

(No Model.)

H. A. RAMSAY.
DUMMY LOCOMOTIVE.

No. 441,583.

Patented Nov. 25, 1890.

Fig. 2.

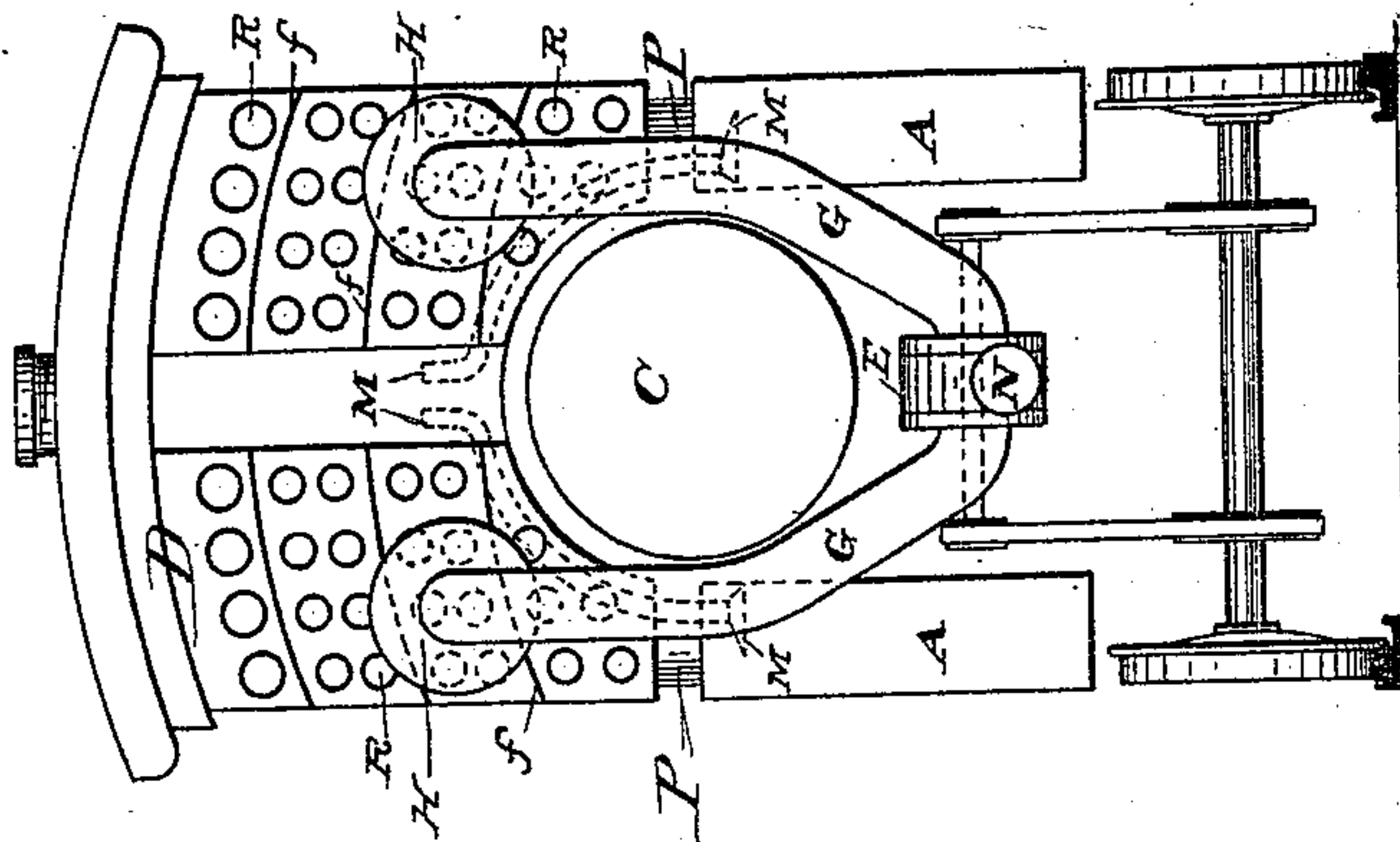
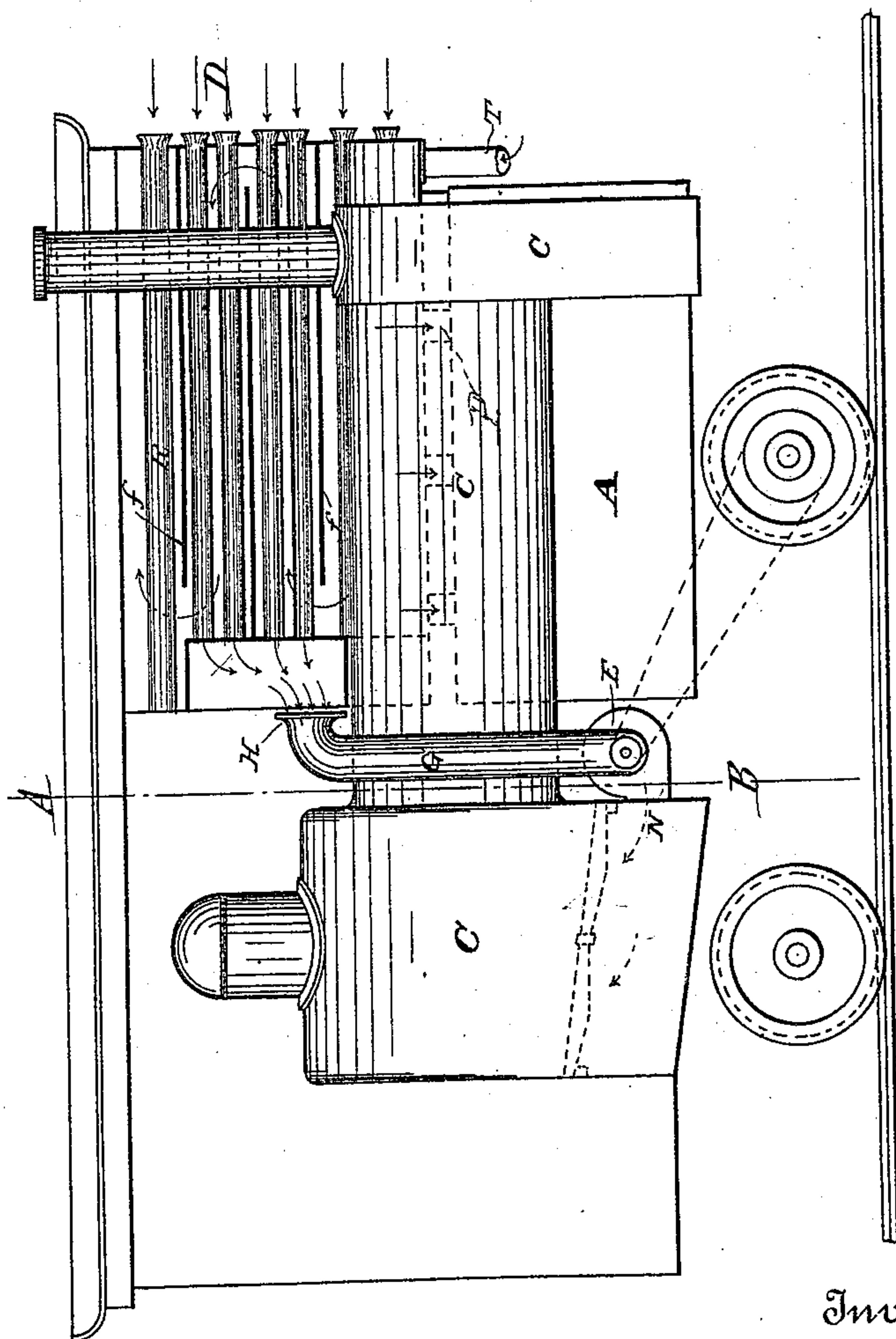


Fig. 1.



Witnesses

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HENRY ASHTON RAMSAY, OF BALTIMORE, MARYLAND, ASSIGNOR TO
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DUMMY LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 441,583, dated November 25, 1890.

Application filed June 4, 1890. Serial No. 354,219. (No model.)

To all whom it may concern:

Be it known that I, HENRY ASHTON RAMSAY, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented a new and useful Improvement in the Type of Locomotives known as "Dummies," of which the following is a specification.

My invention relates to improvements in "dummy locomotives" intended to operate without noise from the engine-exhaust and to use a smokeless fuel, coke, or anthracite coal, the object of my invention being to prevent the noise ensuing from the use of steam-exhaust to produce a draft and the appearance of smoke. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation shown in section, and Fig. 2 is a transverse section cut through A B.

Similar letters refer to similar parts throughout both views.

In Fig. 1, letter C is an ordinary form of locomotive-boiler.

D is a condenser arranged to be placed over the boiler and to extend down the sides, forming a saddle or box constructed of light iron made steam-tight under a slight pressure of a few pounds to the square inch. Horizontal tubes pass through the condenser. (Shown at R.) Below the sides of the condenser are two water-tanks A. A rotary blower is shown at E; inlet-pipes, through which the blower is supplied with air at G; discharge-pipe from blower to deliver air under the grate of the boiler-furnace shown at N; funnel-inlets to blower eduction-pipes shown at H; connecting vertical pipes, affording communication between the condenser and tanks, shown at P. Pipes shown at M are small vapor-pipes led from the top of the water-tanks to the smoke-pipe, with open mouths, their object being to prevent the accumulation of pressure in the condenser or tanks and to carry off any vapor that may be uncondensed. The other parts of the locomotive are common to ordinary locomotives, so it will not be necessary to describe them here. The condenser has several shelf or diaphragm plates provided at *f*, ar-

ranged so as to detain the exhaust-steam in its passage upward from its point of entrance to the condenser. The steam is thus made to circulate freely around the tubes, through which air is caused to circulate by the passage of the locomotive through the atmosphere, the tubes at the front ends of the condenser being turned outward and open, so as to collect and draw in as much air as possible, and this circulation of the air inside the tubes keeps them cool and causes the steam to be condensed as it comes in contact with their surfaces. The circulation of the air is also assisted, especially when the locomotive is standing still or running with the wind, by the blower drawing air through the tubes, other and cooler air having to come into the condenser-tubes to take the place of that withdrawn by the blower. The blower will be driven by a chain-band, either from a pulley on the car-axle or by a small independent engine, and the office of the blower will be, first, to give an artificial draft to the furnace, and, secondly, to promote the circulation of air through the tubes, and this air, having been heated, will be more effective than cold air in supporting the combustion in the furnace.

I am aware that prior to my invention of improvement in condensing apparatus for dummy locomotives other schemes have been devised and patented for accomplishing the condensation of steam and other gases, and fans and blowers used for exhausting the gases from the smoke-pipe, &c. I do not therefore claim any of the foregoing devices, nor the condenser, blower, or tanks broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a dummy locomotive, of an atmospheric horizontal tubular exhaust-steam surface condenser, constructed as shown, in conjunction with a rotary blower E; placed in the rear of the ash-pan of the boiler connected with funnel-ended suction-pipes, substantially as described.

2. In dummy steam-locomotives, the combination of exhaust-steam pipes T, entering a tubular air-surface condenser D, containing horizontal shelf-plates or partial diaphragms

for detaining and directing the course of the steam, said condenser having open communication with the water-tanks A and provided with a discharge-vapor pipe M, preventing an
5 accumulation of pressure in the condenser; also open-ended inlet-tubes for circulating cold air, the passage of the same being pro-

moted by the movement of the locomotive and the suction effect of the blower E, all substantially as described.

HENRY ASHTON RAMSAY.

Witnesses:

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