the reservoir by the feed pipe 19 and other suitable connections, not shown.

It is to be understood that the arrangement shown in the drawings is a mere suggestion of how the exhaust may be utilized in heating the oil in lubricating the cylinders or other parts and that any other arrangement necessary to give the best results may be had.

It is also to be understood that we are not to be restricted to the use of any particular number of compressors, that is, we may use four compressors on each shaft or a greater or less number, depending on the amount of power to be developed.

The gasolene in the reservoir 18 may be supplied by the feed pipe 20 or other suitable means. If a modern steam-engine is transformed into a compressed air driven locomotive in accordance with our invention, the gasolene engines and compressors may be mounted on the run-boards or may

be placed in the fire box or other convenient location.

From the foregoing description taken in connection with the drawings, it is thought that the construction and advantages of this invention will be understood without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principles or sacrificing any of the advantages of this invention as defined in the appended claims.

Having described our invention what we claim as new is:

1. In a locomotive wherein compressed air forms the motive power, the combination of a gasolene engine, air compressors direct-connected to the gasolene engine to be driven thereby, a compressed air reservoir, flues in said reservoir, compressed air supply pipes for conveying the compressed air to the air reservoir, an exhaust pipe from the gasolene engine to the flues in the air reservoir, an oil reservoir disposed about the exhaust pipe whereby the oil may be heated, and piping from the oil reservoir to the air compressor and gasolene engine for the lubrication thereof, substantially as described.

2. In a locomotive, the combination of an air compressor, a gasolene engine for driving the air compressor, driving cylinders for the locomotive actuated by compressed air from the air compressor, an oil reservoir disposed about the exhaust pipe from the engine for heating the oil used for the locomotive, and pipe means for conveying the oil from the oil reservoir to the air compressor and gasolene engine and to the driving cylinders of the locomotive for the lubrication thereof, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ABEL B. LARISON.
EMANUEL BAPTIST.

Witnesses.
T. C. FOGARTY,
THOMAS MCDONALD.