

Nov. 6, 1923.

1,473,235

EL DORADO JONES

MUFFLER

Filed July 31, 1919

2 Sheets-Sheet 1

Fig. 1.

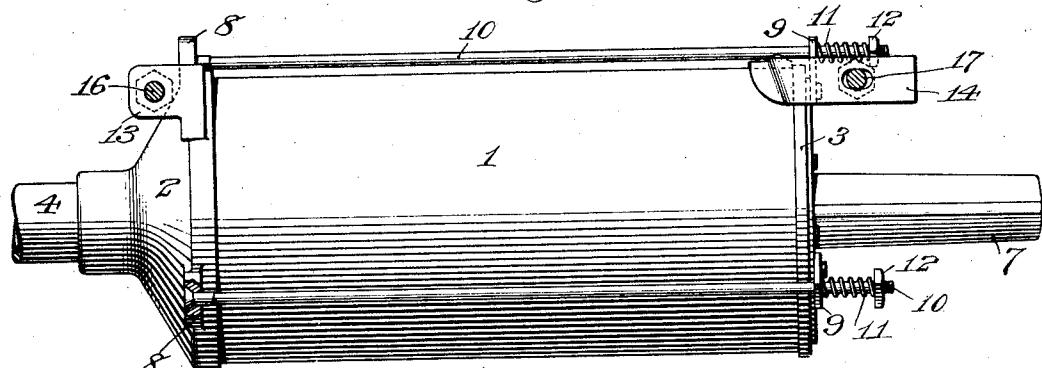


Fig. 2.

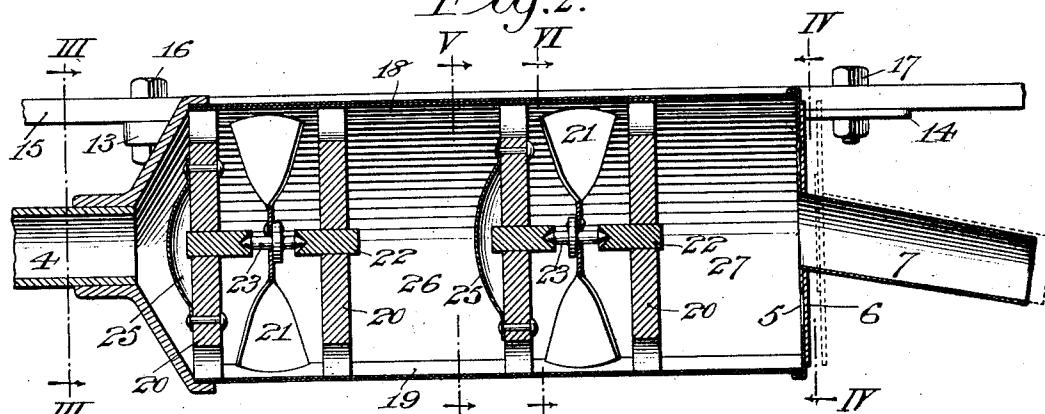
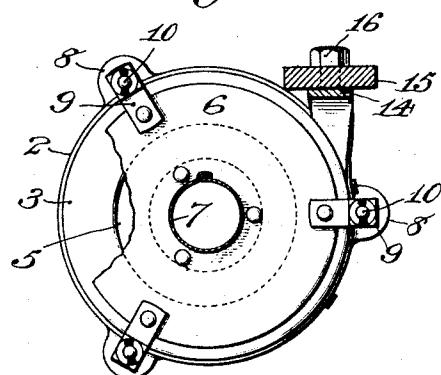
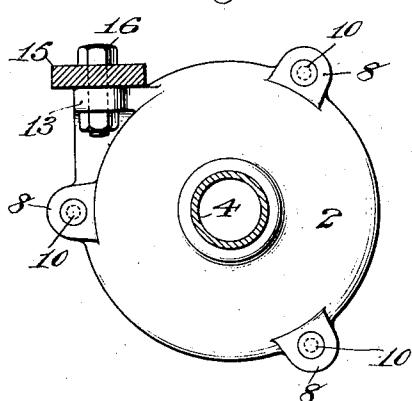


Fig. 3.

Fig. 4.



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Fig. 5.

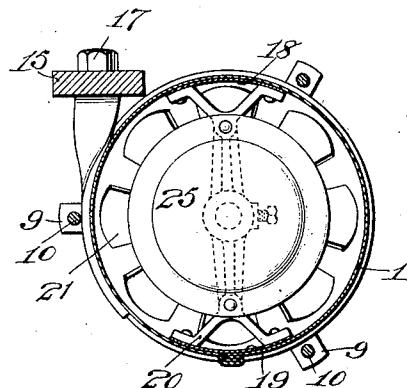


Fig. 6.

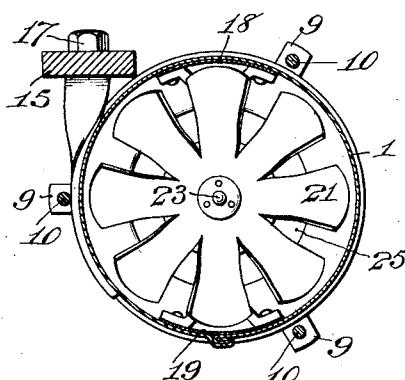


Fig. 7.

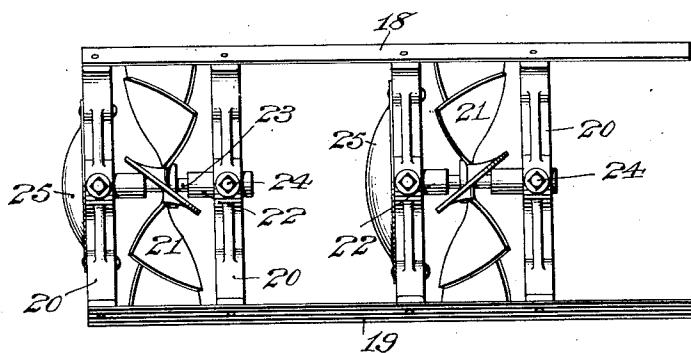


Fig. 8.

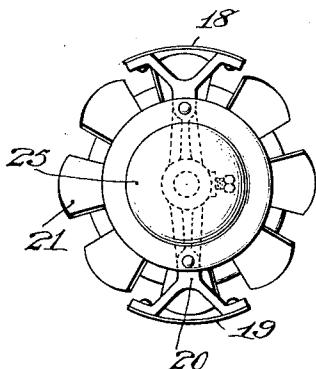
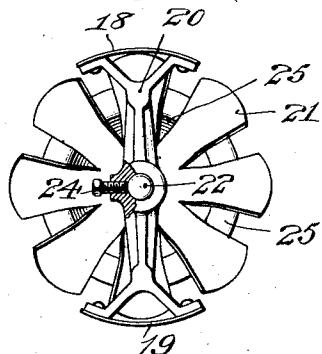


Fig. 9.



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Patented Nov. 6, 1923.

1,473,235

UNITED STATES PATENT OFFICE.

EL DORADO JONES, OF NEW YORK, N. Y.

MUFFLER.

Application filed July 31, 1919. Serial No. 314,402.

To all whom it may concern:

Be it known that I, EL DORADO JONES, a citizen of the United States, and resident of New York, in the county of New York and 5 State of New York, have invented a new and useful Improvement in Mufflers, of which the following is a specification.

My invention includes a device in which the fan carrying frame is readily removable 10 from the casing for examination, repair or replacement of the parts. My invention also includes a yielding outlet cap for relieving the interior of the muffler from undue pressure.

15 A practical embodiment is represented in the accompanying drawings, in which,

Fig. 1 represents my improved exhaust muffler in top plan.

Fig. 2 represents the muffler in longitudinal central section.

Fig. 3 represents a transverse section taken in the plane of the line III—III of Fig. 2.

Fig. 4 represents a similar section taken in the plane of the line IV—IV of Fig. 2.

25 Fig. 5 represents a similar section taken in the plane of the line V—V of Fig. 2.

Fig. 6 represents a similar section taken in the plane of the line VI—VI of Fig. 2.

Fig. 7 represents the fan carrying frame 30 in side elevation, removed from the casing.

Fig. 8 represents a front end view of the frame.

Fig. 9 represents a rear end view of the frame.

35 The casing comprises a cylindrical body 1 having inlet and outlet heads 2 and 3. The inlet head 2 is of frusto-conical shape and is arranged to receive the exhaust pipe 4 which is herein shown as located on the longitudinal axis of the muffler. This inlet head 2 is removably attached to the end of the body 1.

40 The outlet head 3 is permanently secured to the other end of the body 1 and it is provided with a hole 5 therethrough. An outlet cap 6 is provided with the muffler outlet pipe 7. This cap is held yielding over the hole 5 in the outlet head 3. The inlet head 2 is provided with a plurality, in the present instance three, lugs 8 and the outlet cap 6 is similarly provided with a plurality, in the present instance three, lugs 9. Tie rods 10 extend from the lugs 8 through the lugs 9 and springs 11 are interposed between 55 the lugs 9 and nuts 12 for yieldingly holding

the outlet cap against the outlet head 3 over the hole 5.

The muffler may be provided with suitable brackets 13 and 14 whereby the muffler may be secured to a suitable support 15 by bolts 60 16 and 17.

I provide a fan carrying frame which may be readily removed from or inserted into the body 1 of the muffler by the removal of the inlet head 2. This frame, in the present instance, comprises two diametrically opposed longitudinal bars 18, 19, connected by bridges 20. These bars slidably fit the inner walls of the body 1 of the muffler. The ends of the frame abut against the inlet and 65 outlet heads 2 and 3, to properly position the frame within the muffler. One or more, in the present instance two, rotatable fans 21 are mounted in the bridges 20, which bridges are shown as arranged in pairs, one bridge 70 75 of each pair immediately in front of a fan and the other bridge immediately back of the fan. These fans 21 are located transverse to the muffler and rotate on axes located on the longitudinal central axis of the muffler.

The journals 22 for the fan shafts 23 are adjustably secured in the bridges 20 by suitable set screws 24.

80 Centrally arranged deflectors 25 herein shown of convex form are secured to the bridges immediately in front of the fans 21 so as to direct the gases passing through the muffler, to the outer and more effective portions of the fans.

These fans are spaced apart preferably to 90 form a considerable chamber 26 between the fans and a considerable chamber 27 between the rear fan and the outlet head. However, this arrangement of the fans may be varied to suit different requirements.

95 From the above description, it will be seen that should there by any tendency to momentarily unduly increase the pressure within the muffler, the outlet cap 6 will open the hole 5 and thus give an auxiliary escape 100 for the gas until the undue pressure is past.

Furthermore, by mounting the fans and deflectors on a frame which may be readily removed from the muffler, I am enabled to examine, renew, or replace the parts, thus materially adding to the life and efficiency of the muffler.

105 It is evident that various changes may be resorted to in the construction, form and arrangement of the several parts without de- 110

parting from the spirit and scope of my invention, hence I do not wish to limit myself to the particular embodiment herein shown, but:

5. What I claim is:

1. A muffler comprising a casing having inlet and outlet heads, the outlet head having a hole therethrough, an outlet cap having a main exhaust passage connected directly with the interior of the muffler and means for yieldingly holding the cap closed over said hole.
2. A muffler comprising a casing, a frame removably mounted therein, one or more fans rotatably mounted in the frame and one or more centrally arranged deflectors carried by said frame in front of said fan or fans.
3. In a muffler, a casing, a frame removably mounted therein comprising longitudinal bars slidably fitting the inner walls of the casing and bridges connecting said bars, and one or more fans rotatably mounted in said bridges.
4. In a muffler, a casing, a frame remov-

ably mounted therein comprising longitudinal bars slidably fitting the inner walls of the casing and bridges connecting said bars, one or more fans rotatably mounted in said bridges, and one or more deflectors carried by said frame in front of said fan or fans. 25

5. A muffler comprising a casing having inlet and outlet heads, the outlet head having a hole therethrough, a cap for said hole, having an outlet passage smaller than the hole and means for yieldingly holding the cap closed. 30

6. A muffler comprising a casing having inlet and outlet heads, the outlet head having a hole therethrough, a cap for said hole, means for yieldingly holding the cap closed, 40 said means including lugs on said cap, tie rods projecting through said lugs, nuts on said tie rods beyond said lugs and springs located between the lugs and nuts.

In testimony that I claim the foregoing 45 as my invention, I have signed my name this 29th day of July, 1919.

EL DORADO JONES.