

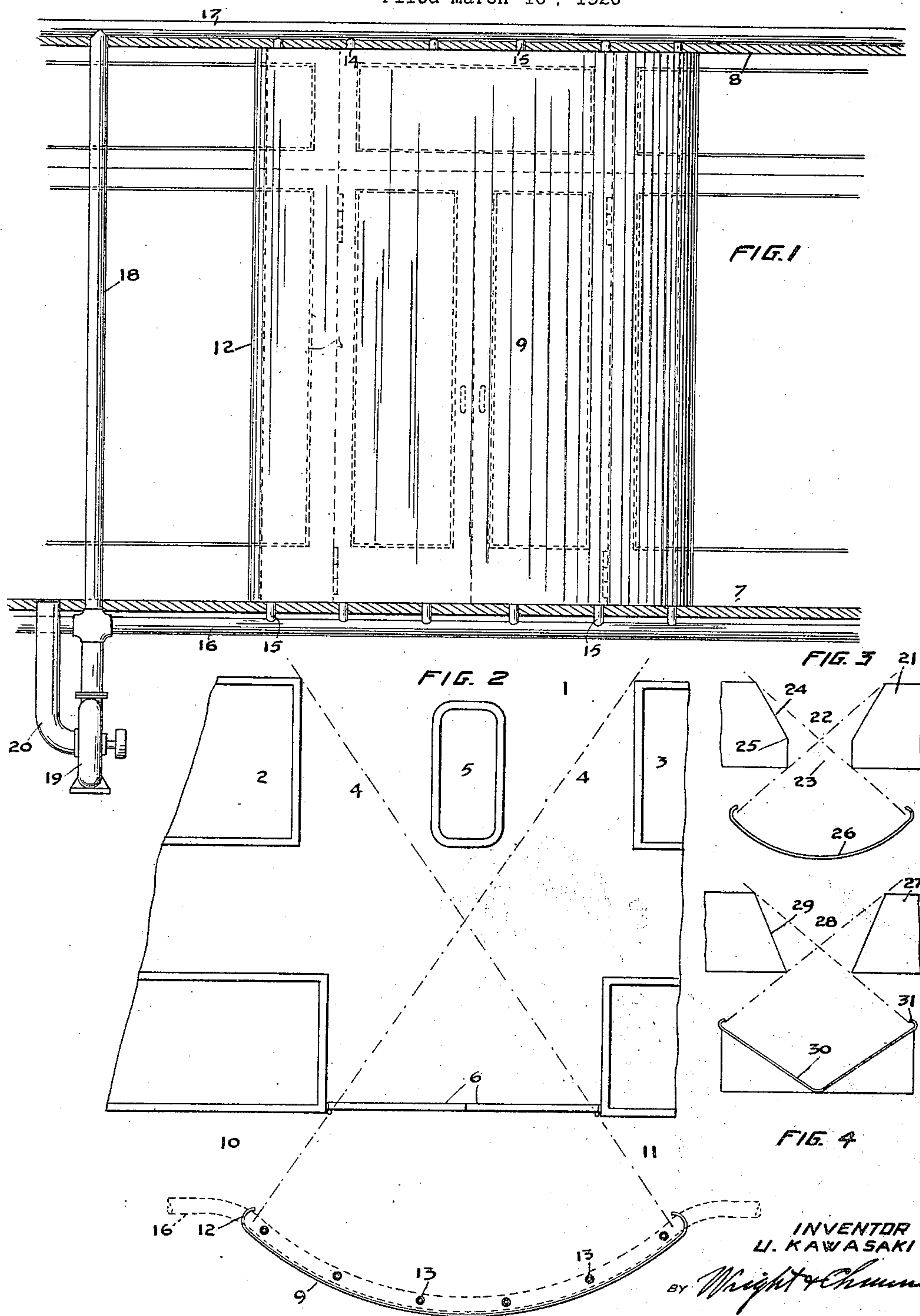
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MEANS FOR PREVENTING DRAFTS IN DOORWAYS

Filed March 10, 1920



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MEANS FOR PREVENTING DRAFTS IN DOORWAYS.

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To all whom it may concern:

Be it known that I, UTAKICHI KAWASAKI, a subject of the Emperor of Japan, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Means for Preventing Drafts in Doorways, of which the following is a specification.

In large department and other stores and in public places the main entrances or doorways are usually left open. Drafts are thus created and prove a source of discomfort to persons inside the doorway or entrance, for example, clerks in stores having stations near the entrances or doorways are subjected to such discomforts. Again, dust will be carried in with the drafts and collect upon show cases and goods on display adjacent the doorway.

It is therefore the primary object of my invention to provide simple, effective and inexpensive means which will prevent the entrance of wind, rain and dust through open doorways and the like and exclude drafts, all without obstructing the door or excluding light, whereby the objections and difficulties such as hereinbefore mentioned are removed.

The invention possesses other advantages and features, some of which, with the foregoing will be set forth at length in the following description where I shall outline in full, that form of the invention which I have selected for illustration in the drawings accompanying and forming a part of the present specification. In said drawings I have shown one form of the construction of my invention but it is to be understood that I do not limit myself to such form, since the invention as expressed in the claims may be embodied in a plurality of forms.

Referring to the drawings:—

Figure 1 represents a rear elevation of a doorway with my invention applied thereto, showing the floor and ceiling in section.

Figure 2 is a diagrammatic plan view of a double entrance arrangement such as provided for large stores, showing my invention incorporated therewith.

Figure 3 is a top plan view of a modified form of the invention.

Figure 4 is a top plan view of another modified form of the invention.

In carrying out my invention I mount a deflector or screen in the rear of the doorway or entrance so as not to obstruct the en-

trance but in order to obstruct drafts and wind passing through the doorway. The deflector is wider than the doorway, curved or arched transversely and preferably extends above the door from the floor level. The vertical edges of the deflector are curled or curved to provide channels and by the transverse curve of the deflector air currents and wind are directed into these channels and pass therein upwardly and downwardly towards the ceiling and floor. Along the top and bottom of the deflector are suction orifices which reduce any exhaust atmospheric pressure entering through the doorway. An exhaust pipe is communicated with the orifices and leads to the atmosphere there being a suction pump in the system connected in any suitable manner.

I preferably make the deflector of glass so as to prevent light obstruction. I may form the doorway with inwardly converging sides so as to direct the rush of air or wind towards the center of the deflector.

I have shown the invention as used in connection with the entrance or doorway 1 of a double display window store comprising windows 2 and 3 separated by a passageway 4. In the center of the entrance end of the doorway is mounted a show case 5. The store end of the entrance 1 is adapted to be closed by the ordinary doors 6. Mounted rearwardly of the entrance 1 and extending above the doorway from the floor 7 to the ceiling 8 is a preferably transparent glass deflector 9.

The deflector is wider than the doorway and the vertical edges of the deflector are spaced from the sides of the doorway sufficiently to provide passageways 10 and 11. I preferably form the deflector with a transverse curve so that air or wind currents striking the deflector will be directed towards the side edges thereof, the concave side of the deflector being disposed opposite the doorway. To prevent the air currents from passing the side edges of the deflector I provide inwardly opening curved channels 12 formed of some suitable light sheet metal. These channels may be secured in any suitable manner to the vertical edges of the deflector and serve to conduct air currents upwardly towards the ceiling, or downwardly towards the floor. In order to carry out the air currents I provide in the floor 7 along the lower edge of the deflector and channels 12 a plurality of exhaust openings 13 and in the

ceiling 8 I provide at corresponding points along the upper edge of the deflector similar exhaust openings 14. These openings communicate by pipes 15 with exhaust pipes 16 and 17 beneath the floor and above the ceiling respectively. These pipes 16 and 17 lead to a pipe 18 which leads to an exhaust pump 19. The exhaust pump exhausts into the atmosphere through a pipe 20 and may be operated from any suitable source of power not shown.

Wind or draft entering through the doorway 1 will strike upon the curved deflector 9 and by being directed into the channels 12 owing to the curvature of the deflector will pass upwardly or downwardly and in either event be readily drawn off through the openings 13 and 14.

It will thus be seen that the deflector of my invention prevents the entrance of wind, rain and fog through the doorway, and at the same time permits plenty of light to enter the doorway. By having the deflector formed of glass persons entering the doorway will be permitted to view the interior of the store without obstruction. The deflector of my invention may be readily installed in stores and other places wherein the entrances are kept open, without the necessity of any material change in the construction of the building.

Referring to the Figure 3 of the drawing wherein I have illustrated a modified form of the invention, the wall 21 of the building is provided with an entrance or doorway 22 provided with a restricted entrance end 23. The sides of the entrance converge as at 24 to a point 25 near but spaced from the inner end 23 so that the sides of the inner end 23 are parallel. I mount a deflector 26 rearwardly of the entrance end 23, said deflector being suitably spaced from the entrance end and being of the same form as that of the preferred form of the invention. By having the doorway thus formed I direct the air currents and wind towards the center of the deflector and in this way positively prevent drafts, winds, rain and dust from entering past the deflector.

In Figure 4 of the drawing the other modified form of the invention comprises the front wall 27 of the building or store, in which the passageway or entrance 28 is provided with converging side walls 29. In this form of the invention the deflector 30 is substantially V-shaped in cross section and provided at its vertical edges with inwardly opening channels 31. Air entering the doorway 28 is directed towards the center of the deflector 30 and is carried off in the same manner as in the preferred form of the invention through exhaust pipes not shown. The deflector in this form may be made of glass or other transparent material.

I claim:—

1. In combination with the entrance or doorway of a building or store of a draft deflector mounted rearwardly of and spaced from the inner end of the doorway, said deflector being wider than the inner end of the doorway and exhaust means for reducing any excess atmospheric pressure entering through the doorway, which exhaust means is operatively associated with said deflector.

2. The combination with the store entrance, of a transparent wind deflector extending across said entrance rearwardly thereof, said deflector being curved in cross section having its concave side opposed to the doorway, and exhaust means associated with the deflector and reducing any excess atmospheric pressure entering through the doorway.

3. The combination with the entrance or doorway of a building, of a draft deflector mounted rearwardly of and spaced from the doorway, said deflector being wider than the doorway and having inwardly curled vertical edges, exhaust pipes extending along the upper and lower sides of the deflector and having orifices leading to the deflector and an exhaust pump connected with said pipe, the exhaust serving to reduce any atmospheric pressure entering through the doorway.

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