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HEAT DEFORMATION SHIELD

Filed Sept. 8, 1926

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

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My invention relates to improvements in heat deflection shields adapted for use on any type of heating unit.

One object of my invention is to provide a heat deflection shield which will encompass and conserve the heat rays and throw them in mass in any direction. One disadvantage of existing small unit heaters, especially when used in large rooms, is that the heat rises rapidly to the top of the room and its effect in heating large rooms is negligible. This invention comprises means whereby the heat rays are conserved and concentrated on any desired spot adjacent to the heater in the room. My invention comprises improvements on the construction shown in my former Patent No. 1,455,551, whereby the ease of adjustability of the general type of device shown therein is increased. My new invention eliminates the necessity for any clamps and springs. To adjust any of the embodiments shown therein it is merely necessary to grasp the shield and move it to the desired new position without the necessity of squeezing the clamps employed in my former construction. The preferred embodiments of my present invention eliminate the necessity of any means for gripping the ball and holding the hood in any desired position, the embodiments being so constructed that the weight of the hood alone acting through the force of gravity will retain the hood in any desired angular position at any desired degree of tilt. Another object of my invention is to provide a simple practical and comparatively inexpensive deflection shield which can be readily adjusted to fit any type of existing heating units.

These and such other objects of my invention as may hereinafter appear will be best understood from a description of the embodiments thereof shown in the accompanying drawings.

Fig. 1 is a side elevation of the top of the heating unit having the preferred embodiment of my invention attached, the hood being shown in section and in other dotted line positions.

Fig. 2 is a plan view of my invention attached to a heating unit illustrating in dotted lines how the hood may be readily set in any desired angular position thereon.

Fig. 3 is a detailed plan view of the top of the support employed in my preferred embodiment.

Fig. 4 is a reverse perspective sectional view of the central support engaging portion of the hood illustrating the roughened portions employed adjacent to each side of the slot.

Fig. 5 is a side elevation of a further embodiment of my invention, similar to that shown in Fig. 1, showing a portion of the hood in section.

Fig. 6 is a detailed plan view similar to Fig. 3 showing the upper portion of the support employed in the embodiment shown in Fig. 5.

Fig. 7 is a side elevation of a further embodiment of my invention showing the upper portion of the support, and the hood mounted thereon in section.

Fig. 8 is a view similar to Fig. 7 taken at right angles to Fig. 7 to illustrate how the central support engaging portion of the hood of this embodiment is shaped to limit the tilting movement of the hood to a single plane.

Fig. 9 is a side elevation similar to Fig. 1 showing a further embodiment of my invention, the upper portion of the support and the hood being shown in section.

Fig. 10 is a view of the embodiment of my invention shown in Fig. 9 similar thereto, but taken at right angles.

Fig. 11 is a plan view of the top of the hood of the embodiment shown in Fig. 9, with the handle broken away.

Fig. 12 is a disassembled perspective view of the upper portion of the support and the hinge of the embodiment shown in Fig. 9.

Fig. 13 is a side elevation similar to Fig. 9 of a slightly modified form of the embodiment shown in Fig. 9, the hood being shown in section.

In the drawings, wherein like characters of reference indicate like parts throughout, generally indicates any suitable type of upright heating unit, which may consist of an oil heater, a coal stove, radiator, electric heater, or any suitable type, as illustrated in my Patent No. 1,455,551. 22 generally indicates the heat deflecting hood of my invention. Whereas a tray shaped hood is shown, it is understood that a dome shaped hood, as shown in my prior patent, or any other type of hood or plate may be employed. 24 generally indicates the hood support. My invention peculiarly relates to the construction of the hood support 24 and the hood 22, whereby...
the hood may be more readily adjusted than hitherto. I construct these devices that the hood 22 may be readily adjusted as shown, in Fig. 2 at any different angular position relative to the centre of support and may be readily tilted from a horizontal plane as shown in Fig. 1 in dotted lines in a single plane at any degree of tilt up to substantially 45° to the horizontal. These characteristics of my invention are common to all the embodiments shown. Therefore all it is necessary to do to adjust any of my embodiments is to grasp the hood, move it to the desired angular position and tilt it at the desired degree of tilt when it will permanently remain in that position.

Having generally described the common characteristics of the various embodiments of my invention, I will now describe in detail each embodiment. The support 24 of the same general type as the support shown in my Patent No. 1,655,551 and preferably comprises a plurality of radially spaced rods 30 as shown in Fig. 1 terminating in the hooks 32 adapted to fit underneath the cover 34 of the heating unit 20. The lower end of one rod 30 terminating in the spring catch 32g whereby the tripod formed by said rods may be readily removed from the heating unit 30 as explained in detail in my former patent. In the embodiment shown in Figs. 1-4 the upper ends of said rods 30 are attached together so as to form a support having a substantially semi-spherical upper surface 36 of substantially area. In the embodiment shown in Fig. 1, the upper ends of the rods are first soldered as at 38, the upper end 40 of one of said rods 30 projecting upwardly from said support. In order to form a substantially semi-spherical upper surface of substantial area, I preferably mount the hollow ball 42 on said rod 40 above the soldered portion 38. Though it is obvious that, if desired, as shown in Figs. 5 and 6 the upper ends of said rods 30 may be soldered together as to form the substantially semi-spherical upper surface 36 of substantial area. As stated, the surface 36 of substantial area is preferably roughened as at 28 for a purpose to be described.

As heretofore stated, I preferably construct the hood 22 itself so that it may be readily adjusted on the support 24. To this end as shown in Figs. 1-4, I provide on said hood a central support engaging slot 46 extending a distance from approximately the centre of the hood to limit the tilting movement of the hood 22 to a single plane. The central portion of the hood adjacent said slot 46 is roughened as at 26 for a purpose to be described. The hood may be provided with a lifting handle 48. In my preferred embodiment the width of the slot 46 is slightly greater than that of the upwardly projecting portion of the rod 40 of the support 24 and said slot 46 terminates at one end 50 at approximately the centre of the hood and in the opposite end 52. It is thus apparent that if it is desired to adjust the hood in any desired angular position relative to the centre of the support that the hood may be merely lifted up by the handle 48 and adjusted to any desired angular position relative to the centre of the support, such as from the angular position shown in Fig. 2 to the angular positions shown in dotted lines therein. It is also apparent that the shape of the hood 22, the upper portion of the support 24 and the length of the slot 46 are such that when the projecting portion 40 of the support abuts the end 50 of the slot near the centre of the hood said hood may rest on said support in a substantially horizontal plane as shown in dotted lines in Figs. 1 and 2. It is also apparent that when said hood is tilted so that the projecting portion of the support abuts the opposite end 52 of the slot 46, said hood may be tilted at an angle at substantially 45° to the horizontal. It is also apparent that when the hood is tilted so that the projecting portion 30 of the said slot 46, said hood may rest at any desired intermediate tilted position between the horizontal and 45°, the co-operating roughened portions 26 on the hood 22 and 28 on the surface 36 of the support functioning to interengage to permit the weight of the hood 22 alone to retain the hood in any desired tilted and angular position. It is thus obvious that if it is desired to adjust the position of the hood it is merely necessary to lift up the hood and reset it in any desired angular and tilted position, where the force of gravity acting through the weight of the hood will cause it to remain in said set position. If desired, the roughened portions 28 on the surface 36 of the support may be dispensed with or the roughened portions 26 on the hood may be dispensed with.

The embodiment shown in Figs. 5 and 6 is identical to the embodiment shown in Figs. 1-4 with the exception that the hollow ball 42 is dispensed with, the upper portion of the portion 38 soldering the upper ends of the rods 30 together being shaped to form the substantially semi-spherical upper surface 36 of substantial area.

The embodiment shown in Figs. 7-8 functions on a similar principle. In this embodiment, however, in place of the co-operating projection 40 on the support and the co-operating slot 46 on the hood to limit the tilting movement of said hood to a single plane, I preferably so shape the hood 22 that it will have the central support engaging portion 46 projecting upwards therefrom in a round shape, the interior thereof being pressed out and of a diameter approximately equal to the substantially semi-spherical upper surface 36 of the support to limit the tilting movement to a single plane. In this em-
bodiment also the surface 36 of the support is preferably provided with the corrugations or roughened portions 28 and the central support engaging portion 46 of the hood with the co-operating corrugations or roughened portions 26 which may interengage to retain the hood in tilted position at any desired intermediate position of the support engaging portion 46 of the hood on the surface 36 of the support.

The embodiments shown in Figs. 9-13 are also readily adjustable at any desired angular position relative to the center of support and function on a hinge principle to limit the tilting movement of the hood to a single plane. In order that the hinge 54 of this embodiment may be conveniently attached to the hood, I preferably centrally flatten as at 56 the central portion of the hood, providing it with the ridge 58 stamped therein extending from approximately one side of the flat portion 56 to the other as shown in Fig. 10. In the embodiment shown in Figs. 9-12, the support is constructed so that the soldered portion 58 is in a shape of a ball having the vertical diametrical hole 59. The upper portion of the support comprises the pintle rod 60 provided with the rod 62 integrally depending from the center thereof. The pintle rod 60 is inserted within the ridge 58 of the hood and clamped thereto by means of the hinge clamp 64 through the medium of the screws 66. The hinge clamp 64 is so constructed that the central slot 68 thereof is only of a width slightly greater than that of the depending rod 62 of the pintle rod 60 so that the tilting movement of the hood may be more readily limited to a single plane as in my preferred embodiment. It is thus obvious that the hood may be tilted at any desired tilted position by moving the hood relative to the pintle rod 60 of the support, the pintle rod assuming any desired relative position on the ridge 58 depending on the degree of tilt, and the hinge clamp 64 serving to frictionally retain the hood 22 in any desired tilted position. It is obvious that if it be desired to move the hood to a different angular position the hood may be adjusted so that the rod 62 depending therefrom may assume a different relative angular position in the vertical hole 59 of the support 24.

The embodiment shown in Fig. 13 shows a type of hinge which functions on the gravity principle of the embodiments illustrated in Figs. 1-8. In this embodiment the upper surface of the pintle rod 60 is corrugated or roughened as at 28 and the cooperating ridge or central support engaging portion 46 is similarly corrugated or roughened as at 26. The hinge clamp 64 is so constructed that it will not bear against the base of the pintle rod 60 to clamp said rod 60 against the ridge 58, but is spaced therefrom so that the hood may be lifted and tilted at any desired angular position to permit the force of gravity acting through the weight of the hood 22 to cause the co-operating roughened portions 26 and 28 to interengage to permit the weight of the hood alone to retain the hood in any desired tilted position, the hinge clamp 64 serving as a guide.

It is thus obvious that I have provided a device of this description more facile of adjustment and simpler than any produced heretofore.

It is understood that my invention is not limited to the specific embodiments shown and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. A device for deflecting heat from a heating unit, comprising a hood support adapted to be attached to said unit and terminating in a roughened upper end, a hood attachable to said support in any angular desired position and having a centrally roughened support engaging portion and means on said hood and support to limit the tilting movement of said hood to a single plane at any degree of tilt up to substantially 45° to the horizontal.

2. A device for deflecting heat from a heating unit, comprising a hood support adapted to be attached to said unit and terminating in an upper end, a hood attachable to said support in any angular desired position and having a central support engaging portion, means on said hood and support to limit the tilting movement of said hood to a single plane at any degree of tilt up to substantially 45° to the horizontal and means on said hood and support to cause them to engage when acted on by the force of gravity to remain in a permanent position at any degree of tilt.

3. A device for deflecting heat from a heating unit, comprising a hood support adapted to be attached to said unit and terminating in an upper end, a hood attachable to said support in any angular desired position and having a centrally roughened support engaging portion, means on said hood and support to limit the tilting movement of said hood in a single plane at any degree of tilt up to substantially 45° to the horizontal and means on said hood and support to cause them to engage to remain in a permanent position when acted on by the force of gravity at any degree of tilt.

4. A device for deflecting heat from a heating unit, comprising a hood support adapted to be attached to said unit and terminating in a roughened upper end, a hood attachable to said support in any angular desired position and having a central support engaging portion, means on said hood and support to limit the tilting movement of said hood to substantially 45° to the horizontal and means on said hood and support to cause them to engage to remain in a permanent position when acted on by the force of gravity at any degree of tilt.
a single plane at any degree of tilt up to substantially 45° to the horizontal and means on said hood and support to cause them to engage to remain in a permanent position when acted on by the force of gravity at any degree of tilt.

3. A device for deflecting heat from a heating unit comprising a support adapted to be attached to said unit and terminating in a rounded roughened upper end and a hood having a centrally roughened support engaging portion whereby said cooperating roughened upper end and roughened support engaging hood portion may interengage to permit the weight of the hood alone to retain said support in any desired tilted position.

6. A device for deflecting heat from a heating unit, comprising a support adapted to be attached to said unit and terminating in a rounded upper end and a hood having a centrally roughened support engaging portion, whereby said roughened portion on said hood may interengage with said support to permit the weight of the hood alone to retain said hood in any desired tilted position.

7. A device for deflecting heat from a heating unit comprising a support adapted to be attached to said unit and terminating in a rounded roughened upper end and a hood having a central support engaging portion, whereby said roughened portion on said support may engage with said hood to permit the weight of the hood alone to retain said hood in any desired tilted position.

8. A device for deflecting heat from a heating unit comprising a support adapted to be attached to said unit and terminating in a rounded roughened upper end and a hood having a centrally roughened support engaging portion shaped to limit the tilting movement of the hood to a single plane, whereby said roughened portion on said support may engage with said hood to permit the weight of the hood alone to retain said hood in any desired tilted position.

9. A device for deflecting heat from a heating unit, comprising a support adapted to be attached to said unit and terminating in a rounded upper end and a hood having a central support engaging portion shaped to limit the tilting movement of the hood to a single plane, whereby said roughened portion on said hood may interengage with said support to permit the weight of the hood alone to retain said hood in any desired tilted position.

10. A device for deflecting heat from a heating unit comprising a support adapted to be attached to said unit and terminating in a rounded roughened upper end and a hood having a central support engaging portion shaped to limit the tilting movement of the hood to a single plane, whereby said roughened portion on said support may engage with said hood to permit the weight of the hood alone to retain said hood in any desired tilted position.

11. A device for deflecting heat from a heating unit comprising a hood support having a substantially semi-spherical upper surface of substantial area and a relatively smaller portion projecting upwardly therefrom, means to mount said support on a heating unit and a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from approximately the center of said hood and a corrugated portion on each side of said slot, whereby said hood may be set at any desired angular position on said support at any degree of tilt up to substantially 45° to the horizontal.

12. A device for deflecting heat from a heating unit, comprising a hood support having an upper surface of substantial area and a relatively smaller portion projecting upwardly therefrom, means to mount said support on a heating unit and a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from approximately the center of said hood, whereby said hood may be set at any desired angular position on said support at any degree of tilt up to substantially 45° to the horizontal.

13. A device for deflecting heat from a heating unit comprising a plurality of radially spaced rods having the lower ends thereof adapted to be attached to said heating unit and the upper ends thereof attached together so as to form a support having a substantially semi-spherical upper surface of substantial area, the upper end of one of said rods projecting upwardly from said support, a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from approximately the center of said hood and a corrugated portion on each side of said slot, whereby said hood may be set in any desired angular position on said support at any degree of tilt up to substantially 45° to the horizontal.

14. A device for deflecting heat from a heating unit comprising a plurality of radially spaced rods having the lower ends thereof adapted to be attached to said heating unit and the upper ends thereof attached together so as to form a support having an upper surface of substantial area, the upper end of one of said rods projecting upwardly from said support, a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from approximate-
ly the center of said hood, whereby said hood may be set in any desired angular position on said support at any degree of tilt up to substantially 45° to the horizontal.

15. A device for deflecting heat from a heating unit, comprising a support having a substantially semi-spherical upper surface of substantial area and a relatively smaller portion projecting upwardly therefrom, means to mount said support on the heating unit and a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from substantially the center of the hood, the shape of the hood and the upwardly projecting portion of the support and the length of the slot being such that when the projecting portion of the support abuts the end of the slot near the center of the hood said hood may rest on said support in a substantially horizontal plane and when said projecting portion of the support abuts the opposite end of said slot said hood may be tilted at an angle of substantially 45° relative to the horizontal and whereby when said projecting portion is opposite intermediate portions of the slot said hood may be set at intermediate tilted positions relative to the horizontal and whereby said hood may be adjusted in any desired angular position relative to the center of the support.

16. A device for deflecting heat from a heating unit comprising a support having an upper surface of a substantial area and a relatively smaller portion projecting upwardly therefrom, means to mount said support on the heating unit and a hood for said heating unit having a slot of slightly greater width than that of the upwardly projecting portion of the support extending a distance from substantially the center of the hood, the shape of the hood and the upwardly projecting portion of the support and the length of the slot being such that when the projecting portion of the support abuts the end of the slot near the center of the hood said hood may rest on said support in a substantially horizontal plane and when said projecting portion of the support abuts the opposite end of said slot said hood may be tilted at an angle of substantially 45° relative to the horizontal and whereby when said projecting portion is opposite intermediate portions of the slot said hood may be set at intermediate tilted positions relative to the horizontal and whereby said hood may be adjusted at any desired angular position relative to the center of the support.

In testimony whereof I affix my signature.

GEORGE E. RYAN.