DE WITT T. LYON.

VENTILATING DEVICE.

APPLICATION FILED APR. 18, 1921.

1,425,028. Patented Aug. 8, 1922.

Fig. 1.

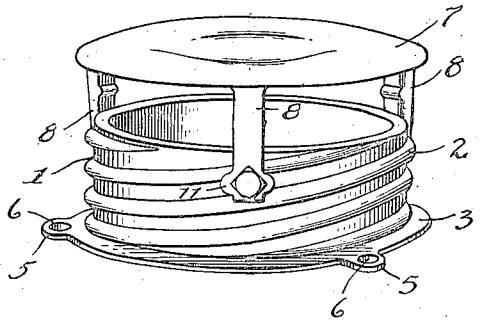


Fig. 2.

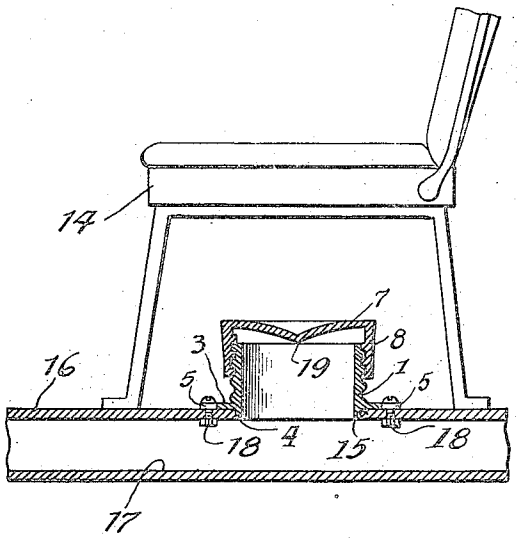
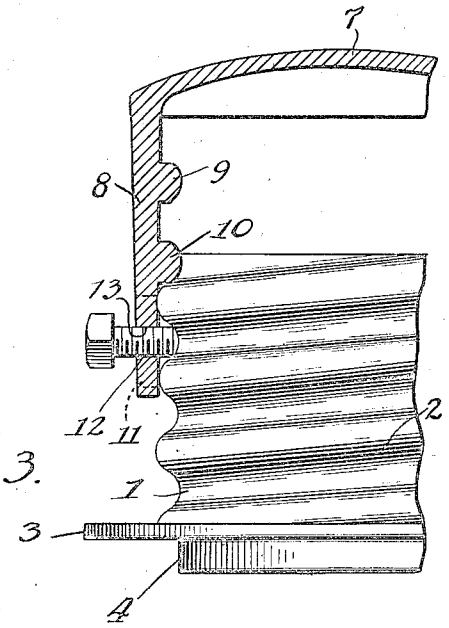


Fig. 3.



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UNITED STATES PATENT OFFICE.

DE WITT TAYLOR LYON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO FRANK MELLISH, OF CHICAGO, ILLINOIS.

VENTILATING DEVICE.

1,425,028. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed April 18, 1921. Serial No. 462,388.

To all whom it may concern:

Be it known that I, DE WITT TAYLOR LYON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Ventilating Devices, of which the following is a full, clear, and exact description.

My invention relates to improvements in ventilating devices, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to provide an adjustable ventilator of the so-called mushroom type that is adapted to be adjusted more quickly and readily in service than any now in use.

A further object of my invention is to provide a device of the character described in which means are provided for locking the relatively movable parts together in any adjusted position.

A further object of my invention is to provide a device of the character described that is designed to deflect a current of air as desired and in which no obstruction is interposed to prevent in service the passage of a ventilating fluid as desired.

A further object of my invention is to provide a device of the character described that is simple in construction and operation, consisting essentially of but two parts, each of which may be formed in a single operation, and which is therefore thoroughly practical commercially.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a perspective view of the device.

Figure 2 is a vertical section through the device showing the device applied.

Figure 3 is an enlarged portion of the device showing the cover in section.

I am aware that adjustable ventilators of the character described have been provided prior to my invention. Such devices, while probably theoretically operative, have been found to be not altogether satisfactory in practice in that difficulty is encountered in making the required adjustments in service. For example, such devices are commonly installed in theaters and the like and are then positioned beneath chairs or in other places not readily accessible. On account of temperature changes and other changing conditions, frequent adjustments of the devices are essential to the proper ventilation of the room in which installed. In the devices of which I am aware, a spider is embodied in the top or upper part of each and a rod passing therethrough must be gripped and turned in order to vary the adjustment of the device. It is therefore difficult to determine when a desired adjustment is completed, the spider obstructs the passage of a ventilating fluid through the device, and the parts of the device are ordinarily not locked in adjusted position. It has developed that a period of several months is required to complete the adjustment of the number of ventilating devices necessary to the maintenance of a healthful condition in a large theater whereas the same number of my improved ventilating devices can be adjusted under like conditions by the same number of workmen in a period of less than two days.

In carrying out my invention, I provide a frame having a cylindrical body portion 1 formed with a spirally directed continuous rib 2 extending exteriorly thereof and constituting a thread of relatively great pitch, as clearly shown in the drawings. The body portion 1 is formed integrally with a flange 3 extending outwardly therefrom at a spaced distance from its lower end, the part 4 of the body portion located below the flange 3 being unthreaded. The flange 3 is fashioned with lug extensions 5 spaced apart and provided each with an opening 6 therethrough.

A cover 7 is adapted to close the upper end of the body portion 1 and is formed with a plurality of integral spaced apart depending similar legs or lug extensions 8. Each of the legs 8 is substantially perpendicular to the plane of the cover 7 and is provided with spaced apart parallel guiding ribs 9 and 10 extending inwardly from the inner wall thereof for engagement with the thread 2 of the body portion 1, whereby the cover is supported in any desired vertical position relative to the upper end of the

body portion 1 that is possible while the guiding ribs 9 and 10, or the lower guiding ribs 10 alone, are positioned to engage the thread 2, which, as has been stated, is a spirally directed supporting rib. One of the legs 8 is enlarged, as at 11, adjacent to its lower end, and a set screw 12 projected through a threaded opening 13 therein may be operated to lock the cover 7 in any adjusted position relative to the body portion 1.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The device may be positioned beneath a chair 14 in a theater or other place of assembly so that the end portion 4 of the frame fits an opening 15 in a floor 16 or the like. The opening 15 communicates with a duct 17 through which air or other ventilating fluid passes into or from the room in which the device is installed. The flange 3 overlies the floor 16 and the frame is rigidly secured in place by bolts 18 projected through the openings 6 and the floor 16. In practice, fresh air will be forced into the room from the duct 17 through the body portion 1 and the volume of air passing through the latter may be regulated at will by adjusting the cover 7 to enlarge or diminish the open space between the cover and the upper end of the body portion. The pitch of the spirally directed supporting rib 2 in the form of the device now preferred by me is such that one complete revolution of the cover in one direction will occasion the moving of the latter from completely open position to completely closed position with respect to the frame. Consequently, the cover 7 may be moved instantly to admit any desired volume of fresh air from the duct 17 into the room and when the adjustment has been completed, operation of the set screw 12 in one direction will hold the cover against movement relative to the frame. It will be observed that the central portion of the cover 7 is depressed, the vertex 19 at the center thereof depending into a plane below that of the edge portions thereof. The air passing upwardly through the body portion 1 is thus deflected outwardly in all directions equally. The upper surface of the cover has no projections that might occasion the tearing of a garment or the like that was moved into contact therewith.

The frame and the cover may be made of any suitable material. I prefer to make them of metal and in practice the frame and the cover are each cast integrally in a single operation, whereby the device may be produced economically.

I claim:

1. A device of the character described comprising a casing, a cover having downwardly projecting legs adapted to abut the outside of said casing, and locking means carried by one of said legs for locking said cover against movement with respect to said casing.

2. A device of the character described comprising a cylindrical casing having a spiral rib in its outer wall, and a cover having downwardly projecting legs adapted to abut the outer wall of said casing, said legs having inwardly extending ribs adapted to engage with said spiral rib.

3. A device of the character described comprising a cylindrical casing having a spiral rib in its outer wall, a cover having downwardly projecting legs adapted to abut the outer wall of said casing, said legs having inwardly extending ribs adapted to engage with said spiral rib, and a set screw carried by one of said legs and being adapted to engage with the outer wall of said casing.

4. A device of the character described comprising a frame having a cylindrical body portion provided with a flange adjacent to one end thereof adapted to engage with a surface margining the port of a ventilating duct, said body portion being fashioned with a spirally directed supporting rib exteriorly thereof, and a cover for said body portion, said cover being formed with a plurality of depending legs each formed with a guide rib adapted to engage with the spirally directed supporting rib, whereby the cover is supported in adjusted position with respect to the adjacent end of said body portion.

5. A device of the character described comprising a frame cast integrally of metal and having a cylindrical body portion adapted to be secured in the port of a ventilating duct, said body portion being provided with a spirally directed rib exteriorly thereof, a cover for said body portion, said cover being cast integrally of metal and formed with a plurality of spaced apart guide legs extending at right angles to the plane of the remote side of the cover, each of said legs being formed with an inwardly extending rib arranged to engage with said spirally directed rib, and a set screw screwing through a threaded opening in one of said legs for engagement with the body portion, whereby the cover may be maintained in adjusted position relative to the adjacent end of the body portion.

DE WITT TAYLOR LYON.