Aug. 19, 1924. 1,505,914

E. G. WITTEBORG

INSECT AND DUST PROTECTION

Filed Aug. 1, 1921

Fig. 2.

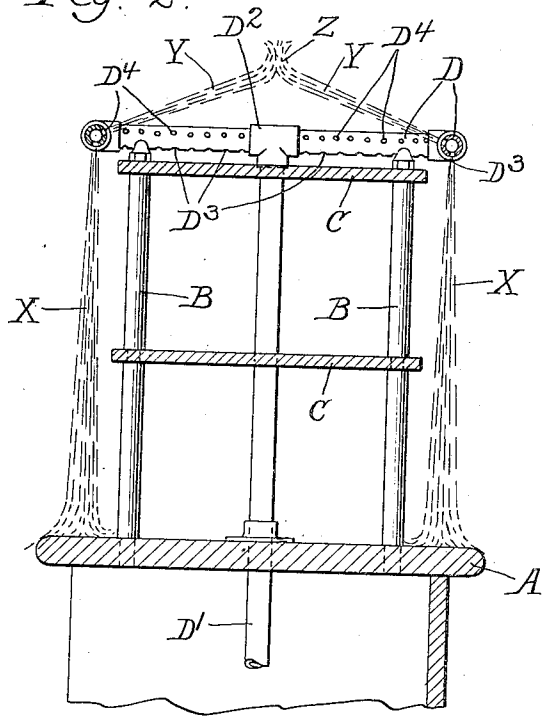


Fig. 3.

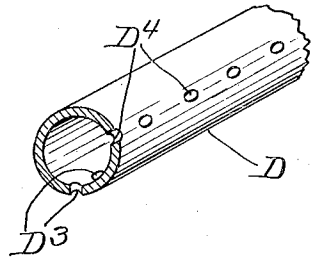
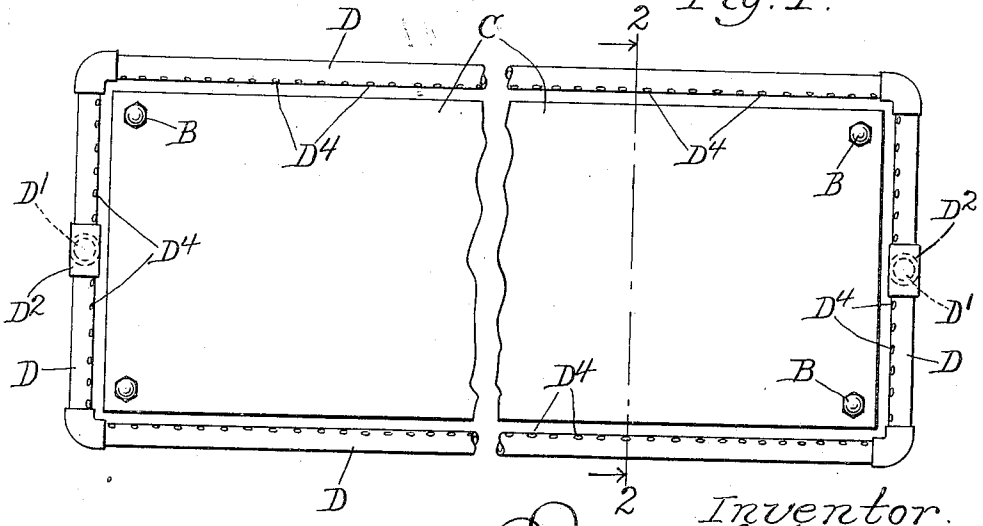


Fig. 1.



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UNITED STATES PATENT OFFICE.

EDMUND G. WITTEBORG, OF CHICAGO, ILLINOIS.

INSECT AND DUST PROTECTION.

Application filed August 1, 1921. Serial No. 488,794.

To all whom it may concern:

Be it known that I, EDMUND G. WITTEBORG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Insect and Dust Protection, of which the following is a specification.

This invention relates to apparatus for protecting articles from insects and dust, and has for one object to provide apparatus whereby insects and dust are prevented from reaching articles of food. Another object is to provide such a protection which is unobtrusive in appearance. Other objects will appear from time to time throughout the specification and claims.

My invention is illustrated more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is a plan view;

Fig. 2 is a vertical cross section taken on line 2—2 of Fig. 1;

Fig. 3 is a detail on an enlarged scale of a portion of the apparatus.

Like parts are designated by like characters throughout.

A is a table or counter of any suitable design. Upon it is mounted a display table or rack consisting of the vertical supports B. Upon these supports are mounted the shelves C. Surrounding the display table and preferably a little above the upper shelf is a loop of hollow pipe D. At either end of the loop is a supply pipe D′ connected to the loop by a T D^2. The pipe D′ is connected with any suitable air supply, the details of which are not here shown as they form no part of the present invention. The pipe is perforated along its bottom as at D^3 and along its inner upper side as at D^4. Through both of these rows of perforations air is forced from the supply pipe through the loop.

The use and operation of my invention are as follows:

The apparatus may be arranged in the manner shown. Air under pressure is supplied to the loop through the supply pipes. It passes outward through the holes in the pipe which forms the loop. The air which passes out through the holes in the bottom of the pipe forms a sheet or current of moving air which entirely surrounds the sides of the display table. These sheets of air are designated by the letter *x*. The air which is forced out through the perforations in the upper sides of the loop forms two converging sheets or currents of air Y which join or converge substantially along the middle line of the table at Z. Thus the display table with its contents is completely surrounded by rapidly moving curtains of air.

It has been found by experiment and observation that insects and dust, particularly flies will not pass through a rapidly moving current of air, and thus when the display table with the articles of food upon it is completely surrounded by a curtain or sheet of rapidly moving air, insects and dust cannot get at the food displayed, and it is unnecessary to have any of the current of air strike directly upon any of the food.

It will be understood of course that the arrangement shown is merely diagrammatical and a large variety of variations in the form, arrangement, and proportion of parts is possible. It is necessary only that the food or the display table with the food be surrounded by rapidly moving sheets or curtains of air.

Although I have shown an operative invention, still it will be obvious that many changes both of form, shape, and relation of parts may be made without departing materially from the spirit of my invention, and I wish therefore that my showing be taken as in a sense diagrammatical.

Where I use the expression "curtain of air or sheet of air" I mean, of course, the rapidly moving current of air which forms in effect a curtain or sheet of air, since it has the effect of excluding insects and particles of dust in exactly the same manner as a curtain.

I claim:

1. The combination with a display rack of means for surrounding its exposed sides and across the top with an envelope composed of a rapidly moving curtain of air, said means comprising a perforated pipe adjacent said display rack in combination with a source of air under pressure.

2. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its top.

3. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its

top, said means comprising a perforated pipe in communication with a source of air under pressure.

4. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its top, said means comprising a perforated pipe in communication with a source of air under pressure, said pipe perforated along its bottom and along one side adjacent its top.

5. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its top, said means comprising a perforated pipe in communication with a source of air under pressure, said pipe perforated along its bottom and along one side adjacent its top and adapted to project one curtain of air downward and another laterally upward.

6. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its top, said means comprising a pipe loop in communication with a source of air under pressure, said loop perforated about its bottom and upon its inner side adjacent its top.

7. The combination with a display rack of means adjacent its upper edge for projecting a plurality of rapidly moving curtains of air about its sides and across its top, said means comprising a pipe loop in communication with a source of air under pressure, said loop perforated about its bottom and upon its inner side adjacent its top, and adapted to project a curtain of air downward and a plurality of converging upward and laterally moving currents of air.

8. The combination with a display rack of means secured to it for projecting a continuous, rapidly moving air curtain about its sides and across its top.

Signed at Chicago, county of Cook, and State of Illinois, this 23rd day of July, 1921.

EDMUND G. WITTEBORG.