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H. MORRISON
LABORATORY APPARATUS

2,045,866

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Fig. 1.

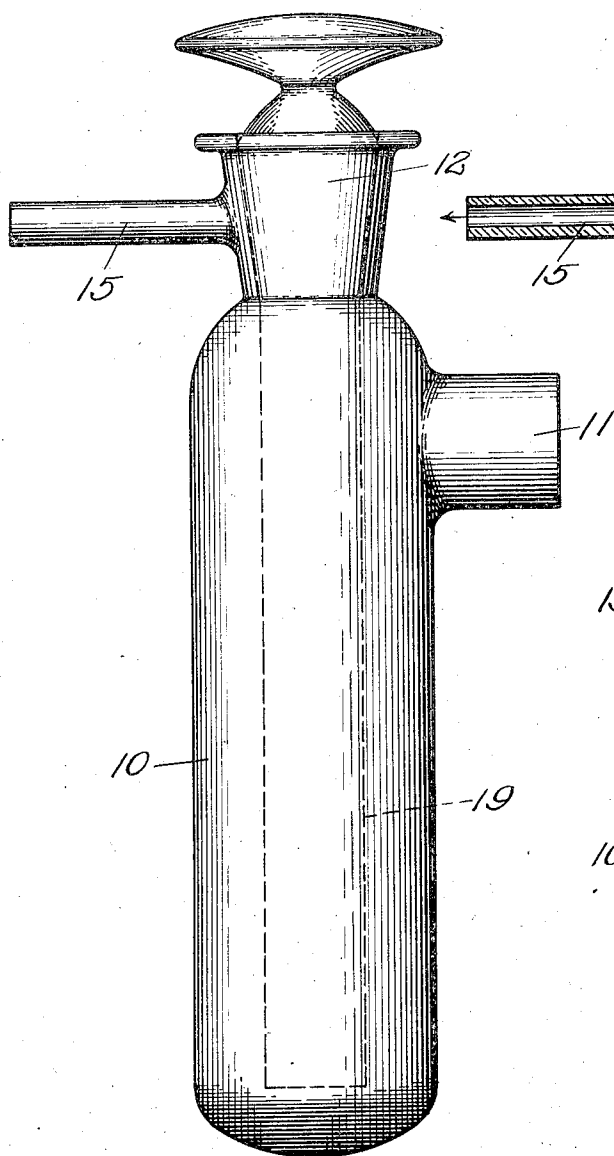
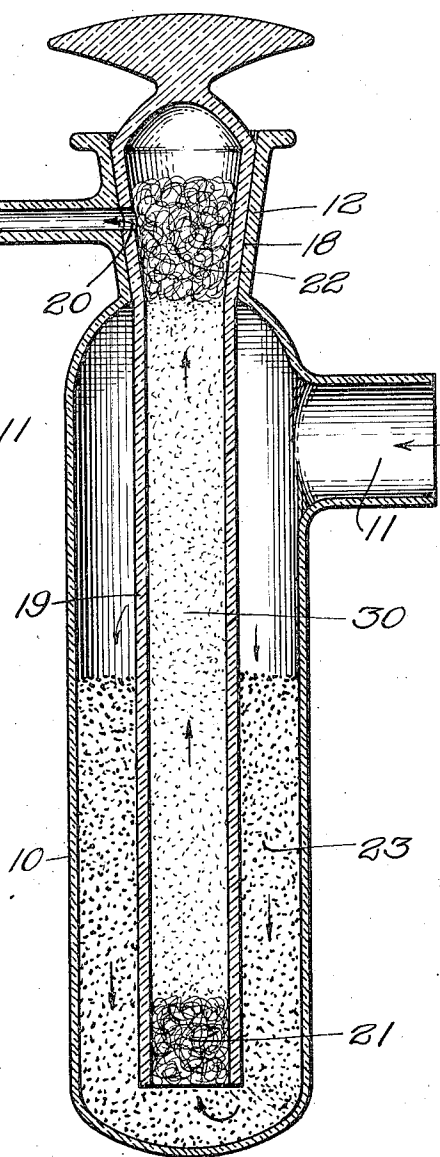


Fig. 2.



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LABORATORY APPARATUS

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1 Claim. (Cl. 23—292)

This invention relates to improvements in laboratory apparatus and, more especially, a device adapted for use in a combustion carbon train (for the determination of carbon in steels) ahead of the absorption tube (which absorbs the carbon dioxide) so that the gases will be dried and purified before reaching such tube. My improved device may be referred to in the art as a combination zinc and drying tube and although especially adapted for use in a combustion carbon train, it is evident that the same may be used in any case for the purpose of drying and purifying gases.

Among the features of my invention is the provision of a device of the character described that is durable, efficient and easily constructed. My device is also made so that it can be easily cleaned, inspected and refilled. Another feature of my invention is the provision in a single bottle of means for both drying and purifying gases.

By the use of my invention, the length of the combustion carbon train can be shortened, one set of connections can be eliminated and one tube is made to perform two functions heretofore ordinarily performed by two tubes.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawing—

Figure 1 is a view in side elevation; and Fig. 2 is a vertical sectional view.

The combination zinc and drying tube is preferably made of annealed glass or Pyrex glass. As shown in the drawing, it includes a bottle 10 provided with a neck 12 having a hole in one side thereof opening into an outlet pipe 15. The bottle is provided with an inlet opening or tube 11 below the neck.

18 indicates a hollow stopper having a hole 20 adapted to register with the hole 13 in the neck.

The stopper is provided with a depending tube 19 with its bore communicating with the interior of the stopper. The stopper 18 has a ground glass fit inside of the neck 12 of the bottle.

In the use of the device for drying and purifying gases, particularly as used in apparatus for determining the carbon dioxide content of furnace combustion gases, I may place a suitable drying agent, for example, anhydron, hydralo, calcium chloride, or the like, as indicated by 30 in the tube 19 between the glass wool stoppers 21 and 22. After this tube has been placed in the bottle and the stopper 18 seated in the neck, the bottle outside of the tube is filled with granulated zinc 23. In the use of the device, gases to be dried and purified enter the bottle through the opening 11, flow first through the zinc and then upwardly through the drying agent 30, leaving the bottle through the pipe 15.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claim, in which it is my intention to claim all novelty inherent in my invention as broadly as permissible, in view of the prior art.

What I claim as new, and desire to secure by Letters Patent, is:

A glass device of the character described, including a bottle having a neck with a hole in one side thereof, and provided with an inlet tube below the neck and of sufficient diameter to permit the easy insertion of powdered solid material therethrough; a ground hollow stopper having a hole adapted to register with the hole in the neck; and a depending tube carried by the stopper whose bore is of a size sufficient to hold a drying agent, said bore communicating with the interior of the stopper.

HARRY MORRISON.