C. SUBERT.

HUMIDIFIER.

APPLICATION FILED NOV. 20, 1907.

902,623. Patented Nov. 3, 1908.

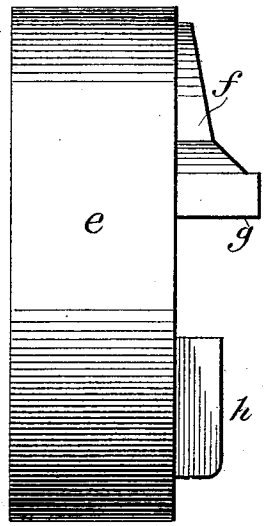


Fig. 1.

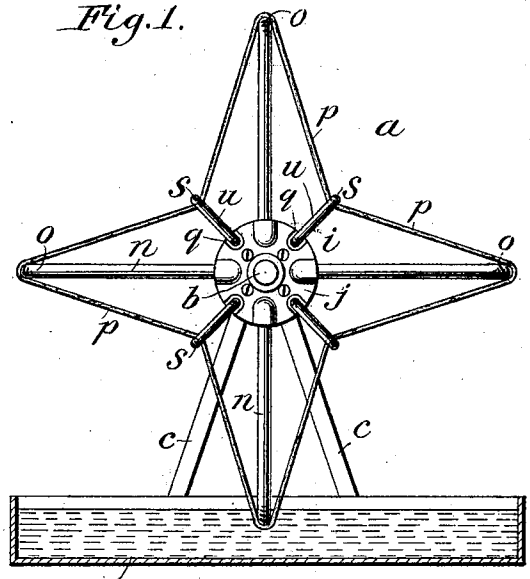


Fig. 2.

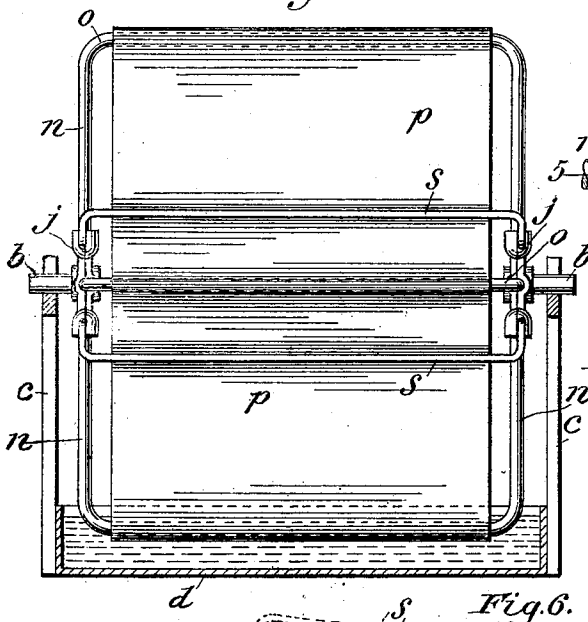


Fig. 3.

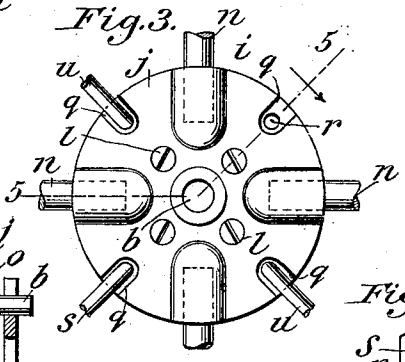


Fig. 4.

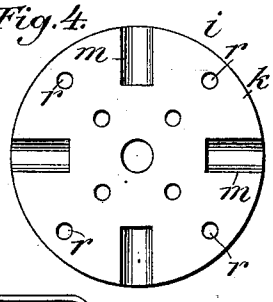


Fig. 5.

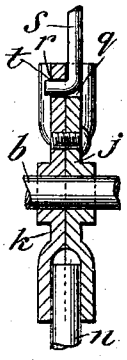
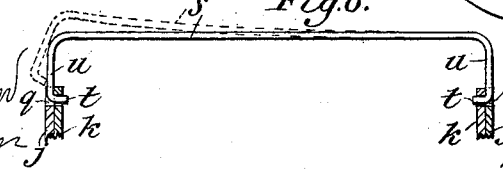


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES SUBERT, OF CHICAGO, ILLINOIS.

HUMIDIFIER.

No. 902,623. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed November 20, 1907. Serial No. 403,017.

To all whom it may concern:

Be it known that I, CHARLES SUBERT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Humidifiers, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding letters of reference in the different figures indicate like parts.

The object of my invention is to provide a humidifier for moistening the air in tobacco houses and for other analogous purposes, which may be cheaply manufactured and so constructed that the absorbent material thereon may be readily changed whenever occasion may require.

To these ends my invention consists in the combination of elements hereinafter described and claimed.

In the drawings, Figure 1, is a side elevation of a device embodying the features of my invention, Fig. 2, is a front view thereof, Fig. 3, is an outer face view of one of the two-part hubs, Fig. 4, is an inner face view of the inner disk forming a counterpart thereto, Fig. 5, is a transverse sectional view, taken upon the line 5—5, Fig. 3, viewed in the direction of the arrow there shown, and Fig. 6, is a side view of one of the detachable frame elements, showing the manner of connecting the same with the hubs.

Referring to the drawings, *a*, Figs. 1 and 2, represents generally the main humidifying element which consists of a shaft *b* mounted in suitable bearings in upright supports *c* and having a revoluble frame with an absorbent material mounted thereon, the details of which will be hereinafter more fully described. The revoluble frame is mounted above a reservoir *d* of water, into which the wings of the frame dip as it is rotated. In operative proximity to the frame, is placed a fan, not shown, of any well known construction, which is inclosed within a casing *e* having suitable openings in the front, with shields *f*, *g*, *h*, so arranged as to direct currents of air in predetermined directions against different wings of the humidifier frame for the purpose of rotating it at a uniform speed. Inasmuch as this device forms the subject of a separate application, I will not attempt a further description herein, but will proceed to describe the construction of the humidifier frame which constitutes the novel feature of my invention.

Mounted upon the shaft *b*, are hubs, generally designated by *i*, each of which consists of two disks *j*, *k*, secured together by means of screws *l*. In each of the disks *k*, are formed radial grooves *m*, Fig. 4, which register with corresponding grooves in the disks *j*, thereby forming sockets for the reception of radial frame elements *n*, the ends of which are rigidly clamped therein by means of the screws *l*. Said frame elements are bent in U-shape with the middle portion *o* parallel with the shaft *b*. A covering of absorbent material *p*, such, for example, as cheese-cloth or other fabric of open mesh, is placed over the frame elements *o* around the entire frame. Between each of the arms *n* in the disks *j* are formed notches *q*, Figs. 3 to 6 inclusive, which register with bores *r*, in the disks *k*. U-shaped securing rods *s* are extended across the fabric *p*, between the parts *o*, and are provided with pintles *t*, Figs. 5 and 6, which are fitted to enter the bores *r*, while the parts *u*, of said rods enter the notches *q* which serve to maintain them in the desired radial positions. The rods *s* are resilient and yield sufficiently to enable the pintles to enter the bores *r* into which they are locked by the spring tension of the rods. The manner of inserting the rods is clearly indicated by the full and dotted lines in Fig. 6. In utilizing my improved frame, the rods *s* are first removed and the endless cover *p* mounted upon the parts *o*. The rods *s* are then secured in position in the manner described and serve to stretch the cover by drawing it inwardly between the parts *o*, when it is ready for use.

I do not limit myself to the precise manner shown for connecting and securing the detachable rods, inasmuch as the construction may be varied without departing from the principle involved.

I make no claim herein to the shield employed in conjunction with the fan, inasmuch as that is shown, described and claimed in a separate application filed by me as Serial No. 403,016.

Having thus described my invention, I claim:

1. The combination in a revoluble humidifier, of a supporting shaft, a series of frame elements secured thereto, said elements extending radially therefrom with portions of each arranged parallel to the shaft, an absorb-

ent fabric mounted over said elements from one to the other and an intervening series of frame elements arranged outside of said fabric to draw it inwardly towards the axis of the frame, and means for detachably locking said last named frame elements in position.

2. The combination in a revoluble humidifier, of a supporting shaft, a series of permanent radial frame elements secured thereto, each of which has a portion arranged parallel to the shaft, an absorbent fabric placed thereover, an intervening series of resilient frame elements arranged outside of said absorbent material with the main portion thereof parallel to the shaft and supporting elements with which said intervening frame elements may be held in locking engagement by resilient action.

3. The combination in a revoluble humidifier, of a supporting shaft having hubs thereon, each being composed of two disks, means for attaching said disks to each other, primary frame elements permanently clamped between said disks, said frame elements each having a portion arranged parallel to the shaft, a strip of absorbent material arranged to surround the frame formed by said elements and cross rods for securing said material in place, each having radial portions arranged to detachably engage said hubs.

4. In a device of the class described, the combination of two-part hubs composed of separable disks mounted upon a shaft, a skeleton frame composed of radially extended rods having transverse portions arranged parallel to the shaft, one set of rods being clamped between said disks while the other is supported in radial notches in one set of disks and provided with pintles which enter holes in the other set, and an endless strip of absorbent material arranged to extend alternately over and under the transverse rods of the successive frame elements.

5. In a device of the class described, a frame in which is combined a shaft having hubs composed respectively of separable disks, each having radial counterpart grooves to form sockets for the reception of frame rods, radial notches formed in one of said disks extending to its periphery between said grooves, bores in the adjacent disks in registration with said notches, means for rigidly connecting said disks, two sets of radial frame elements, one rigidly supported in said sockets while the other is arranged to interlock with said notches and holes, and an endless strip of absorbent material stretched over said first named frame elements and beneath the others.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses, this 16th day of November 1907.

CHARLES SUBERT.

Witnesses:
D. H. FLETCHER,
CARRIE E. JORDAN.