

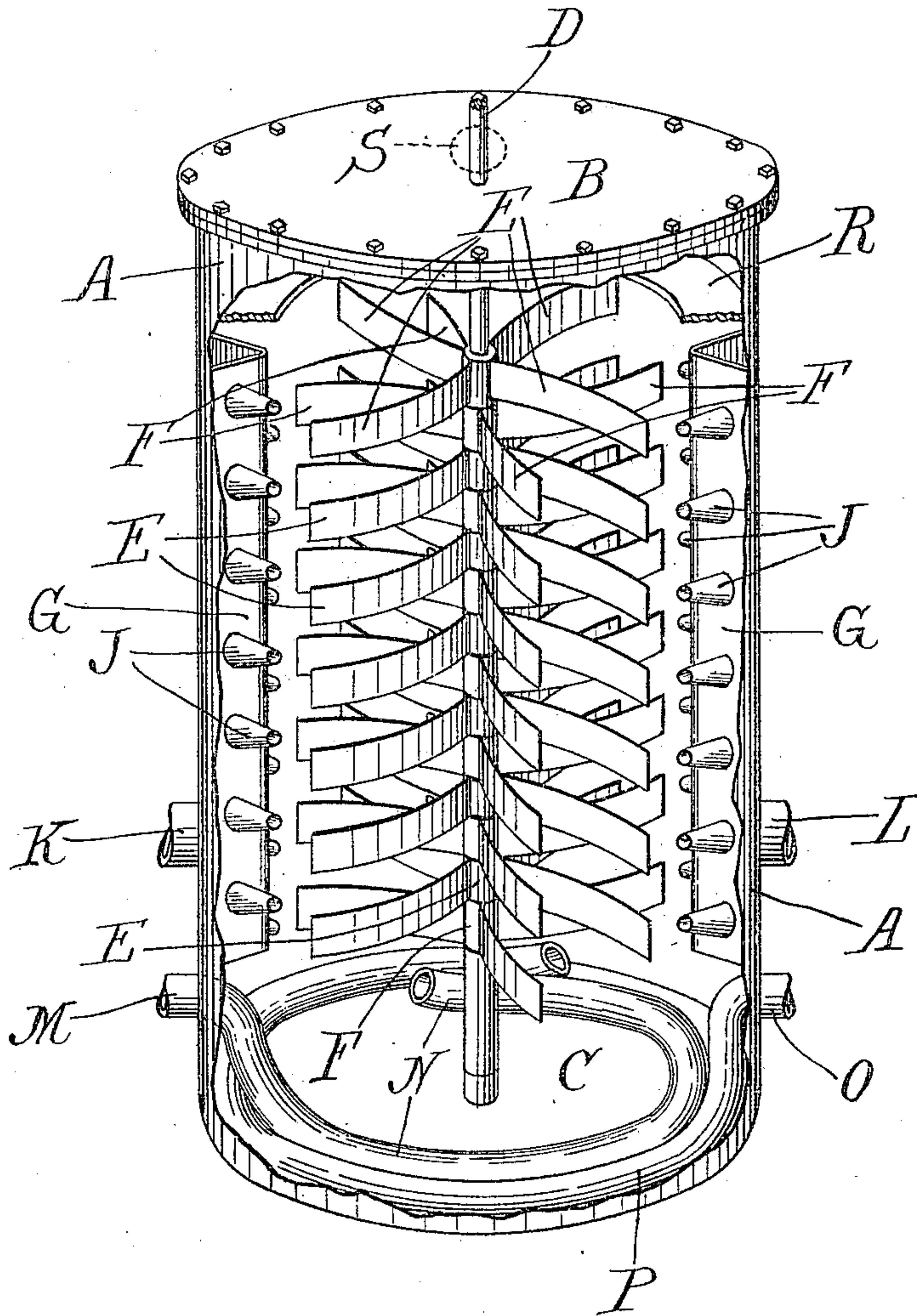
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GAS MIXER.

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959,597.

Patented May 31, 1910.



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# UNITED STATES PATENT OFFICE.

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## GAS-MIXER.

959,597.

Specification of Letters Patent.

Patented May 31, 1910.

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*To all whom it may concern:*

Be it known that I, CHARLES V. POLLOCK, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented a certain new and useful Improvement in Gas-Mixers, of which the following is a specification.

My invention relates to a fluid mixer, particularly such as is to be used for mixing gas and air to produce a highly combustible mixer to be used for securing high temperature.

It is illustrated in the accompanying drawing, wherein the figure represents a side elevation with parts broken away to show the internal structure.

A is a cylindrical case having the top B, the bottom C and the vertical shaft D. On this shaft are mounted a series of fan-like structures with curved wings, each successive fan having wings curved in the opposite direction. The fans having wings rotating in one direction are indicated by the letter E and those which rotate in the opposite direction by the letter F. Along the sides of the cylinder are the two vertical deflectors G G, each provided with a series of short diagonally placed, funnel shaped discharge pipes J. The gas inlet K opens back of one of these deflectors, and the air inlet L back of the other.

M is a supplementary gas inlet having a long discharge pipe N within the case.

O is a supplementary air inlet having a long discharge pipe P within the case.

R is an annular flange in the top of the case above the deflectors, and S is a discharge pipe at the upper portion of the case.

I wish my drawings to be taken as diagrammatic and also to have it understood that the various forms and constructions shown are offered as suggestive of the various ways in which the principle of my invention may be practiced. I do not wish to be limited to the precise form and arrangement and proportion of the parts shown for I know that the principle of the invention may be utilized in greatly varying structures.

The use and operation of my invention are as follows:—The gas is introduced through the inlet pipe K and air through the inlet pipe L. The inclined pipes from their re-

spective deflectors are stationed in opposition to their respective associated fans, the result being that the two series of fans are rotated in opposite directions, thus thoroughly stirring and mixing the two inleading gases. The mixed product is taken out of the discharge pipe S. The action is further facilitated by the long inleading pipes N and P in the bottom of the case, which are also arranged at their discharge ends so as to discharge upwardly through the moving fans thus aiding the mixing process.

I claim:

1. A gas mixing device comprising a chamber, a plurality of gas inleading ducts, and intermediate them means for distributing and mixing such gases comprising a plurality of independent rotatable fan-like structures, and means for directing the gas against their wings.

2. A gas mixing device comprising a chamber, a plurality of gas inleading ducts in the sides thereof, and intermediate them means for distributing and mixing such gases comprising rotatable fan-like structures, and means for directing the gas against their wings, said fan-like structures adapted to successively rotate in opposite directions.

3. A gas mixing device comprising a cylindrical chamber with a plurality of inleading gas ducts in the sides thereof and discharging into the chamber, and a series of plates between the pipes in the chamber mounted so as to rotate, said plates arranged in fan-like form, the successive fans set to rotate in opposition directions.

4. A gas mixing device comprising a cylindrical chamber with a plurality of inleading gas ducts discharging into the chamber, a series of plates between the pipes in the chamber mounted so as to rotate, said plates arranged in fan-like form, the successive fans set to rotate in opposite directions, and deflector and distributing plates in front of the ducts.

5. A gas mixing device comprising a cylindrical chamber with a plurality of inleading gas ducts discharging into the chamber, a series of plates between the pipes in the chamber mounted so as to rotate, said plates arranged in fan-like form, the successive fans set to rotate in opposite directions,

and deflector and distributing plates in front of the ducts, each consisting of a series of tangentially arranged funnel shaped pipes.

6. A gas mixing device comprising a case,  
5 a series of rotatable fan-like structures, gas and air inleading devices which discharge against the fans so as to rotate them in op-

posite directions, and supplementary gas and air inleading devices which discharge into the midst of such rotating fans.

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Witnesses:

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