Feb. 6, 1951

M. T. BRITT

2,540,929

TOBACCO CURING APPARATUS

Filed Oct. 17, 1947

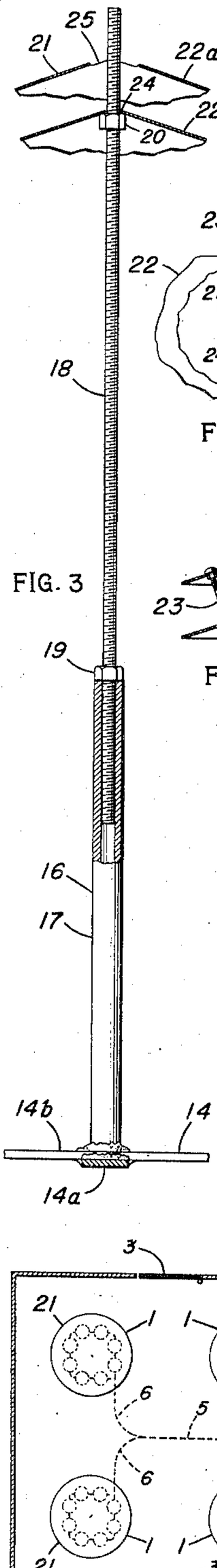

FIG. 3

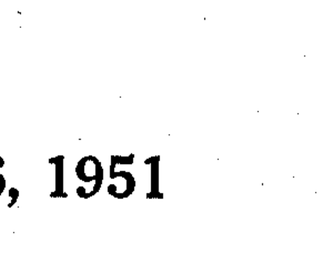

FIG. 4

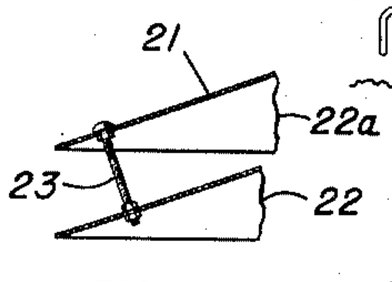

FIG. 5

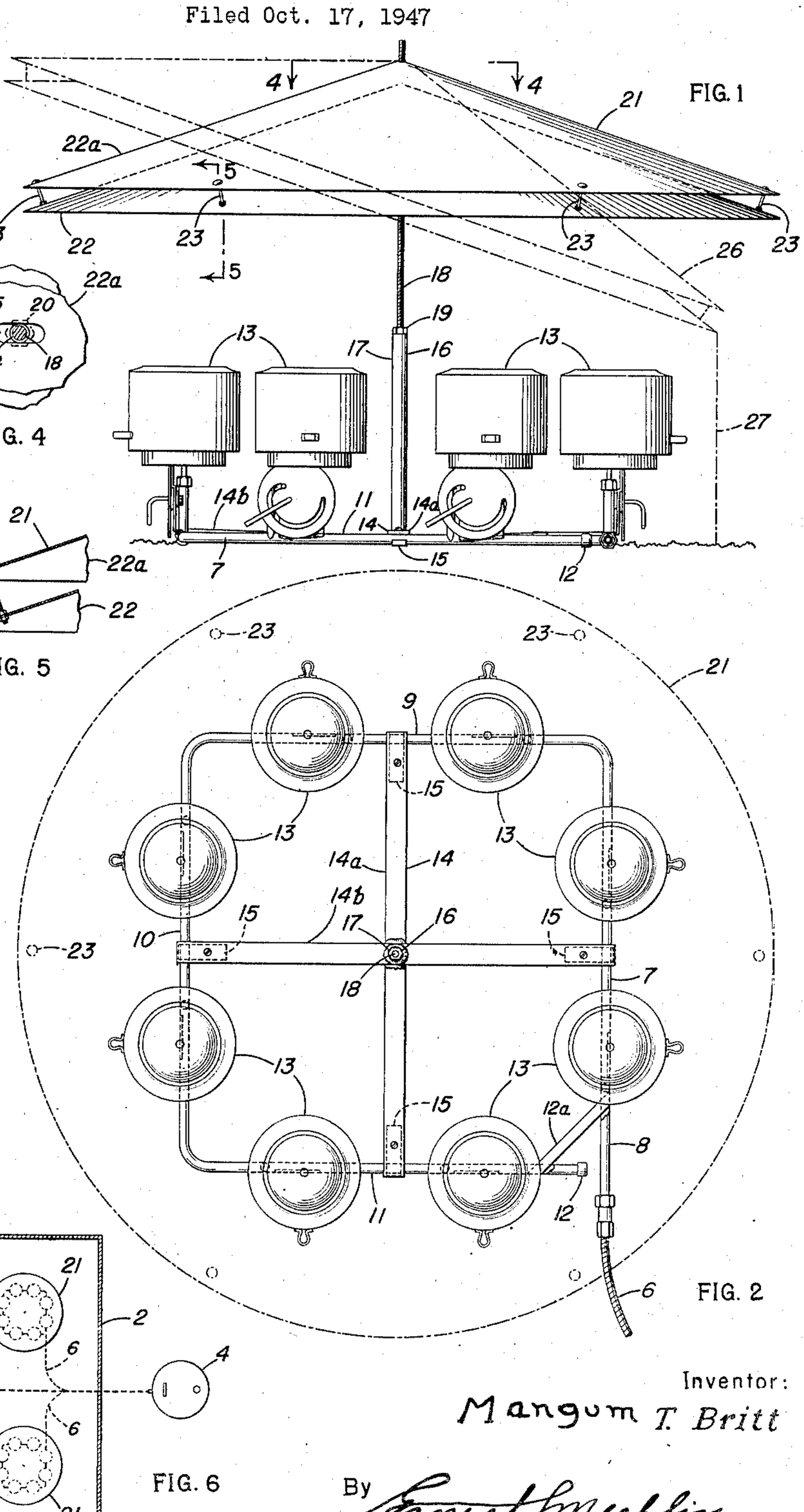

FIG. 1

FIG. 2

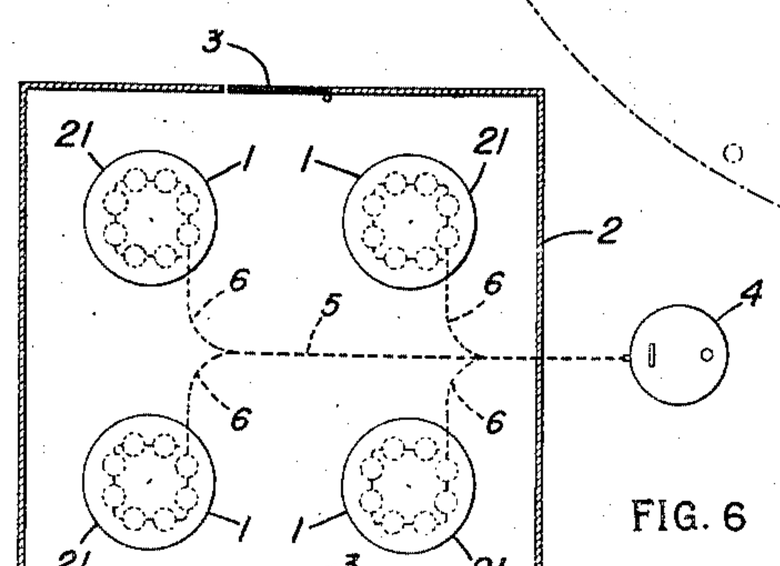

FIG. 6

Inventor:
Mangum T. Britt

By Ernest J. Mecklin
his Attorney

Patented Feb. 6, 1951

2,540,929

UNITED STATES PATENT OFFICE

2,540,929

TOBACCO CURING APPARATUS

Mangum T. Britt, Clinton, N. C.

Application October 17, 1947, Serial No. 780,398

7 Claims. (Cl. 126—93)

1

This invention pertains to a device or apparatus for use in the process of curing tobacco.

An object of the invention is the provision of a novel device for distributing heat throughout a tobacco curing barn.

Another object of the invention is the provision of a novel heating device for use in a tobacco barn and which may be adjusted in a multiplicity of arrangements so that heat generated thereby may be directed to a desired location within the barn.

A further object of the invention is the provision of a novel heat distributing device constructed in such a manner as to distribute heat evenly.

The above and numerous other objects of the invention will become apparent from the succeeding description considered together with the accompanying drawing wherein:

Figure 1 is a side elevational view of a heat distributing device embodying the present invention.

Figure 2 is a plan view of the heating device shown in Figure 1 but with a part thereof removed to more clearly illustrate the invention.

Figure 3 is a partial elevational and partial sectional view of component parts of the heating device shown in Figure 1.

Figure 4 is a plan view taken along the lines 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is a sectional view taken along the lines 5—5 of Figure 1, looking in the direction of the arrows.

Figure 6 is a schematic view of a tobacco curing barn having a plurality of heating devices of the present invention associated therewith.

Referring now in detail to the drawing, wherein like reference characters indicate like parts, the numeral 1 is employed to designate, in a somewhat general manner, a heating device or apparatus exemplary of the present invention. In the process of curing tobacco it is necessary upon picking leaves or hands of tobacco to hang them from rafters conveniently spaced in a tobacco curing barn 2. The barn is usually provided with doors or openings 3 for properly ventilating the interior of the barn to prevent the accumlation of excess moisture laden air within the barn and for other reasons quite apparent to those skilled in this particular art. As illustrated in Figure 6 of the drawing, it is at the present writing believed essential to space a plurality of heating devices in a somewhat uniform arrangement so that heat emanating from the devices may be equally distributed throughout the barn area. While I have

2

illustrated four novel heating devices in the arrangement of Figure 6 of the drawing it will be clearly understood that the number and arrangement of heating devices will, of course, depend entirely upon the size of barn since there appears no standard size, shape or configuration of tobacco curing barns.

The heating devices herein employed are of the oil burning or consuming type for the purpose of economy as well as safety and as a source of supply there is provided a fuel tank 4 disposed outside the barn and usually at a sufficient elevation to permit the fuel to be fed to the heating devices through a leveling valve or carburetor. From the fuel tank there extends a main feed line 5 which travels on or underneath the ground to the interior of the barn where, branching therefrom, are branch fuel feed lines 6 leading to the surface of the ground adjacent the conveniently or desirably spaced heating devices 1 previously mentioned and considered hereinafter in minute detail.

Forming a support or base for the heating device is a fuel supply line 7 which may be formed preferably of galvanized iron or copper tubing. However, the material employed is of no present moment as a wide range of materials are commercially available from which a suitable or adequate choice may be made. The only factor of present importance is that the fuel supply line be of such character or nature as to permit an adequate flow of fuel therethrough. The fuel supply line is desirably and preferably so formed as to present a rectangular or cornered design so that it may form an adequate base upon which other related components may be mounted. Also this rectangular or angular configuration of the fuel supply line lends stability to the heating device. The base forming supply line is, more speccifically, formed with four legs 8, 9, 10 and 11 with the leg 8 being connected to the fuel feed line and the terminal leg 11 being capped with a plug 12. The legs 9 and 11 and the legs 8 and 10 are opposed to one another in parallel relation.

In order to rigidify the supply line against stresses to which it might be placed in service a gusset bar 12*a* extends diagonally adjacent the free ends of the supply line. The gusset bar 12*a* extends from adjacent a free end of the leg 11 to adjacent a free end of the leg 8 and is welded or otherwise secured to both legs to form a rigid part thereof.

Mounted in series on the fuel supply line is a cluster of heating elements 13 which are of the oil consuming type and in fuel communica-

tion with the fuel supply line. Each heating element may be of any ordinary commercial type so long as it is suitable for mounting on the supply line and capable of being in fuel communication therewith. Each leg of the supply line has two or more such heating elements upstanding therefrom and secured thereto by any desired means or method and thus the heating elements present an orderly grouped cluster capable of radiating an even flow of heat units therefrom.

In order to safeguard, during the curing process, against falling leaves of tobacco coming into contact with or falling upon the heating elements some means is provided to direct any falling tobacco leaves away from the heating elements. Such a means is characterized by cross bars 14 spanning the distance between the supply line legs and being formed by a pair of bars arranged perpendicular to one another with one bar 14*a* spanning the distance between the legs 9 and 11 and the other bar 14*b* bridging the distance between legs 8 and 10. Each free end of a bar overlies a related leg and associated with each bar end is a clamp 15 bolted or otherwise removably secured to the bar end to clamp a supply line leg therebetween. Thus the cross bars are removably or detachably secured to the supply line. Upstanding from the cross bars adjacent the center of the cluster of heating elements and the fuel supply line is a post or standard 16 being formed in part by a barrel or tubular column 17 having its lower extremity welded or otherwise secured to the cross bars at or near their area of juncture or cross. Mounted in the barrel is a staff or rod 18 threaded from end to end with the same turn of threads and having turned thereon or in threaded engagement therewith a bottom nut 19 and a top nut 20. These nuts may be run along the length of the staff to alter or change its effective length and thereby render the standard adjustable vertically. As clearly illustrated in the drawing, particularly Figure 3 thereof, the bottom nut rests upon the barrel and forms an abutting shoulder for the support of the staff. Any rotary motion of the bottom nut will urge the staff inwardly or outwardly of the barrel to lower or raise the upper or free extremity of the staff.

Mounted upon the standard is a hood or shield 21 functioning as an umbrella which blankets the cluster of heating elements therebeneath. The hood is supported a predetermined or required distance above the cluster of heating elements by means of the top or upper nut 20 so that any rotative movement of the nut will change or alter its vertical position to lift or lower the hood. The hood is desirably of conical configuration so that in the event any leaves of tobacco become disengaged from the supporting rafters and fall upon the hood the leaves will be directed well away from the cluster of heating elements. Because of the fact that a part of the hood immediately over the cluster may, at times, become too hot and thereby cause a dried leaf of tobacco falling thereon to ignite, the hood is specifically designed to circumvent such accidents. This rise in temperature may be warranted to overcome conditions of a climatic nature within the barn. The hood is desirably made of two counterpart conical sheets 22 and 22*a* spaced a desired distance apart to form an air pocket therebetween. Any preferred means may be employed as a sheet spacing medium and as characteristic of such a means there is disclosed a series of bolt and nut arrangements 23 positioned adjacent the periphery of the sheets as clearly illustrated in Figure 5 of the drawing. Thus, by this arrangement the hood is capable of radiating heat from the cluster of heating elements and the top sheet 22*a* will remain relatively cool.

It may at times be necessary to concentrate a column of heated air to a particular location in the barn in order that the tobacco leaves therein will cure evenly. With this thought foremost in mind the hood is made adjustable and toward the accomplishment of this feature an opening 24 is provided in the bottom sheet 22 to slightly more than accommodate the staff which extends therethrough. The top sheet 22*a* is provided with a centrally disposed slot 25 through which the staff or rod extends. When it is desired to tilt the hood as indicated in diagrammatic lines 26 in Figure 1 a wire or chain 27 (indicated diagrammatically in Figure 1) has one end thereof secured to one of the bolt and nut assemblies while the other end is anchored in the ground.

From the above it will be noted that various changes and alterations may be made to the illustrated and described construction without departing from the spirit of the invention and scope of the appended claims.

I claim:

1. In a tobacco curing device, an open-sided heating unit comprising, a fuel supply line of rectangular formation, a cluster of heating elements secured in series to said line and arranged to receive fuel therefrom, a plurality of cross bars removably secured to said line at a plurality of positions, a standard upstanding from said cross bars, and an adjustable hood mounted on said standard and blanketing all of said heating elements.

2. In a tobacco curing device, the combination of, a fuel supply line of substantially closed loop configuration, a cluster of heating elements secured in series to said line at a plurality of positions and arranged to receive fuel therefrom, a plurality of cross bars removably secured to said line at a plurality of positions, a vertically adjustable standard upstanding from said cross bars, and an adjustable hood mounted on said standard in vertical spaced relation to and blanketing all of said heating elements.

3. In a tobacco curing device, the combination of, a fuel supply line of substantially closed loop configuration, a cluster of substantially equally spaced heating elements mounted in series on said line and arranged to draw fuel from said line, a bar spanning said line and removably secured thereto, a vertically adjustable standard upstanding from said bar and extending vertically from substantially the center of said cluster, and an adjustable hood mounted on said standard blanketing said cluster.

4. In a tobacco curing device, the combination of, a fuel supply line of angular configuration, a cluster of substantially equally spaced heating elements mounted on said line and arranged to draw fuel from said line, a bar removably secured to said line and removably secured thereto at a plurality of positions, an adjustable standard upstanding from said bar adjacent a center of said cluster, and a double layered hood mounted on said standard and extending over all of said heating elements.

5. In a tobacco curing device, the combination of, a fuel supply line of angular configuration, a cluster of substantially equally spaced heating

elements mounted on said line and arranged to draw fuel from said line, a bar removably secured to said line and removably secured thereto at a plurality of positions, a standard upstanding from said bar adjacent a center of said cluster, and a hood mounted upon said standard; said hood comprising two cone-shaped sheets spaced from one another.

6. In a tobacco curing device, the combination of, a fuel supply line of angular configuration, a cluster of substantially equally spaced heating elements mounted on said line and arranged to draw fuel from said line, a bar removably secured to said line and removably secured thereto at a plurality of positions, an adjustable standard upstanding from said bar, and a hood adjustably mounted upon said standard; said hood comprising a plurality of cone-shaped sheets held apart by spacer means.

7. In a tobacco curing device, the combination of, a fuel supply line of angular configuration, a cluster of substantially equally spaced heating elements mounted on said line and arranged to draw fuel from said line, a bar removably secured to said line and removably secured thereto at a plurality of positions, a vertically adjustable

standard upstanding from said bar, and a hood mounted on said standard so as to blanket said cluster of heating elements; said hood being arranged to be tilted from one side to another and comprising a plurality of cone-shaped sheets spaced vertically from one another.

MANGUM T. BRITT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
89,181	Stoddard, et al.	Apr. 20, 1869
844,583	Dixon	Feb. 19, 1907
844,632	Thompson	Feb. 19, 1907
970,056	Hurley	Sept. 13, 1910
1,465,043	Ivor	Aug. 14, 1923
1,694,604	Ryan	Dec. 11, 1928
1,699,032	Shuell et al.	Jan. 15, 1929
2,124,074	Mayo	July 19, 1938
2,197,325	Spikes	Apr. 16, 1940
2,280,458	Tharrington	Apr. 21, 1942
2,299,340	Nelson	Oct. 20, 1942