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A. KEMP ET AL

2,127,975

FUMIGATING OR DEODORIZING DEVICE

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Fig. 1

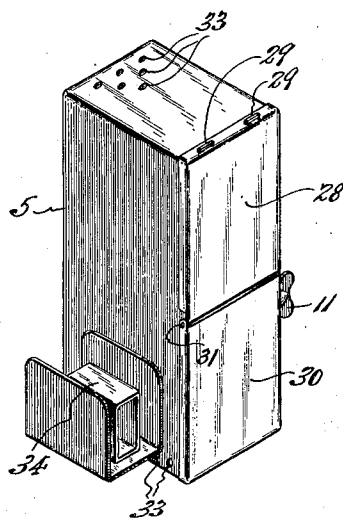


Fig. 2

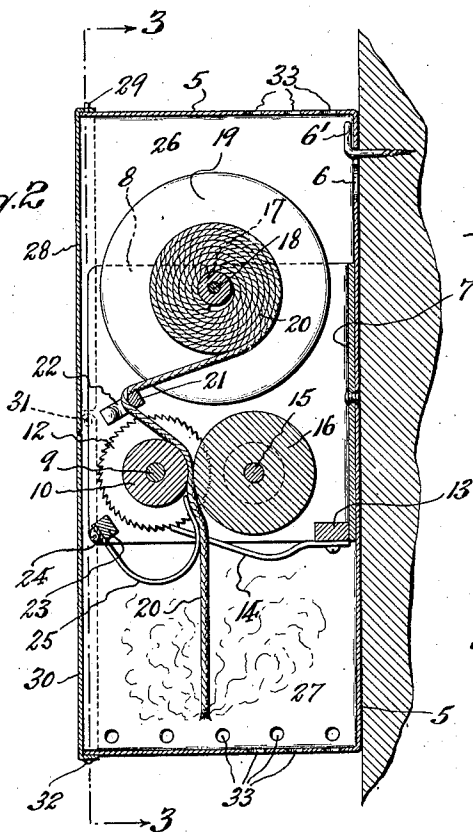
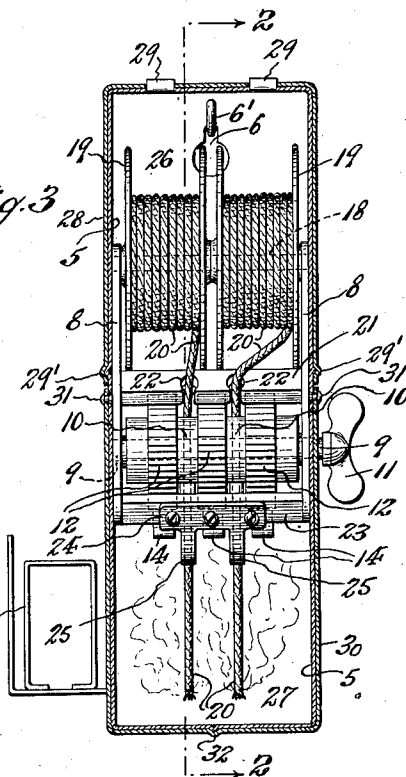


Fig. 3



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FUMIGATING OR DEODORIZING DEVICE

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2 Claims. (Cl. 21-111)

This invention relates, generally, to improvements in fumigating and deodorizing devices; and the invention has reference, more particularly, to a novel apparatus adapted to store and support a supply of combustible material subject to ignition, whereby, when burning, the same will give off fumes adapted to effect a fumigation of the surrounding air or to counteract undesirable odors in the vicinity.

10 This invention has for a general object to provide a simple, easily manipulatable and compact device adapted to be placed within a room or apartment subject for use, as occasion may require, in the production of fumigating and deodorizing effects through the agency of fumes given off by ignited combustible material with which the device is supplied.

With such general object in view, the invention comprises a casing or housing having within its interior means to support a cord-like strand of selected combustible material which is rolled or wound upon itself, preferably upon a rotatably mounted spool or reel, so that suitable lengths or free portions thereof may be drawn off subject to use; feed means, manipulatable from the exterior of said casing or housing, being provided for drawing the desired free portions from the supply of material and suspending the same in a portion of the casing or housing interior which serves as a combustion chamber; means also being provided for automatically snuffing out the ignited portion of the material after desired lengths thereof have been consumed in use, said snuffing means being so disposed and cooperatively related to the feed means as to assure the arresting of combustion of the material without risk of releasing the free end of the latter from operative engagement by said feed means; and said casing or housing having suitably located vents for discharging into the surrounding air the fumes arising from the combustion of the material within the same.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—

Fig. 1 is a perspective view of the novel fumigating or deodorizing device, according to the invention; Fig. 2 is a longitudinal vertical section through the device, taken on line 2—2 in Fig. 3; and Fig. 3 is a transverse vertical longitudinal section through the device, taken on line 3—3 in Fig. 2.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring to the drawing, the reference character 5 indicates a casing or housing open at its front side and provided in its back wall with a perforation 6 to receive a suspension hook 6' by means of which the casing or housing may be suspended against a wall surface, if desired.

Suitably secured within the casing or housing 5, between its top and bottom ends, is a bearing frame 7, the side members 8 of which lie contiguous to the side walls of said casing or housing.

As shown in the drawing, a double arrangement of combustible material supply means and cooperative feed means is disclosed which is adapted to feed two lengths of the combustible material to the combustion chamber of the device; it will be understood, however, that the invention is not to be limited to such specific double arrangement, since it also contemplates, in principle, either a single arrangement of supply and feed means to feed a single length of the material, or an arrangement adapted to supply more than two lengths of combustible material, as may be desirable in any given embodiment of the invention.

Journalled in and between the side members 8 of the bearing frame 7 is a transverse shaft 9, and fixed in suitable locations upon said shaft are feed rollers 10. One end of said shaft 9 extends through a side wall of the casing or housing 5 so as to project exteriorly from the latter, and fixed on said externally projecting end of the shaft is a finger piece 11 by which the shaft and the feed rollers 10 may be turned. Also fixed on said shaft 9 are one or more ratchet wheels 12. Secured to and supported by a supporting bar 13 carried by and at the rear of said bearing frame 7 are one or more spring detent pawls 14 corresponding to the ratchet wheels 12. The free ends of said detent pawls yieldably engage the toothed peripheries of said ratchet wheels. The cooperative arrangement and relation of said ratchet wheels and detent pawls is such that the shaft 9 and its feed rollers 10 may be turned in one direction which is operative to feed down material engaged by said feed rollers. Journalled in and between the side members 8 of the bearing frame 7 is a second transverse shaft 15 disposed rearwardly of and parallel to said shaft 9. Shaft 15 is freely rotatable, and fixed thereon are idler feed rollers 16 which are opposed to and which cooperate with the feed rollers 10.

Provided in the upper margins of the side

members 3 of the bearing frame 7 are upwardly open bearing notches 17. Removably journaled in said bearing notches 17 is a reel supporting shaft 18. Rotatably mounted on said shaft 18 are reels or spools 19. Supplies of combustible material are wound upon said reels or spools 19. Said combustible material comprises a cord-like strand 20, which may be of any selected material adapted to give off odor counteracting fumes, or the strand may be composed of a suitable absorbent material adapted to be treated with a selected chemical ingredient suitable for deodorizing or fumigating effects when liberated by the combustion of the carrier strand material.

Affixed to the bearing frame side members 8, to extend transversely between the same, at a point intermediate the feed roller means and the material supply reels, is a transverse guide bar 21. This guide bar 21 is provided with indented guide notches 22 through which the strands of combustible material 20 are led from the reels or spools 19 and then extended to and between the feed roller sets 10-16 so as to be operatively engaged by the nip of the latter.

Affixed to the bearing frame side members 8, to also extend transversely between the same, at a point below and forwardly of said feed roller sets 10-16, is a supporting bar 23. Affixed to said supporting bar 23 is the base plate 24 from which spring resilient snuffer blades 25. These snuffer blades are of curvilinear form having upwardly directed free end portions which oppose the feed rollers 16 at a point below the nip of the feed roller sets, being thus adapted to pinch the strands of combustible material 20 at such point so as to arrest the combustion thereof when consumption of the material by its burning reaches such point. Since, by this arrangement, combustion of the material 20 is arrested short of the point of engagement of the strands thereof by the nip of the feed roller sets, it will be obvious that the strands are never released from operative engagement by the feed roller sets, and consequently the ability to feed down at will the strands of material by turning of the feed rollers is assured.

The space within the interior of the casing or housing 5 located below the position of said feed roller means constitutes a combustion chamber 27, while the space within the casing or housing 5 located above the position of said feed roller means constitutes a storage chamber 26. The open front of the casing or housing 5 contiguous to the storage chamber 26 is normally closed by a removable cover section 28. One convenient means for mounting said cover section 28 comprises suspension lugs 29 upstanding from the front marginal portion of the top wall of the casing or housing, the top flange of said cover section 28 having perforations to receive said lugs. The side flanges of said cover section 28 and the front marginal portions of the side walls of said casing or housing may be provided with cooperating male and female snap fastener elements 29' for retaining the cover section closed. It will be apparent that when it is desired to remove the reels or spools 19 to renew the supply of combustible material, the cover section 28 may be removed, so that the reels or spools and the shaft 18 therefor may be lifted clear of the bearing notches 17 and then outwardly withdrawn from the storage chamber 26 for replacement by full reels or spools. The open front of the casing or housing 5 contiguous to the combustion chamber 27 is normally closed by a cover section

30. This cover section is hinged at its upper end to the side walls of the casing or housing by hinge pins or rivets 31. The cover section may be releasably secured in closed position by means of cooperating male and female snap fastener elements 32 provided in connection with the front marginal portion of the casing or housing bottom wall and the bottom flange of said cover section 30. When it is desired to gain access to the interior of the combustion chamber 27 for the purpose of igniting the combustible material fed down thereinto, said cover section 30 may be swung open for the insertion of a lighted match. It will be understood that the above described arrangement of means for closing the open front of casing or housing 5 is but one of many various forms of closing means which may be used, and consequently the invention is not limited to the said described specific form of such closing means.

The walls of the casing or housing are provided with exit openings 33 for the escape of fumes from the ignited combustible material 20 to the surrounding air. The location, arrangement and number of said exit openings is a matter of choice.

It is desirable to have a supply of matches for igniting the combustible material conveniently at hand. To assure this it is desirable to provide means 34 on an exterior surface of a wall of the casing or housing 5 adapted to receive and support a box of matches.

When it is desired to utilize the device for a fumigating or deodorizing effect, the finger piece 11 is manipulated to turn the feed roller means. Such operation of the feed roller means pulls from the reels or spools and feeds down into the combustion chamber 27 suitable lengths of the strands of combustible material 20, which lengths of the latter are suspended within the combustion chamber below the feed roller means and the associated snuffer blades. After desired amounts of the material are thus suspended within the combustion chamber, the same may be ignited, and will thereupon burn without flame but so as to give off the fumes desired for fumigating or deodorizing effects. The burning will continue until the fed down lengths of the material are consumed and the combustion arrested by the functioning of the snuffer blades 25.

We are aware that many changes could be made in the above described device, and that apparently widely different embodiments of this invention could be made without departing from the scope thereof. It is therefore intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

We claim:

1. In a device of the kind described, a casing having vent openings, opposed feed rollers mounted within said casing intermediate its top and bottom ends, one of said rollers comprising a drive roller and the other an idler roller, said idler rollers being of substantially greater diameter than said drive roller, means above said rollers to supply cord-like combustible material for engagement by the nip of said rollers subject to down feeding movement by the latter upon rotation thereof, and a fixed resilient snuffer blade, a free end portion of said snuffer blade being disposed to yieldably press said cord-like material against the circumference of said larger idler roller at a point substantially below the nip

of the rollers without impeding its downward movement while nevertheless pinching the same with snuffing effect to arrest combustion thereof at a point short of releasing the same from the nip of said rollers.

5 2. In a device of the kind described, a casing having vent openings, opposed feed rollers mounted within said casing intermediate its top and bottom ends, the interior spaces of said casing above and below said rollers respectively constituting a storage chamber and a combustion chamber, said casing having access openings leading respectively to said storage and combustion chambers, independently manipulatable cover means for closing said access openings, one of said feed rollers comprising a drive roller and the other an idler roller, means exteriorly projected from said casing for manipulating said

drive roller, means to restrain said rollers against reverse rotation and backlash, means within said storage chamber to supply cord-like combustible material for engagement by the nip of said rollers subject to down feeding movement by the latter upon rotation thereof, and a fixed resilient snuffer blade, a free end portion of said snuffer blade being disposed to yieldably press said cord-like material against said idler roller at a point substantially below the nip of the rollers without impeding its downward movement while nevertheless pinching the same with snuffing effect to arrest combustion thereof at a point short of releasing the same from the nip of said rollers.

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