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R. H. WHITE.

STEAM AUTOMOBILE.

APPLICATION FILED NOV. 4, 1903.

NO MODEL.

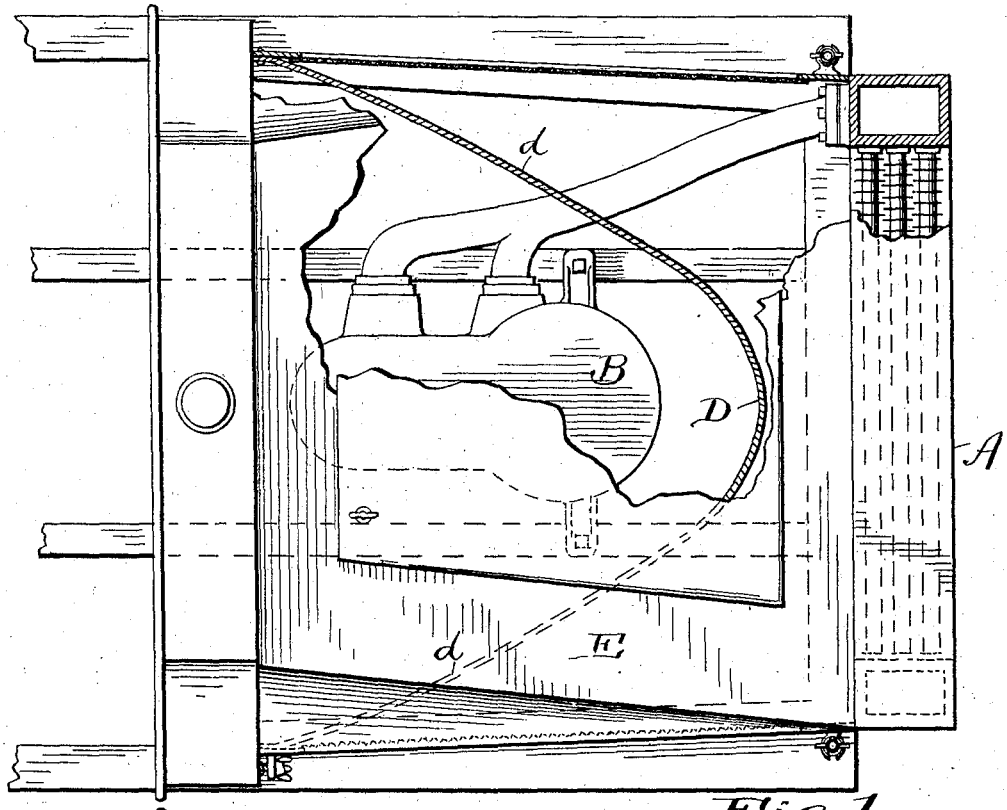


Fig. 1.

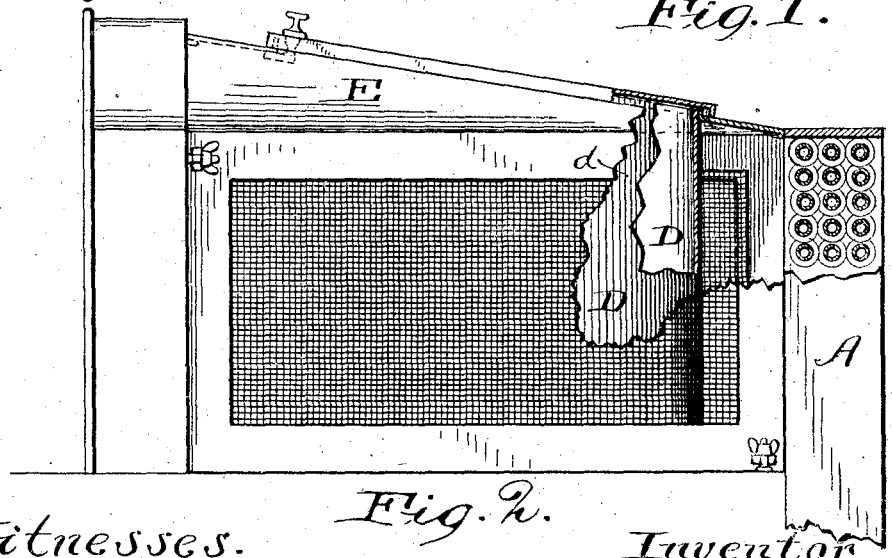


Fig. 2.

Witnesses.
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No. 768,320. Patented August 23, 1904.

# UNITED STATES PATENT OFFICE.

ROLLIN H. WHITE, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## STEAM-AUTOMOBILE.

SPECIFICATION forming part of Letters Patent No. 768,320, dated August 23, 1904.

Application filed November 4, 1903. Serial No. 179,851. (No model.)

*To all whom it may concern:*

Be it known that I, ROLLIN H. WHITE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Steam-Automobiles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The invention is primarily an improvement upon those steam-automobiles which employ a condenser secured to the front end of the vehicle and through which air may pass to cool it and a steam-engine located behind the condenser into which it discharges its exhaust.

The chief object of the invention is to increase the efficiency of the engine without decreasing the efficiency of the condenser employed in connection therewith. The specific embodiment of the invention which the drawings show not only produces this result, but it is easily removed, so that it will not interfere with the inspection, adjustment, and repair of the engine and correlated parts, and it also promotes the comfort of the riders in the automobile by so deflecting the air which has passed over the condenser-tubes that it is not discharged upon said riders.

The invention may be stated generally as the combination, with the steam-engine of an automobile and a condenser located in front of the engine, of a deflector located between the condenser and engine whereby the air which is passed over the condenser-tubes is prevented from coming into contact with the engine.

It also consists in the more specific details of construction and combinations of parts hereinafter described, and pointed out definitely in the claims.

In the drawings, Figure 1 is a plan view of the front part of the steam-carriage, a well-known construction, which is equipped with my invention, a part of the hood being broken away to better show the parts beneath it. Fig. 2 is a side view of the hood and the attached parts partly broken away.

Referring to the parts by letters, A represents the condenser, which is secured to the front end of the running-gear, and B represents the engine, which is secured upon said running-gear just behind the condenser. The parts referred to are of substantially the form in which they are used upon the well-known White steam-car. Their specific form, however, is not essential to the present invention. The condenser employs a plurality of condenser-tubes over and between which a strong current of air flows while the carriage is in motion, and this air in so passing over these condenser-tubes cools them. This is the result sought for; but incidentally in the constructions heretofore known this same air-current strikes and cools the engine and steam-pipes. This is not a desirable result; but, on the contrary, it is a result which materially decreases the efficiency of the engine.

D represents a substantially **V**-shaped deflector, which is preferably made of sheet metal and is placed between the condenser and the engine. Its front and middle part is convex or angular, and it has two rearwardly-extended diverging side wings *d*, which lie on opposite sides of the engine and deflect the air-currents to the sides of the carriage and prevent air-currents coming from the front or side of the engine from striking the same and cooling it.

For various reasons it is desirable to cover the engine and adjacent parts with a removable hood, and such hood (indicated by E) is shown in the drawings. In the construction shown this hood has an imperforate top and substantially open sides—that is to say, open to the passage of air-currents—said sides having a panel which is composed of coarse-wire screen. The hood has no front or rear end. It is to be secured in place over the engine and just behind the condenser by any suitable means. The deflector D referred to is secured in and to this hood, the front and middle part of this deflector being near the front end of the hood, while the rear ends of the deflecting-wings extend to and preferably are

secured to the rear ends of the side members of the hood. When the hood is removed, the deflector goes with it, and therefore does not in any wise interfere with the inspection, adjustment, and repair of the engine and adjacent parts. When the hood is secured in place and the automobile is going forward in use, the air rushes freely through the spaces between the condenser-tubes and cools them, and it is then deflected sidewise and passes out through the perforated or open screen-covered sides of the hood on each side of the carriage, so that it is not discharged upon the passengers in the carriage.

Hoods are used upon gasolene-automobiles to cover and protect the mechanism, which is commonly placed at the front end of the vehicle. In gasolene-automobiles it is desirable that air-currents shall circulate around the engine and its attached parts in order to keep them cool, and the hood serves to direct the air which passes through the condenser-tubes against the engine, where it does serve this purpose; but the air imprisoned within this hood must escape and cannot all escape below the carriage, and therefore it has been customary to cut holes or slits in the upper part of the hood. The hot air which escapes from these holes or slits is discharged right in the faces of the passengers, much to their discomfort. The makers of steam-carriages when they began to place their engines at the front end simply adopted the precise form of hood which has been found useful in gasolene-automobiles; but such a hood, as above stated, while it performed the function of protecting the parts beneath it from injury decreased the efficiency of the apparatus and added to the discomfort of the passengers.

Having described my invention, I claim—

1. The combination, with an automobile which is provided with a steam-engine and with a condenser which is located in front of said engine, of a deflector which is secured between the condenser and engine and is provided with two rearwardly-extended diverging side wings which pass on opposite sides of the engine, substantially as and for the purpose specified.

2. A hood for steam-automobiles having an imperforated top and perforated or open sides, combined with a substantially V-shaped deflector which is secured within said hood and has rearwardly-extended diverging side wings, substantially as and for the purpose specified.

3. The combination with an automobile which is provided with a steam-engine and with a condenser which is located in front of said engine, of a hood which is adapted to be removably secured over the engine and behind the condenser, and a substantially V-shaped deflector secured within the hood and having rearwardly-extended diverging side wings whose rear ends are connected with the rear ends of the sides of the hood, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ROLLIN H. WHITE.

Witnesses:
E. B. GILCHRIST,
E. L. THURSTON.