

Nov. 20, 1945.

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2,389,310

AIR INLET

Filed March 1, 1943

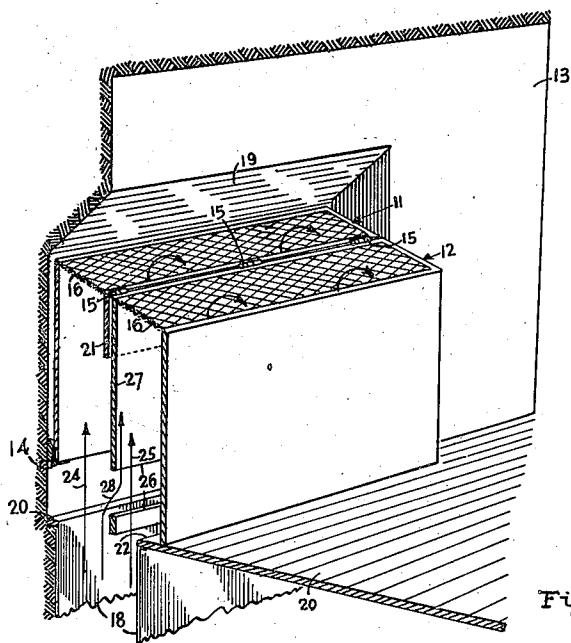


Fig. 1.

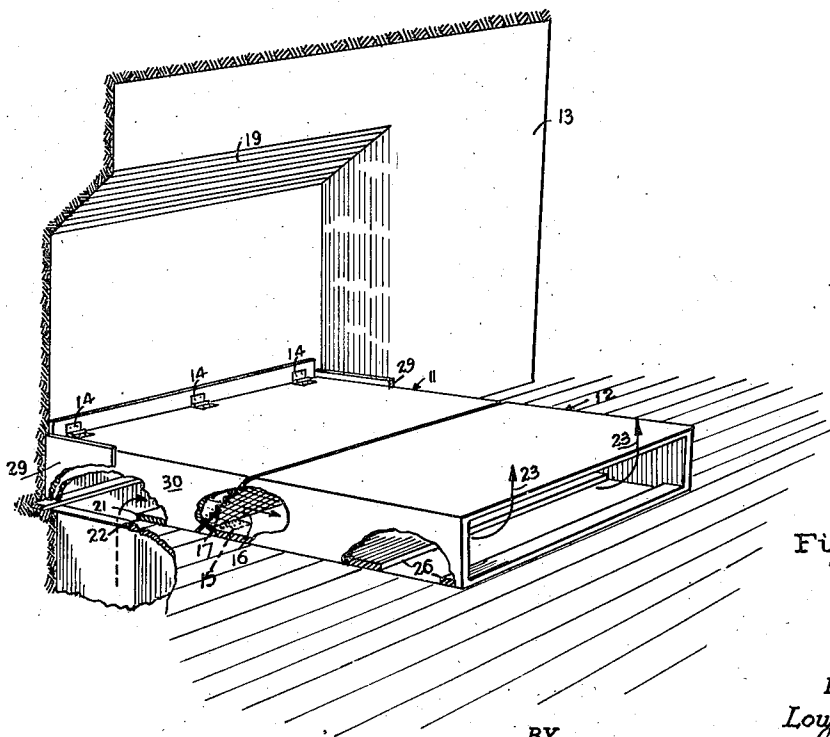


Fig. 2.

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2,389,310

AIR INLET

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Application March 1, 1943, Serial No. 477,679

8 Claims. (Cl. 98—108)

This invention relates to the art of air conditioning and deals particularly with an improvement in an air supply inlet duct.

The invention to be described hereinafter has been developed in connection with motion picture work on air conditioned stages to meet a condition wherein it was necessary to supply air to the stage under normal conditions and also to sets built on the stage when backdrops are used for stage settings. The air inlet duct embodied in this invention has been designed to meet this condition and will be found to have two operating positions; one, in the normal position whereby the air is emitted from an inlet near the wall; and, second, whereby the air is emitted from a point near the floor some distance away from the wall. The purpose of such an extended inlet, as stated, is peculiar to the motion picture industry when backdrops are used near the wall of a stage, but may find usefulness in other industries wherein the same or analogous conditions arise, and the invention therefore is not to be construed as being limited to any particular field but is intended to cover air supply inlets and/or other types of inlets for conducting gases, vapors, etc., which provide an inlet operable in one or more positions.

The object of the invention is therefore to provide an air supply inlet which operates from two positions; one, the normal position against the wall, and the other a position on the floor some distance away from the wall. Another object is to provide a folding air duct which may be used as an air inlet either in a folded position or an extended position. Other objects and advantages will become apparent as the description proceeds in conjunction with the drawing, in which:

Figure 1 is a perspective view partly in section showing how my air inlet appears when the duct is folded against the wall; and

Figure 2 shows how the same would appear when the duct is extended along the floor to provide an air inlet away from the wall.

Referring to these two views, it can be seen that the duct itself comprises two sections generally designated 11 and 12. Section 11 is hinged to the wall 13 by hinges 14 and the two sections themselves are hinged together by hinges 15. This hinged arrangement will allow the two sections to stand folded, as shown in Figure 1, or extended as shown in Figure 2. It may be observed in Figure 2 particularly that the line where the two sections come together is cut at an angle. This is optional, since the junction point of the two sections could be square as well as not. However, it has been found that by providing an angle, such as shown in these views, the inlet becomes more efficient and more workmanlike in appearance when the duct is folded against the

wall as shown in Figure 1. Also, the sections may be covered with a screen 16 so that when the duct is folded against the wall to emit air in the normal position these screens will serve to cover the openings through which the air is emitted. When the duct is in an extended position, as shown in Figure 2, the two screens come together as indicated at 17. This, however, is no detriment, since it does not impair the efficiency of the outlet and the screens still serve as a stop to prevent scraps and other waste from going into the main supply conduit when the air conditioning is not operating.

To go back to the way in which the air passes through the duct when in a folded or extended position, it will be observed there is an air supply conduit 18 which conducts the air from the conditioning plant to the building. As shown, the wall 13 is formed with a niche 19 to receive the air inlet duct but this is not an essential part of the invention since the apparatus will work equally as well if it is set against the wall with no recess of any sort. As previously stated, the section 11 is hinged to the wall by hinges 14. These hinges are placed above the floor line 20 to permit the wall 21 of section 11 to lie flat on the floor when the duct is extended. It will be noted that the wall 21 is cut short, which is shown in Figures 1 and 2, so that when the duct is extended along the floor the lower edge of the wall comes even with the outer edge 22 of the conduit 18. This permits a full flow of air from the conduit into the section 11 when lying on the floor. The air then passes through the screens 16 and continues on through section 12 and is vented into the room through the end of section 12 as indicated by the arrows 23.

When in an upright position against the wall, which is the normal position of operation, the air from the conduit 18 passes directly upwardly through section 11 as indicated by the arrow 24. The air also passes directly upward through section 12 as indicated by the arrow 25. To increase the air in section 12, I have formed an opening 26 in the wall 27 of this section. This opening is to permit air to pass into the section 12 as indicated by the arrow 28 which increases the efficiency of the air inlet when in the upright folded position. The air passes outwardly from both sections through the screens 16 and into the room in the usual manner.

To prevent leakage from section 11 when in an upright position, I install short boards 29 either on the wall 13 or the floor 20 on each side of the section, which are arranged to form a sliding engagement with the exterior of the sides 30 of section 11 and close the opening caused by the sides stopping at the hinge level when the duct is folded upright against the wall.

The duct may be formed of any suitable mate-

rial, including metal, wood, plastic, etc., and when installed in the manner described will be found to provide a means for inletting air that may be easily and quickly converted from a normal position against the wall to an extended position along the floor. The distance of the air inlet from the wall will depend of course upon the length of the two sections and, if necessary, an added auxiliary section could be hingedly mounted on the section 12 with the hinges at the floor line to provide another section which would increase the length of the extension. The extended position has been found to solve the problem of air conditioning stages when backdrops have been used close to the wall. When used in this manner, normal air conditions are maintained inside an enclosed set as well as on the entire stage.

A device of the foregoing nature will probably find usefulness in other fields, with slight modifications in the arrangement and construction of parts. The invention therefore is not to be confined to the specific arrangement and construction shown but is to be limited only by the scope of the appended claims.

I claim:

1. In combination with an air supply conduit, an air inlet comprising a duct having two sections hinged together at their open ends, one of said sections being hinged at the opposite end to a support and adapted to receive air from said air supply conduit when in a vertical position the forward wall of said section being shortened to permit it to be swung on its hinged support to a horizontal position and receive air from said air supply conduit, the other of said sections being hinged to said first mentioned section so that it will lie adjacent to and parallel with said first mentioned section when in a vertical position and will form a continuous duct with said first mentioned section when said sections are extended in a horizontal position.

2. For use with an air supply conduit an air inlet comprising a duct hinged at an end to a support and adapted to receive air at said end from said air supply conduit when in a vertical position, the forward wall of said duct being provided with an opening to pass air from said conduit to said duct when said duct is swung on said hinges to a horizontal position said duct being provided with an end opening opposite said hinged end to emit said air.

3. For use with an air supply conduit an air inlet comprising a duct hinged at one end to a support and adapted to receive air at said open end from said air supply conduit when in a vertical position, the forward wall of said duct being formed with an opening to pass air from said conduit to said duct when said duct is swung on said hinges to a horizontal position, and a second duct hinged to the free end of said first mentioned duct so that it will lie parallel and adjacent to said first mentioned duct and cover said opening when in a vertical position and will form a continuous duct therewith when in an extended horizontal position.

4. For use with an air supply conduit an air inlet comprising a duct hinged at one end to a support and adapted to receive air at said end from said air supply conduit when in a vertical position, the forward wall of said duct being formed with an opening to pass air from said conduit to said duct when said duct is swung on said hinges to a horizontal position, and a second duct

hinged to the free end of said first mentioned duct so that it will lie parallel to said first mentioned duct and adjacent thereto when in a vertical position and will form a continuous duct therewith when extended in a horizontal position there being an opening in the wall of said last mentioned duct adapted to receive air from said opening in said first mentioned duct when in a vertical position.

5. For use with an air supply conduit an air inlet comprising a duct hinged at one end to a support and adapted to receive air at said end from said air supply conduit when in a vertical position, the forward wall of said duct being formed with an opening to pass air from the air supply conduit to the duct when said duct is swung on its hinges to a horizontal position, and a second duct hinged to the free end of said first mentioned duct so that it will lie parallel with said first mentioned duct when in a vertical position and will form a continuous duct therewith when extended in a horizontal position, said second duct having an opening in the rear wall thereof adapted to register with the opening in the forward wall of said first mentioned duct to pass air from the air supply conduit to said second duct when the ducts are in a vertical position.

6. For use with an air supply conduit an air inlet comprising two sections of duct hinged together so that when folded the two ducts form two parallel adjacent ducts and when extended form a single continuous duct, the free end of one of said ducts being hinged to a support and adapted to receive air from said air supply conduit, there being communicating openings in the adjacent walls of said ducts to permit air from said conduit to pass outwardly through both of said ducts when in a vertical position.

7. For use with an air supply conduit an air inlet comprising two sections of duct hinged together so that when folded the two ducts form two parallel adjacent ducts and when extended form a single continuous duct, the free end of one of said ducts being hinged to a support and adapted to receive air from said air supply conduit, said last mentioned duct having an opening formed in the forward wall thereof and the other duct having an opening formed in the rear wall thereof arranged to register with each other and pass air from said air supply conduit outwardly through both of said ducts when in a vertical position.

8. In combination with an air supply conduit, an air inlet adapted to vent air from a vertical position or from a horizontal position, said inlet comprising a duct having two sections hinged together at their open ends and adapted to be disposed in a vertical parallel relationship, or in an end to end horizontal position with the opposite end of one of said sections hingedly supported over said air supply conduit and adapted to receive air from said conduit when in a vertical position, said last mentioned section having an opening through the forward wall thereof adapted to receive air from said air supply conduit when said duct is in a horizontal position and the opposite end of the other of said sections being adapted to receive air from said conduit when said sections are in a parallel relationship and to emit air from said conduit when said sections are in an end to end horizontal position.

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