United States Patent

Clifford

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[54] AIR DEFLECTOR ATTACHMENT

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[52] **U.S. Cl.** **138/178,** 138/156, 138/DIG. 4, 98/103, 98/114

[51] **Int. Cl.**.....**F16l 9/00,** F24f 13/06

[58] **Field of Search**.....138/156, 162, 163, 166, 167, 138/170, 178, DIG. 4; 98/101, 103, 106, 114, 115

[56] **References Cited**

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[57] **ABSTRACT**

An air deflector attachment for heating and/or cooling ducts opening through the floor wall or ceiling to move the column of air outwardly from an adjacent wall or ceiling permitting the curtains, furniture, persons and objects to be in the room without being directly contacted by the column of air. The deflector includes serpentine inner and outer walls mounted in serpentine tracks formed in spaced parallel end walls. The end walls are provided with serpentine tracks on each side face thereof to permit the joining together of a plurality of side walls when an especially long deflector is required. The deflector offsets the path of the column of air but retains its direction characteristic for efficiency in hot and cold air distribution.

4 Claims, 5 Drawing Figures

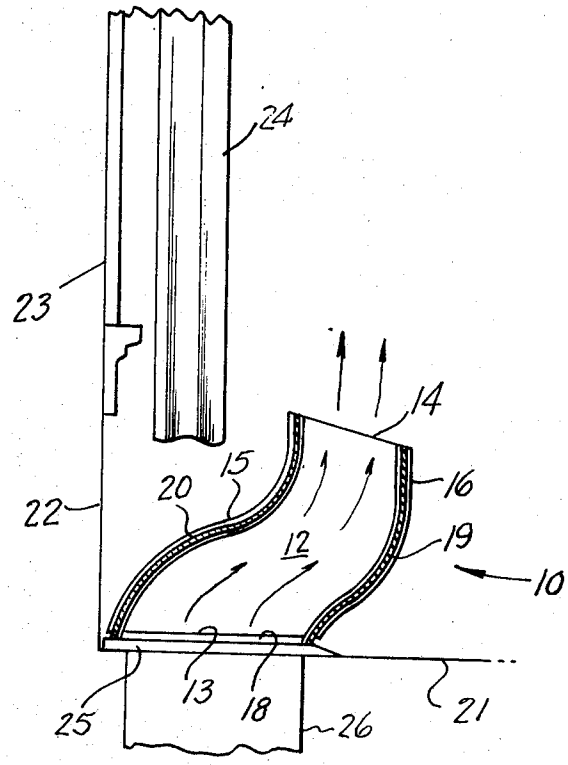


FIG. 1.

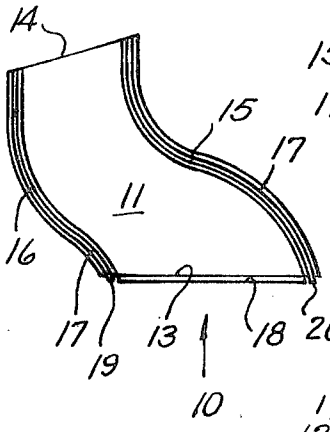


FIG. 3.

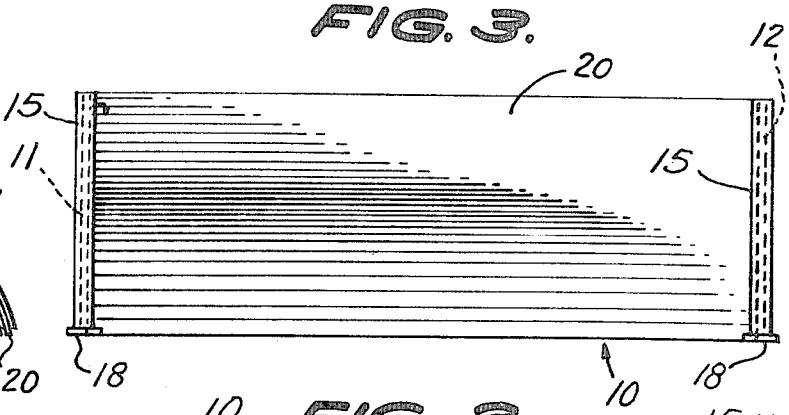
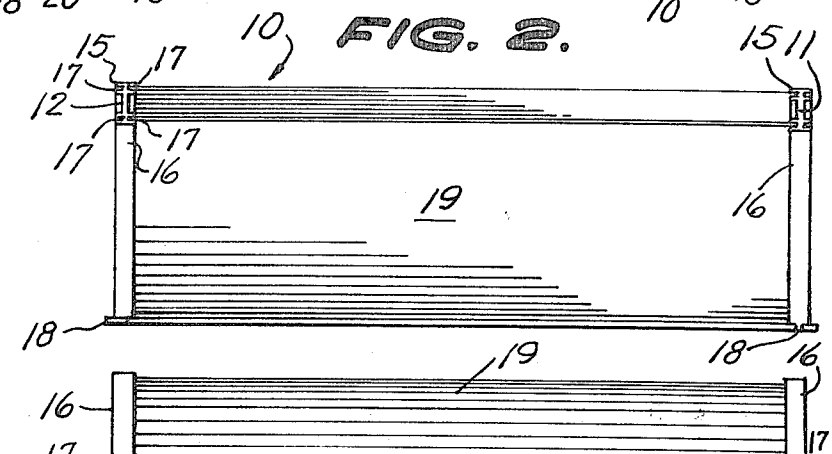


FIG. 2.



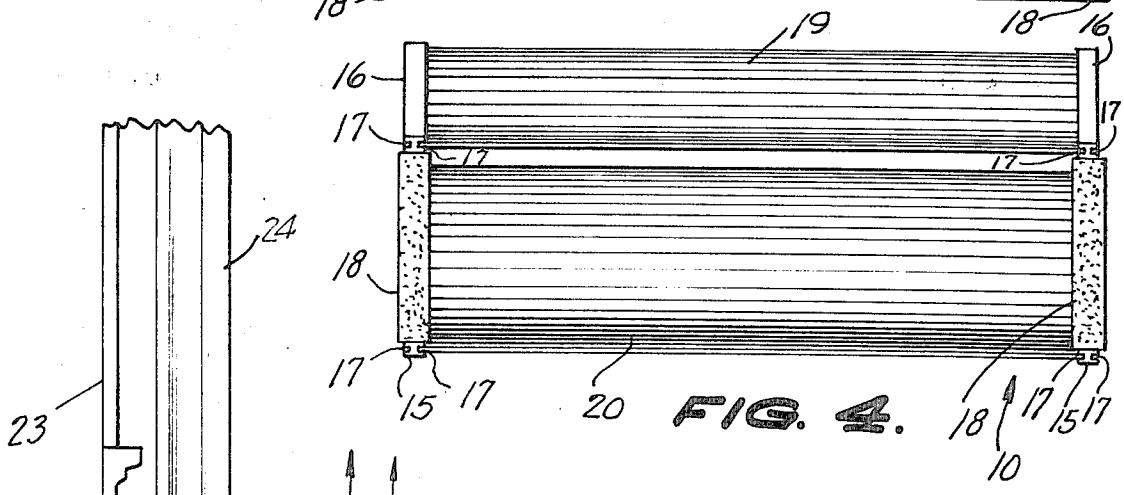


FIG. 4.

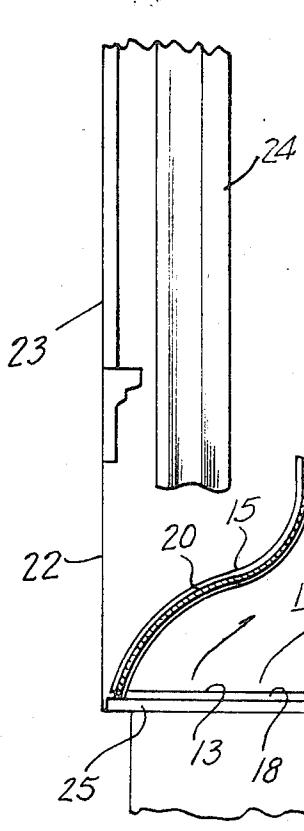


FIG. 5.

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AIR DEFLECTOR ATTACHMENT

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to deflectors of the type used with registers of forced air heating and cooling systems.

SUMMARY OF THE INVENTION

The deflector consists of a serpentine conduit of generally rectangular horizontal cross-section having a pair of inner and outer serpentine side walls arranged in spaced apart relation and secured in spaced apart serpentine tracks formed on opposed end walls. The deflector offsets the column of air issuing from the register so that it avoids objects which would otherwise be in its path.

The primary object of the invention is to provide a deflector attachment for air registers of a heating and cooling system which will deflect the air away from objects otherwise in its path, while maintaining the required distribution of air in the room.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of the invention;

FIG. 2 is a front elevation of the invention;

FIG. 3 is a rear elevation of the invention;

FIG. 4 is a bottom plan view of the invention; and

FIG. 5 is a transverse sectional view showing the invention in place on a floor mounted air register.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures the reference numeral **10** indicates generally an air deflector constructed in accordance with the invention.

The deflector **10** includes a pair of spaced parallel end walls **11, 12** each having a horizontal bottom edge **13** and a sloping top edge **14**. The inner edge of the side walls **11, 12** are each provided with a serpentine track member **15** and the outer edge of the end walls **11, 12** are each provided with a serpentine track member **16**. The serpentine track members **15, 16** are provided with track grooves **17** on the opposite side faces thereof as can be clearly seen in FIG. **4**.

A generally horizontal foot **18** is integrally formed on each of the end walls **11** along the horizontal lower edge **13** thereof. A serpentine front panel **19** extends between the serpentine track members **16** of the end walls **11, 12** and is fitted into the track groove **17** of each. A serpentine rear panel **20** is arranged in spaced relation to the front panel **19** and extends between the serpentine track members **15** of the end walls **11, 12** fitted into the track grooves **17** of each.

In FIG. **5** the deflector **10** is illustrated in operative position in a room which includes a floor **21**, side wall **22**, window **23**, and window drapes **24**. A floor register **25** is positioned beneath the window **23** to emit air from a conduit **26** which opens through the floor **21**. In the normal operation of the forced air heating or cooling system the position of the register **25** is such that the drapes are in the column of air moving through the register **25** and hence not only is the distribution of air disturbed by the drapes, but in addition the drapes are quickly soiled due to dirt particles which are carried in the air column. The deflector **10** offsets the air column outwardly to completely miss the drapes **24**. The sloping upper edge **14** of the end walls **11, 12** have an angle of approximately 17° to the horizontal causing the air column to diverge slightly outwardly from the vertical.

The end walls **11, 12**, track members **15, 16**, and side panels **19, 20** are formed of any desired material such as plastic and the side panels **19, 20** are secured to the track members **15, 16** with any desired adhesive. The feet **18** of the end walls **11, 12** are adhesively secured to the register **25** or to the floor **21** in order to maintain the deflector **10** in its correct position.

It should be noted that each of the track members **15, 16** have track grooves **17** on each side face thereof so that in the case of exceptionally long registers **25** additional lengths of side panels **19, 20** can be attached to an end wall **11** or **12** to lengthen the deflector **10** as required. Obviously when additional lengths of side panels **19, 20** are used one additional end wall **11** is required for each length of side panels **19, 20** which are added.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A self-contained air deflector overlying horizontal registers of a forced air heating and/or cooling system comprising a pair of spaced parallel generally flat end walls, a serpentine track member integrally formed on each of the opposite side edges of each of said end walls, serpentine inner and outer side panels arranged in spaced apart generally parallel relation extending between and having each side edge thereof secured in one of said track members, and a foot integrally formed on a bottom edge of each of said end walls for overlying engagement with said horizontal register.

2. A device as claimed in claim **1** wherein each of said track members is provided with opposed track grooves on opposite side faces thereof with said side panels engaged in at least one of said track grooves.

3. A device as claimed in claim **2** wherein said inner side panel extends above said outer side panel to provide an outwardly sloping outlet to said deflector.

4. A device as claimed in claim **3** wherein a pair of inner side panels and a pair of outer side panels are secured on opposite sides of one of said end walls to extend outwardly therefrom.

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