(No Model.)

H. M. LANE.

STEAM ENGINE.

No. 605,885. Patented June 21, 1898.

Fig. 1.

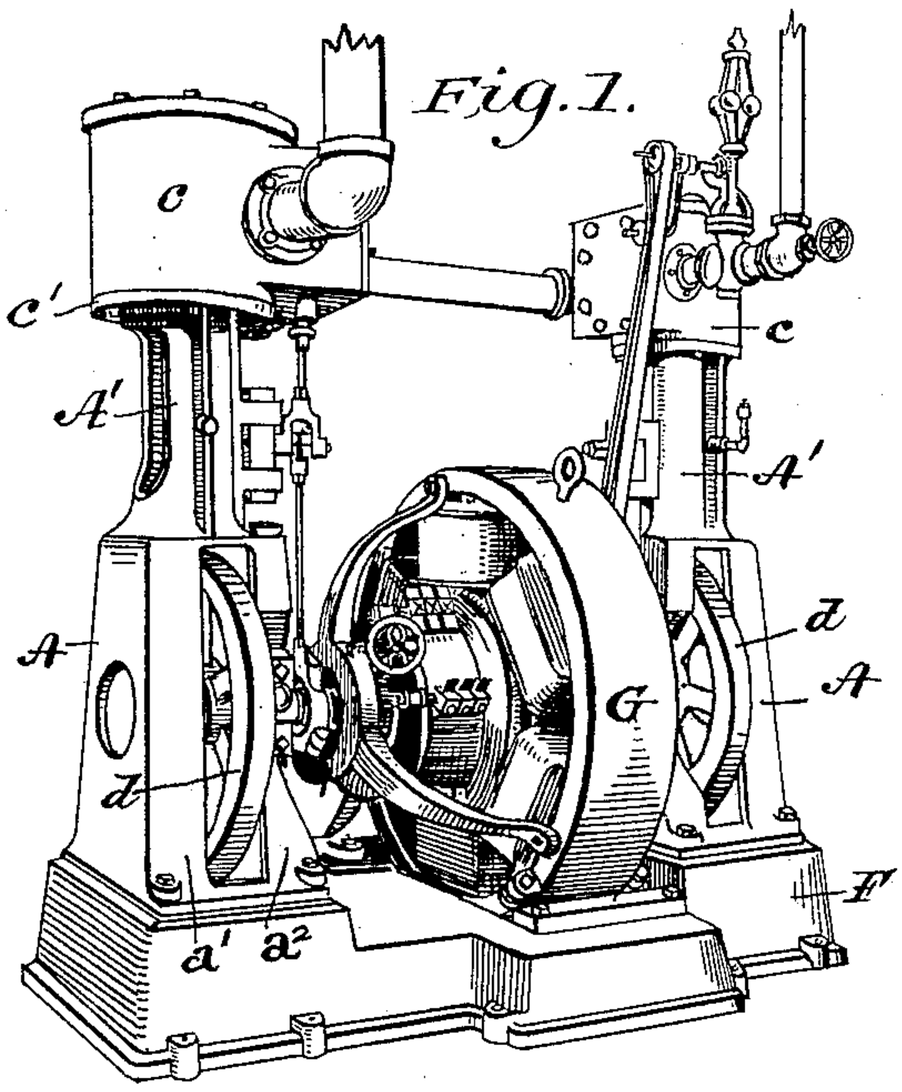
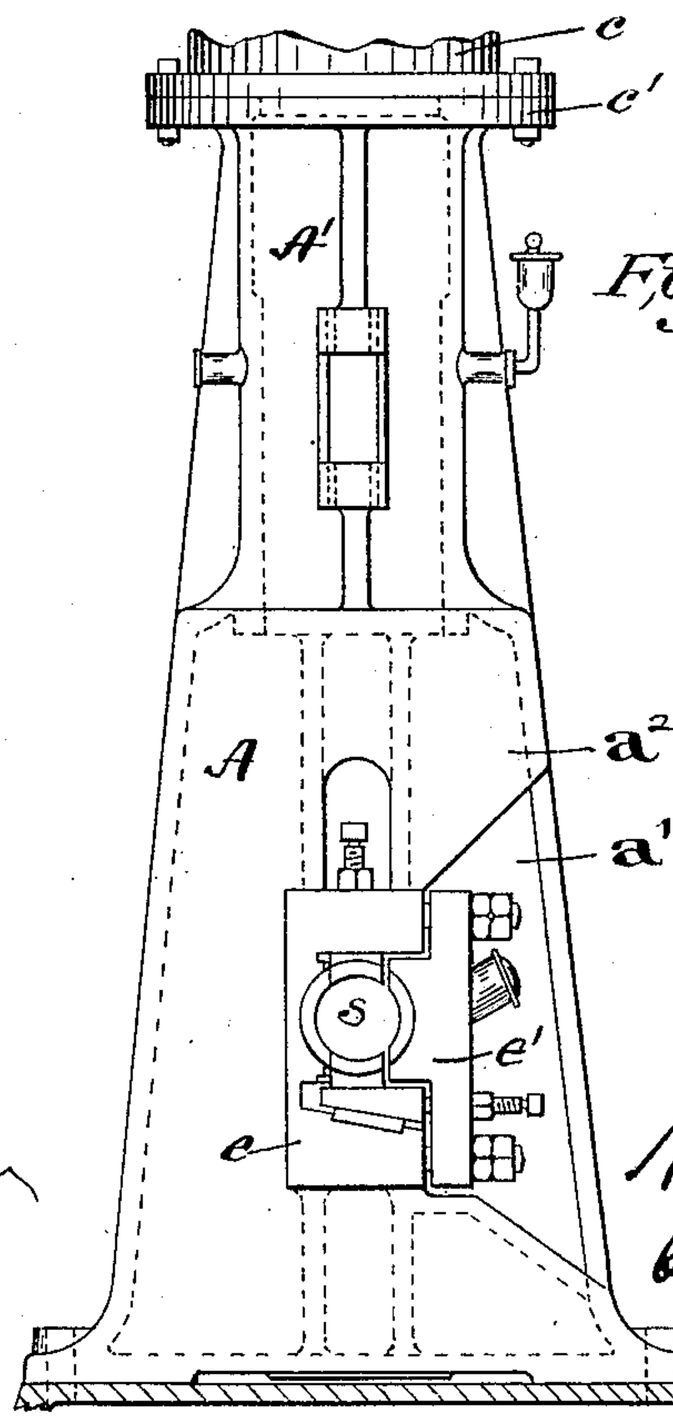


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY M. LANE, OF CINCINNATI, OHIO.

STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 605,885, dated June 21, 1898.

Application filed July 9, 1896. Serial No. 598,562. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. LANE, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Steam-Engines, of which the following is a specification.

My invention relates to steam-engine frames, having reference particularly to the class of vertical engines in which a cylinder is maintained upon a vertical frame operating a horizontal shaft below, with guides upon the intervening frame for the cross-head.

In my improved frame the cylinder is mounted centrally in relation to the frame, the guides being substantially a tubular prolongation of the same, resting upon a base or pedestal bifurcated or slotted to admit between its two sides the crank or crank-plate, and one of said sides furnishing a journal-support for the shaft, so arranged in a laterally open recess that the shaft is removable without detaching the crank-plate therefrom.

My invention is illustrated in the accompanying drawings, in which is shown in—

Figure 1, a perspective elevation of a double steam-engine embodying two of such frames, the engines being mounted upon a common base and coupled to a common shaft, shown as the armature-shaft of the dynamo. Fig. 2 is a side elevation of the engine-frame, on a somewhat enlarged scale, showing the details of construction substantially as set forth.

Referring now to the drawings, the engine-frame constituting my invention is in two parts—namely, a tubular or columnar portion A′, terminated above by the cylinder C (if cast with the frame) or by a table or flange C′, to which the cylinder may be bolted, and a lower bifurcated or slotted base or pedestal portion A, having two sides a' a^2. The base or pedestal A is of somewhat the contour of a hollow quadrilateral pyramid-frustum, enlarging downwardly and divided by a lateral slot, through which plays the "crank-plate" or wheel d.

The outer of the sides a' maintains its full pyramidal contour as a support and brace for the cylinder and guides and as an outer protection to the crank-plate and pitman, while the inner side a^2 is recessed laterally to receive and support the main shaft and yet permit its ready removal from its journal-bearings without detaching it from its crank-plate, a construction which permits the use of a shaft and crank forged solid in this type of engines.

The construction of the frame in detail will be more clearly apparent from Fig. 2, in which the dotted lines indicate the interior wall and the ribs supporting the journal-block e.

The V-shaped lateral recess extending from beneath and above the block e outward permits ready removal of the cap e' and of the shaft when necessary.

An especial advantage of the frame is indicated by the drawing Fig. 1 in the combination of two such frames upon a common base F, driving the armature-shaft of a dynamo G. In this case the corresponding sides a^2 of the two frames furnish the supports of the shaft, while the "field" structure of the dynamo is secured to the base F between.

I claim and desire to secure by Letters Patent of the United States—

1. The improved frame for a steam-engine embodying an extended base in combination with a hollow pedestal extending symmetrically about the projected axis of the cylinder supported upon and above the base and having a lateral vertical slot extended oppositely through the sides of the pedestal for the reception and play of the crank-plate, a recess at the bearing side of the frame opening outwardly from the shaft-bearing to admit the shaft and crank-plate without disconnection, and an upward axial tubular extension of the pedestal for supporting the working cylinder and carrying the cross-head guides, substantially as set forth.

2. The improved frame for a double, vertical, reciprocating engine coupled to the same shaft, embodying two independent, hollow, columnar frames, supported above and upon a common base and extended above by tubular prolongations supporting the cylinders centrally, respectively; the lower part of each frame being oppositely slotted to permit the play of the crank-plates, and the proximate

sides of the frames adjacent to the slots being provided with recesses opening outwardly to contain the journal-bearings, of the shaft and permit the removal of the latter without disconnecting the crank-plates, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY M. LANE.

Witnesses:
L. M. HOSEA,
FRANK K. BOWMAN.