No. 734,878. PATENTED JULY 28, 1903.

T. H. JAMISON.

MUFFLER.

APPLICATION FILED AUG. 30, 1902.

NO MODEL.

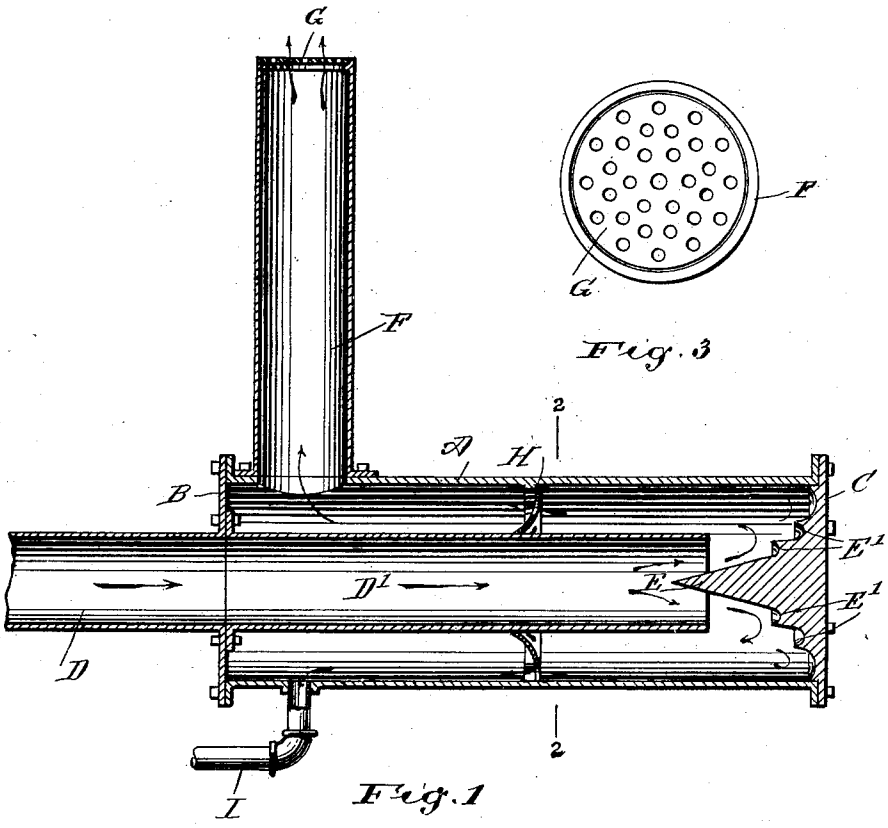


Fig. 1

Fig. 3

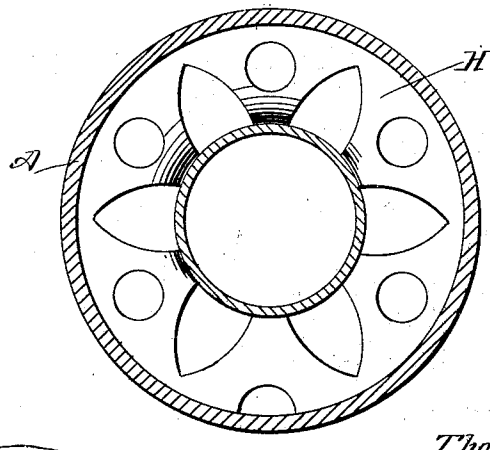


Fig. 2

WITNESSES:

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No. 734,878. Patented July 28, 1903.

UNITED STATES PATENT OFFICE.

THOMAS H. JAMISON, OF CLAYSVILLE, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND HORATIO H. MILLER, OF CLAYSVILLE, PENNSYLVANIA.

MUFFLER.

SPECIFICATION forming part of Letters Patent No. 734,878, dated July 28, 1903.

Application filed August 30, 1902. Serial No. 121,603. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. JAMISON, a citizen of the United States, and a resident of Claysville, in the county of Washington and State of Pennsylvania, have invented a new and Improved Muffler, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved muffler which is simple and durable in construction and arranged to effectively muffle or deaden the exhaust of steam-engines, explosive-engines, or other engines and machines without causing any back pressure in the engine-cylinder.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional elevation of the improvement. Fig. 2 is an enlarged transverse section of the same on the line 2 2 of Fig. 1, and Fig. 3 is an enlarged plan view of the discharge end of the outlet-pipe.

The shell A of the muffler is provided with heads B and C, of which the head B is centrally provided with an inlet-pipe D, connected with the exhaust of the engine, and within the shell A is arranged a terminal inlet-pipe D′, bolted to the head B and forming a continuation of the inlet-pipe D. The other head C at the rear end of the muffler is provided within the shell A with a divider in the shape of a cone E, having a plurality of steps E′ located in different planes, as plainly indicated in Fig. 1, so that the exhaust-steam, vapor, or gas passing through the pipes D D′ is divided by the cone E and its steps and caused to travel in a forward direction between the outer surface of the terminal pipe D′ and the inner surface of the shell A. Thus the exhaust-steam, vapor, or gas is caused to travel toward the forward head B to finally pass into an outlet-pipe F, leading from the top of the shell A and having at its outer end a perforated cap G.

Between the inner end of the terminal pipe D′ and the outlet-pipe F is arranged a breaker H in the form of a perforated ring interposed between the terminal pipe D′ and the shell A, so that the exhaust-steam, vapor, or gas traveling from the divider toward the outlet-pipe F passes through the perforations in the ring to completely break up the force of the exhaust before the latter reaches the outlet-pipe F.

From the bottom of the shell A and from near the forward end thereof leads a pipe I for carrying off any water of condensation or water-jacket water which may pass with the exhaust-steam, vapor, or gas into the muffler.

Now it is evident that by the arrangement described the exhaust-steam, vapor, or gas is divided by the divider on the head C and forced to travel in the opposite direction, so that the exhaust loses part of its force, and by passing through the breaker H the force of the exhaust is still more reduced, so that when the exhaust finally reaches the outlet-pipe F and passes through the perforated cap G thereof very little, if any, force is left in the exhaust, and consequently the exhaust is completely muffled or deadened. By having the cone-shaped divider at the inner end of the shell A it is evident that the exhaust is readily deflected—that is, made to travel in an opposite direction—between the terminal pipe D′ and the shell A, and consequently said driver does not cause back pressure of the exhaust, and consequently all back pressure in the cylinder of the engine is avoided.

The muffler is very simple and durable in construction and can be cheaply manufactured and readily applied to any engine to muffle the exhaust-steam, vapor, or gas thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A muffler, comprising a shell having an inlet-pipe extending centrally in said shell to near the rear end thereof, a stepped con-

ical divider at said rear end with its apex extending into said pipe, said steps being arranged one without the other till the periphery of the shell is reached, an outlet from said shell at the forward end thereof, and a breaker interposed between the shell and inlet-pipe at a point between the conical divider and the outlet of said shell, said breaker being in the form of the frustum of a cone with apertures in its sides, as set forth.

2. A muffler comprising a shell, provided interiorly at the rear end with a stepped, conical divider, an inlet-pipe extending centrally in the said shell and opening on the said divider, an outlet-pipe leading from the top of the shell at the forward end thereof, and a perforated ring interposed between the shell and the inlet-pipe and located between the outlet-pipe and the discharge end of the said inlet-pipe, as set forth.

3. A muffler comprising a shell, provided interiorly at the rear end with a stepped, conical divider, an inlet-pipe extending centrally in the said shell and opening on the said divider, an outlet-pipe leading from the top of the shell at the forward end thereof, a perforated ring interposed between the shell and the inlet-pipe and located between the outlet-pipe and the discharge end of the said inlet-pipe, and a water-discharge pipe in the bottom of the shell, at the forward end thereof, as set forth.

4. A muffler comprising a shell, provided interiorly at the rear end with a stepped, conical divider, an inlet-pipe extending centrally in the said shell and opening on the said divider, an outlet-pipe leading from the top of the shell at the forward end thereof, a perforated ring interposed between the shell and the inlet-pipe and located between the outlet-pipe and the discharge end of the said inlet-pipe, and a perforated cap at the end of the said outlet-pipe, as set forth.

5. A muffler, comprising a shell, provided interiorly at the rear end with a stepped, conical divider, an inlet-pipe extending centrally in the said shell and opening on the said divider, an outlet from the shell at the forward end thereof; and a perforated cap at the end of said outlet-pipe as set forth.

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

THOMAS H. JAMISON.

Witnesses:
C. C. CRACROFT,
GEO. B. SPROWLS.