J. D. McKAY.

DEVICE FOR CREATING A DRAFT THROUGH SMOKE STACKS.

APPLICATION FILED MAR. 23, 1911.

1,013,887.

Patented Jan. 9, 1912.

2 SHEETS—SHEET 1.

Fig. 2.

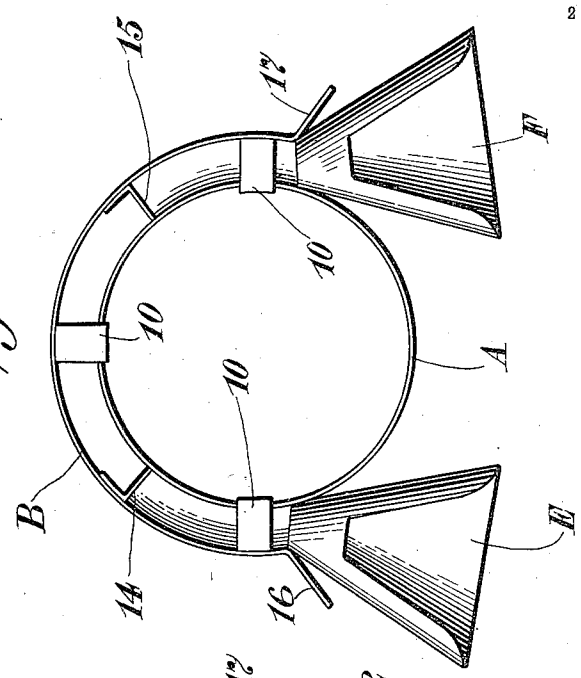
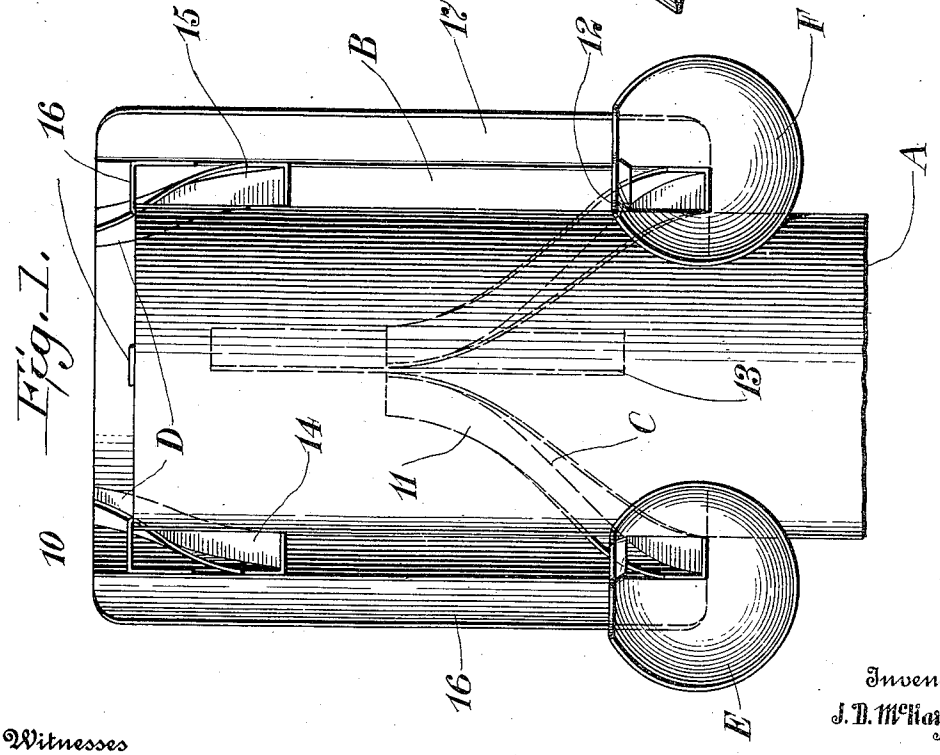


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 4.

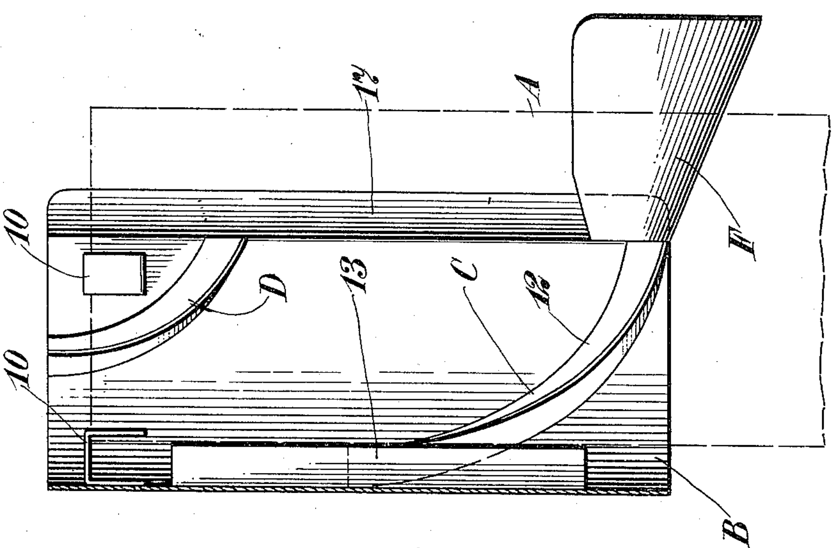
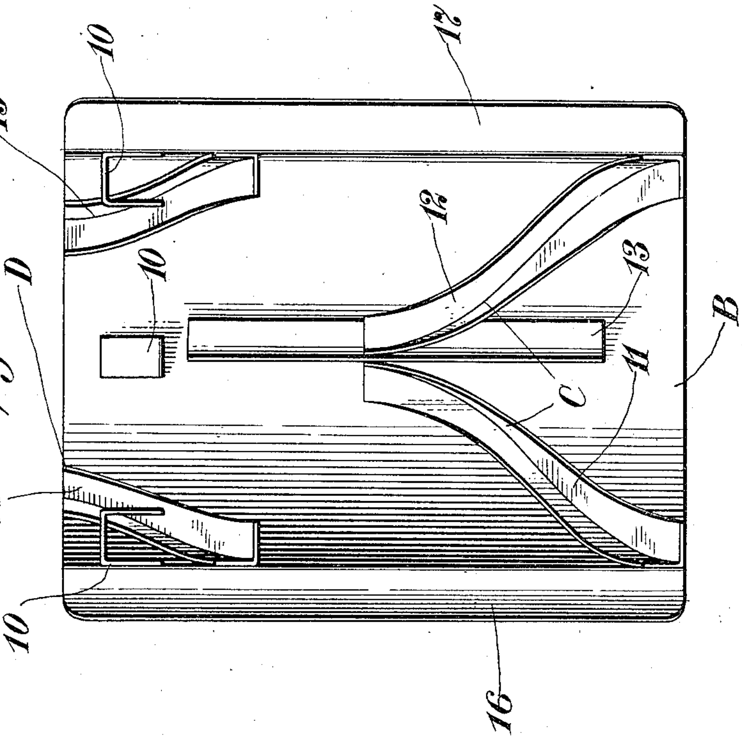


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES DONNELLY McKAY, OF ST. JOHN, NEW BRUNSWICK, CANADA, ASSIGNOR OF ONE-HALF TO JARVIS CARRY PURDY, OF ST. JOHN, CANADA.

DEVICE FOR CREATING A DRAFT THROUGH SMOKE-STACKS.

1,013,887. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed March 23, 1911. Serial No. 616,549.

To all whom it may concern:

Be it known that I, JAMES DONNELLY McKAY, of the city of St. John, in the Province of New Brunswick, Dominion of Canada, have invented certain new and useful Improvements in Devices for Creating a Draft Through Smoke-Stacks, of which the following is a specification.

My invention relates to an improved device for creating and assisting a draft through a smoke stack, whether on a moving vehicle, such as a train, or in a stationary location such as the chimney of a factory.

The objects are to utilize the lateral air currents which are passing through the chimney or stack to assist in creating a draft therethrough, which result is accomplished by deflecting the lateral air currents upwardly through the means hereinafter described in the accompanying specification and drawings.

In the drawings: Figure 1 is a front elevation of the invention as applied to a locomotive smoke stack. Fig. 2 is a plan view of the same. Fig. 3 is an elevation of the device without the stack and with the funnels removed. Fig. 4 is a vertical section with the stack indicated in dotted lines.

In the drawings like figures of reference indicate corresponding parts in each figure.

Referring to the drawings, A represents the smoke stack of an ordinary locomotive, but it is to be understood that the invention may be applied to any form of stack or chimney in which it is desired to create a draft.

According to the present invention, the draft is created through the medium of a plurality of inclined deflecting wings on the exterior of the chimney adapted to deflect the lateral air currents upwardly. As applied to locomotive chimneys, these wings are surrounded by a shell adapted to open at the forward side for the reception of air.

In the drawings, B represents the shell which is semi-cylindrical in form and is supported from the top of the chimney by means of a plurality of supporting members 10 in the form of hooks which extend over the top of the chimney. The shell is spaced from the chimney by means of the deflecting wings.

There are, in the embodiment illustrated, two sets of deflecting wings C and D, the lower set comprising two spirally extending wings 11 and 12 which extend from the bottom open edge of the shell to the center of the rear thereof, where they meet a vertically extending wing 13. The upper set D comprises two short wings 14 and 15 which extend from a short distance below the top to a short distance around the periphery.

The wings, in addition to serving as a guide for the air current, space the shell from the smoke stack and the edges of the shell itself are provided with outwardly flaring wings 16 and 17 adapted to catch the air, which would otherwise pass the side of the smoke stack.

In order to further concentrate the air current and to collect those from below the shell, funnel members E and F are provided at the bottom of the shell, said funnel members discharging into the shell immediately above the bottom of the wings 11 and 12.

In operation, when the locomotive is in motion, the rapidly moving air currents against the chimney are deflected by the wings in an upward direction, thereby producing in effect a forced draft through the smoke stack. The upper wings 14 and 15, in addition to serving as a guide for the air entering near the top of the shell, prevent such air acting as a damper to that which entered below. The funnel members E and F also serve to compress the air and intensify the draft.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. The combination with a smoke pipe, of a partially cylindrical shell surrounding the same, supporting members on the shell adapted to extend over the top of the smoke pipe by which the shell is supported on the exterior below the top of the pipe and deflecting wings within the shell spacing the same from the pipe and adapted to deflect the air upwardly.

2. The combination with a smoke pipe of a partially cylindrical shell surrounding the same and spaced a slight distance therefrom, a pair of spiral wings leading from the bot-

tom of the shell upwardly and meeting at the center and a vertically extending wing at the juncture of said aforesaid wings.

3. The combination with a smoke pipe of a partially cylindrical shell surrounding the same, a set of inclined wings leading from the bottom of the shell upwardly and a second set of spirally inclined wings leading from a point a short distance below the top of the shell.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JAMES DONNELLY McKAY.

Witnesses:

JOSHUA E. COWAN, Jr.,

CHARLES FENSON SANFORD.