W. D. SCOTT MONCRIEFF.

ENGINE-FRAME FOR TRAMWAY-CARS.

No. 180,906. Patented Aug. 8, 1876.

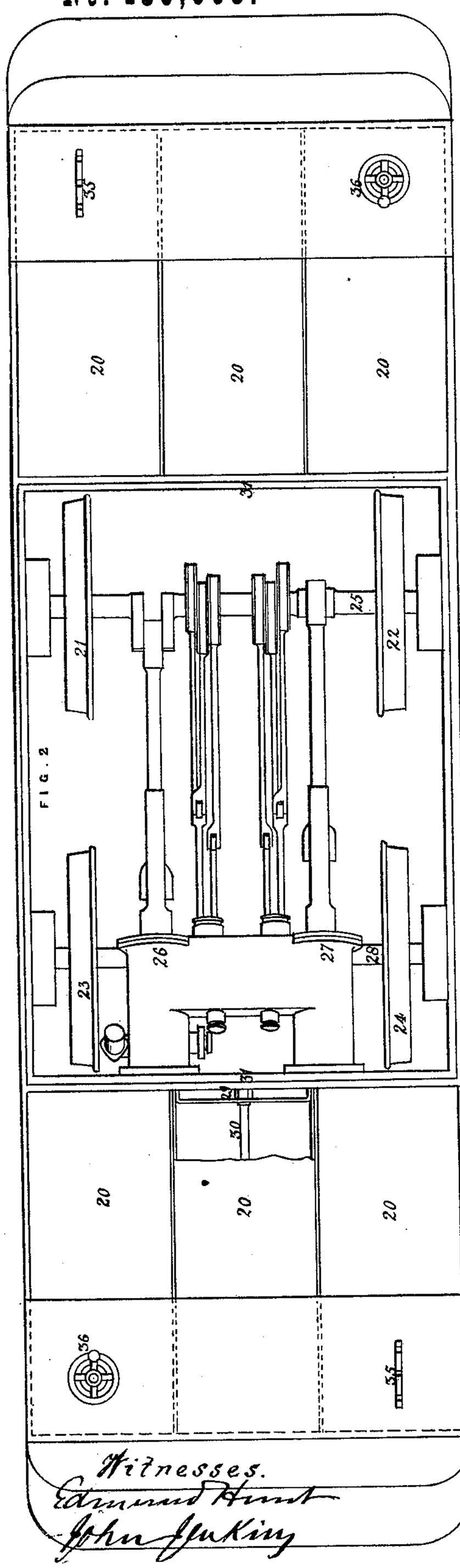

FIG. 2.

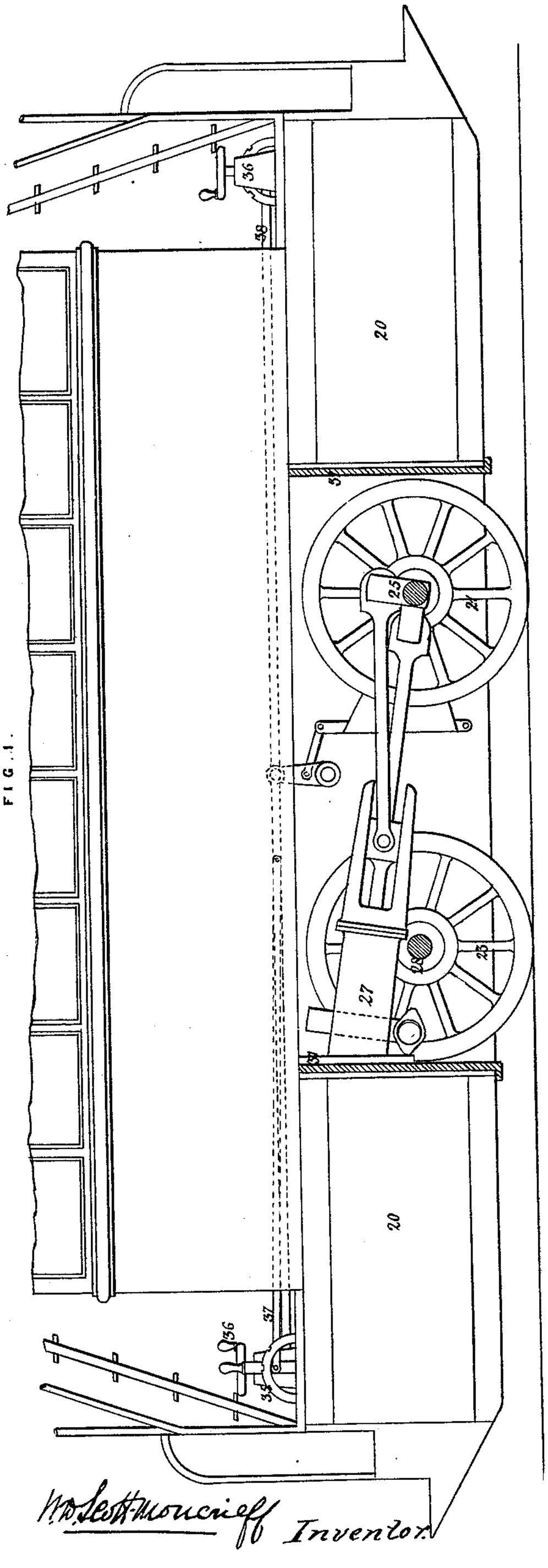

FIG. 1.

Witnesses.
Edmund Hunt
John Jenkins

W. D. Scott-Moncrieff Inventor.

UNITED STATES PATENT OFFICE.

WILLIAM D. SCOTT-MONCRIEFF, OF GLASGOW, SCOTLAND.

IMPROVEMENT IN ENGINE-FRAMES FOR TRAMWAY-CARS.

Specification forming part of Letters Patent No. **180,906**, dated August 8, 1876; application filed April 28, 1876.

To all whom it may concern:

Be it known that I, WILLIAM DUNDAS SCOTT-MONCRIEFF, of Glasgow, in the county of Lanark, Scotland, have invented an Improved Pneumatic Tramway-Car, of which the following is a specification:

The object of my invention is to construct the frame, cylinders, and engine details of a pneumatic street-car in an economical manner; and this object I attain in the manner hereafter described, reference being had to the accompanying drawing, in which—

Figure 1 is a side view of the lower part of the car, and Fig. 2 a plan view with the passenger-compartment removed.

In the present instance six horizontal cylinders, 20, receive the compressed air for operating the engine, these cylinders occupying positions beneath the body of the car, but in two separate sets, with a space between them. The lower part of the body of the car is formed of a rectangular frame-work, consisting of two strong longitudinal girders or vertical side plates, extending from end to end, and suitably strengthened by angle and bar iron, and these longitudinal side plates are connected by angle-iron to four transverse vertical plates, two of which form the ends, while the other two divide the internal space into three compartments. Three of the air-cylinders 20 are arranged longitudinally in each end compartment, and each cylinder is, by preference, made of a single plate of steel or malleable iron, and having the longitudinal joint welded, while the ends consist of flanged disks 29, riveted or welded to the cylinders. The cylinders 20 are provided with longitudinal central stays, which are also used for fixing the cylinders in the end compartments of the framing, these stays being made to project beyond the screw-nuts which bear against the end disks 29, and to pass through openings in the transverse frame-plates, on the outside of which additional holding-nuts are screwed onto them. To the frame-work, in the space intermediate between the air-cylinders, is secured a rectangular frame, 31, which can be detached when necessary, and in bearings in this frame turn the axles 25 and 28 of the wheels 21, 22, 23, and 24 of the car. The axle 25 is cranked, as shown, and is operated by suitable driving-shafts from the pair of cylinders 26 and 27, which are supplied with air from the cylinders 20. The heads of these cylinders 26 and 27 are bolted to the detachable frame 31, this being preferably their only means of connection.

It will thus be seen that the engine, wheels, and air-cylinders are economically and compactly arranged; and the engine itself may be readily detached for repairs, or the frame-work 31, with the wheels and engine, if necessary, quickly removed and replaced.

I claim as my invention—

The combination of the frame-work of the car with the detachable frame 31, carrying the wheels and the engine, the latter being bolted to one end of said frame, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. D. SCOTT-MONCRIEFF.

Witnesses:

EDMUND HUNT,

JOHN JENKINS.