

1,097,435.

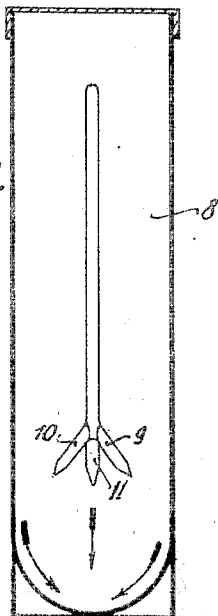
Fig. 3.



Fig.



Fig. 2.



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UNITED STATES PATENT OFFICE.

FRIEDRICH WILHELM HINKEL, OF TEMPELHOF, NEAR BERLIN, GERMANY, ASSIGNOR,
BY MESNE ASSIGNMENTS, TO INTERNATIONALE FEUERLÖSCHER GESELLSCHAFT
M. B. H., OF BERLIN, GERMANY, A FIRM.

APPARATUS FOR EXTINGUISHING FIRES.

1,097,435.

Specification of Letters Patent.

Patented May 19, 1914.

Application filed December 15, 1911. Serial No. 665,885.

To all whom it may concern:

Be it known that I, FRIEDRICH WILHELM HINKEL, a subject of the King of Prussia, residing at Tempelhof, near Berlin, in the Kingdom of Prussia, in the German Empire, have invented certain new and useful Apparatus for Extinguishing Fires; 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 appertains to make and use the same.

My invention relates to improvements in fire-extinguishing apparatus, and it consists in the constructions, combinations and arrangements herein described and claimed.

The object of my invention is to provide an improved apparatus for thoroughly mixing a powdered fire-extinguishing substance with a heavy inert gas and efficiently supplying such mixture to the fire; whereby the powder tends to prevent escape of the admixed inert gas, and maintains such gas in close contact with the fire for preventing the entrance of air between the powder particles.

In the accompanying drawings, forming a part of this application, and in which similar reference symbols indicate corresponding parts in the several views:— Figure 1 is a side elevation, partly in section, of the fire extinguisher; Fig. 2 is a section on the line II—II of Fig. 1; Fig. 3 is a section on the line III—III of Fig. 1, and, Fig. 4 illustrates cross-sections of different forms of discharge outlets for the chamber nozzle.

Referring to the construction in detail, the apparatus comprises a powder tank 8 provided with a curved base 12 and a tapered discharge nozzle 7 extending therefrom; the walls of said tapered nozzle being formed of two conical portions intersecting at acute angles along axial elements at 13 and extending to a discharge outlet preferably of flat cross section for efficiently spreading the discharged powder. A storage tank 1 for a suitable compressed inert gas is secured to the casing 8 and provided with a gas supply pipe 2 extending downwardly within the rear wall of said casing. The gas supply pipe is provided with diverging nozzles 9 and 10 adapted to direct jets of gas against

the curved bottom wall 12 of the tank by which it is deflected against the lower conical wall of the discharge nozzle 7, and with a projecting nozzle 11 adapted to direct a jet of gas against the upper conical wall of said nozzle; the gas jets thus directed simultaneously against the upper and lower conical walls of the discharge nozzle impinging at the intersection of said walls to cause a strong whirling motion of said gas (as indicated by the arrows), whereby the latter is discharged with a whirling action through said nozzle. This provides a very advantageous construction by which the powder and gas are efficiently discharged in a thoroughly mixed condition, and which prevents lodgment or packing of the powder on the walls of the nozzle.

It will be noted that by my improved construction the curved bottom wall 12 and the impinging gas jets within the tapered nozzle act to successively impart a whirling motion to the gas in two different planes.

I have illustrated preferred and satisfactory constructions, but changes could be made within the spirit and scope of my invention.

I claim:—

1. A fire extinguishing apparatus comprising a powder chamber provided with a tapered discharge nozzle having walls formed of two conical portions intersecting in relative angular relation along axial elements; and a plurality of gas discharging nozzles for directing independent jets of gas along said intersecting conical portions for causing a strong whirling action in said tapered discharging nozzle.

2. A fire-extinguishing apparatus comprising a powder chamber provided with a tapered discharge nozzle having walls formed of two conical portions intersecting at acute angles along axial elements, and means for directing independent jets of gas along said intersecting conical portions for causing a strong whirling action in said nozzle.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRIEDRICH WILHELM HINKEL.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.