(No Model.)

C. M. C. PRENTICE.

APPARATUS FOR HEATING AND VENTILATING RAILWAY CARS.

No. 440,500. Patented Nov. 11, 1890.

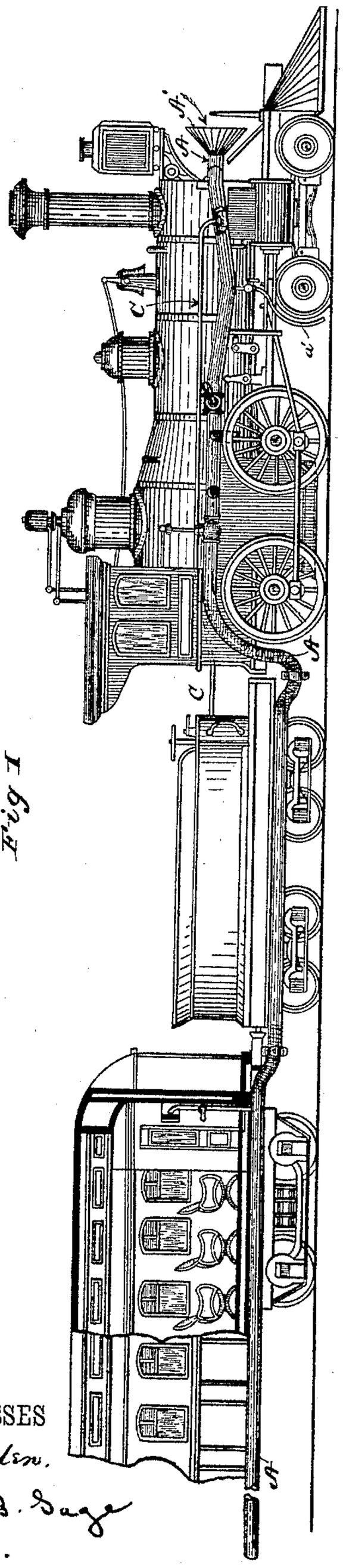

Fig. 1.

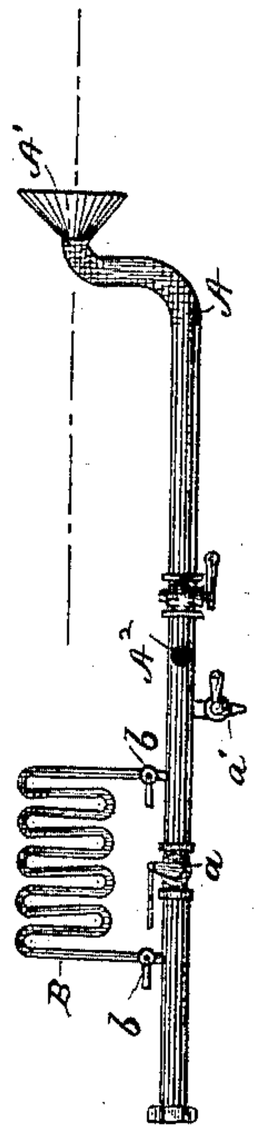

Fig. 2.

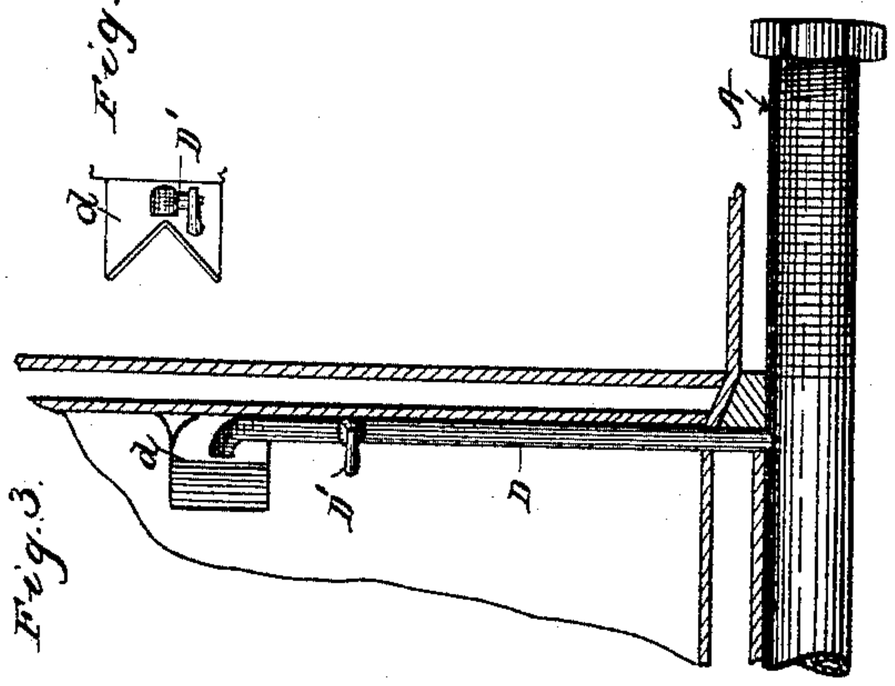

Fig. 4.

Fig. 3.

WITNESSES

W. R. Edelen.

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UNITED STATES PATENT OFFICE.

CHALMER M. C. PRENTICE, OF NORWALK, OHIO.

APPARATUS FOR HEATING AND VENTILATING RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 440,500, dated November 11, 1890.

Application filed January 10, 1890. Serial No. 336,575. (No model.)

To all whom it may concern:

Be it known that I, CHALMER M. C. PRENTICE, of Norwalk, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Apparatus for Heating and Ventilating Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in apparatus for heating and ventilating railway-cars in which the air-tube or conduct that supplies the cars is provided with an enlarged end or hood presenting forward for gathering the air, the air being forced through such conduct by the movement of the train, provision being had for heating the air when necessary and for supplying air by means of a compressor when the train is at rest.

In the accompanying drawings, Figure 1 is a side elevation, partly in section. Fig. 2 is a plan in detail. Figs. 3 and 4 are enlarged, respectively, side elevation and plan in detail.

A represents a tube or conduct for conveying air, preferably, from the forward end of the locomotive to the different cars of the train, such tube having an enlarged end or hood A′, preferably funnel-shaped and presenting forward for gathering the air, the latter being forced through the tube by the movement of the train. This tube or conduct may be of any suitable material, and may lead along the locomotive in position where it will be most out of the way, usually along the sides of the locomotive. A branch-pipe A^2, provided with suitable valves, may lead to an air-compressor. (Not shown, but of ordinary construction and located where it will be most out of the way.) By means of the air-compressor air is supplied to conduct A when the train is at rest.

B is a heating-coil connected with conduct A, valve *b b* being arranged to cut out the heating-coil; but by opening valve *b b* and closing valve *a* in the tube A the air is forced through the heating-coil. The heating-coil may extend into the fire-box or into the steam-space of the locomotive-boiler, whichever may be preferred, according to the construction of such boiler. In case, for instance, of long trains or for other reasons, if the locomotive-boiler should not be of sufficient capacity to do the work, a large stove or furnace of suitable construction for receiving such heating-coil may be located, for instance, in a car at the rear of the engine.

A small water-pipe C leads, for instance, from the water-tank on the tender and discharges into conduct A, for supplying a spray of water to cool the air in hot weather, and conduct A at the lowest point is provided with a drip-pipe *a′*, for discharging the water thus introduced into this conduct. Conduct A is of course provided with a suitable coupling between the different cars, and at the forward end of each ordinary passenger-car a branch pipe or pipes D leads from conduct A into the forward end of the car, pipe D having an elbow presenting rearward and discharging against a double-faced deflector *d*, by engagement with which the air-current is divided and deflected (more or less) in a lateral direction, so that the passengers along the sides of the car will receive the full benefit of such air-current. For sleeping-cars a series of pipes D should lead, respectively, along the sides of each berth, the elbows presenting toward the middle of the car, and with or without deflectors, as may be found necessary, according to circumstances. Each pipe D is provided with a valve D′ for regulating the air-supply. Of course in warm weather the apparatus will be used only for ventilating and cooling purposes, in which case the heating-coil will not be used. By taking the air-supply from the forward end of the engine the air will be comparatively free from dust, smoke, and cinders.

What I claim is—

1. The combination, with train of cars, air-conduct extending lengthwise the train, such conduct having an enlarged end or hood presenting forward and having branch pipes leading into the different cars, of water-pipe connecting with such conduct for spraying water into the latter, said conduct being deflected downward and having a drip-pipe at the lowest point of such downward trend, substantially as set forth.

2. The combination, with a train of cars, of an air-conduct with branches for supplying air to the different cars, substantially as indicated, each branch pipe being provided with a deflector set in line of such discharge for dividing the air-current, substantially as set forth.

In testimony whereof I sign this specfiication, in the presence of two witnesses, this 5th day of November, 1889.

CHALMER M. C. PRENTICE.

Witnesses:

CHAS. H. DORER,

WILL B. SAGE.