

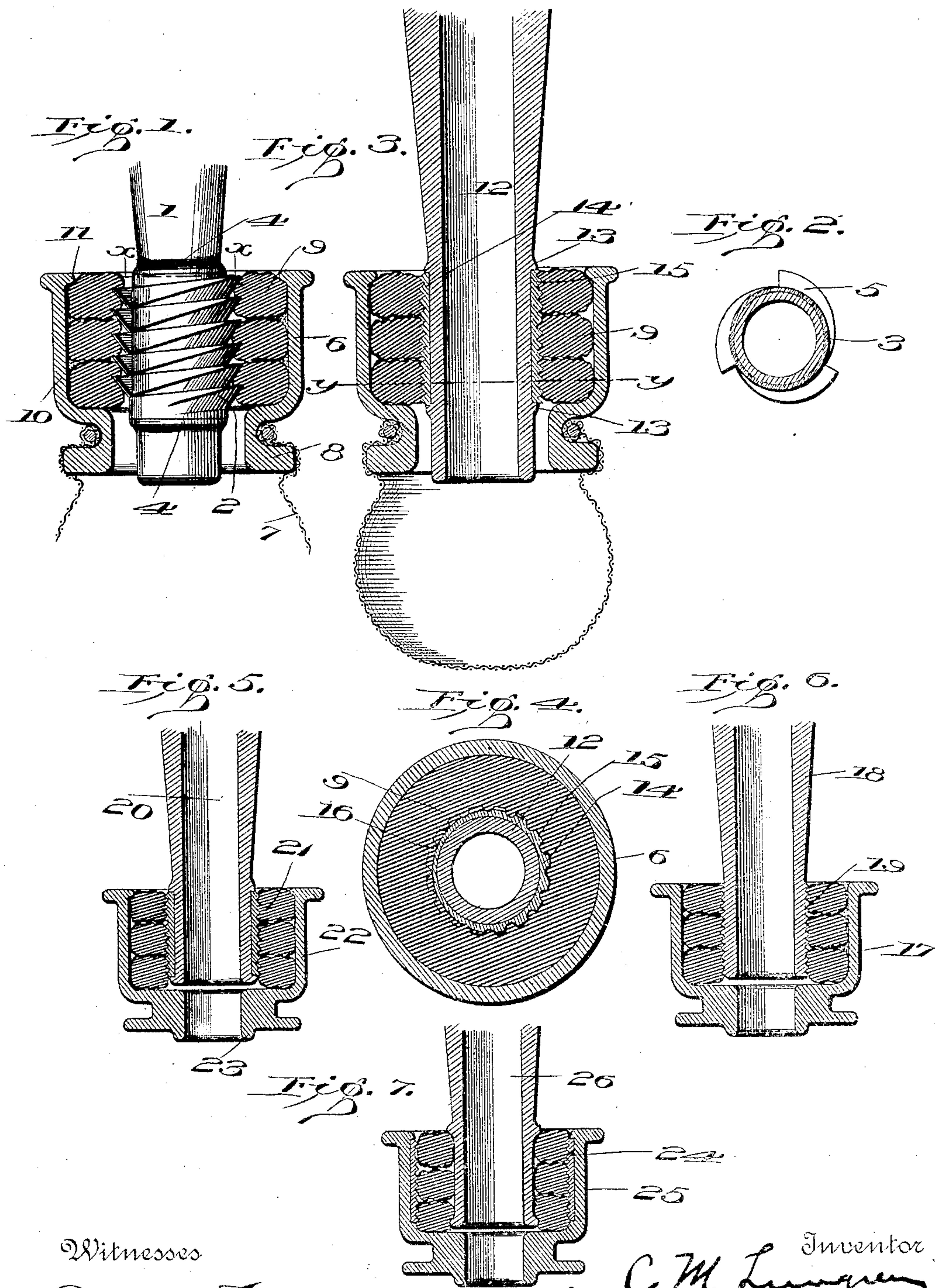
No. 803,914.

PATENTED NOV. 7, 1905.

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MEANS OF SUSPENDING INCANDESCENT LAMP MANTLES.

APPLICATION FILED AUG. 12, 1904.



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MEANS OF SUSPENDING INCANDESCENT-LAMP MANTLES.

No. 803,914.

Specification of Letters Patent.

Patented Nov. 7, 1905

Application filed August 12, 1904. Serial No. 220,473.

To all whom it may concern:

Be it known that I, CHARLES MARSHALL LUNGREN, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Means of Suspending Incandescent-Lamp Mantles, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means of suspending incandescent-lamp mantles.

Certain broad features herein shown and described are shown, described, and claimed in a companion application, filed of even date herewith, and are accordingly not claimed herein.

One of the objects of this invention is to provide a simple and efficient means for suspending fragile articles of the above type in such manner that they may be readily secured in position or removed for replacing the mantle.

Another object is to provide a resilient suspension adapted to engage the flame-nozzle of the burner without appreciable injury.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the devices herein described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein are shown several of various possible embodiments of my invention, Figure 1 is a sectional elevation of mantle-suspending means with the mantle attached in position. Fig. 2 is a sectional view of a portion thereof, taken substantially on line *xx* of Fig. 1. Fig. 3 is a sectional elevation of an embodiment provided with a different type of securing means. Fig. 4 is a cross-section taken on line *yy* of Fig. 3. Fig. 5 is a sectional view showing a flame-nozzle upon the member to which the mantle is directly secured. Fig. 6 is a similar view showing integral threads upon the supporting member. Fig. 7 is a similar view of another modification.

Similar reference characters refer to similar parts throughout the several views.

It may here be noted that although gas-

burners utilizing an incandescent mantle have marked advantages in the matter of quality and quantity of light to be given they are nevertheless open to serious objection on account of their fragile nature and tendency to frequent breaking in use. Another obstacle to be overcome in constructions of this type is the difficulty with which the parts bearing the mantle are removed from the supporting means if a tight joint is to be formed between the same.

The above and other defects are remedied in constructions of the nature of that herein described.

Referring now to Fig. 1, a supporting member, which may be mounted in any desired manner and to which gas is conducted by any desired means, is represented at 1. In this embodiment member 1 forms the conduit through which the gas is conveyed to the burner; but it is to be understood that the mantle-suspending means, hereinafter described, are useful in other relations. Supporting member 1 may be formed of any desired material and, if of metal, has turned upon the lower portion thereof a thread for a purpose hereinafter described. In this embodiment, however, it is preferred that the supporting member be of porcelain, steatite, or similar material and that the thread 2 be formed upon a separate sleeve or ring of metal 3, which is secured in place upon supporting member 1 between shoulders 4 in any desired manner. The thread herein shown, which is of the preferred form, has a flat upper face lying at substantially right angles with the axis of the supporting member. The lower face, however, is inclined so as to provide a sharp upper edge. This thread is preferably cross-cut, so as to form teeth 5, which are preferably of the shape shown in Fig. 2. These teeth may be made in any desired manner; but it has been found convenient to form the same by means of a longitudinal cut with a milling-machine, thus forming the teeth in vertical alinement, as appears in Fig. 1. It will be seen by reference to the drawings that these teeth will permit a ready rotation of the parts engaging the same in one direction, but will tend to resist any relative movement in the opposite direction. This toothed thread may be cut in various forms, and the expression "toothed" as used

throughout this description and in the following claims is meant to comprehend any irregularity of outline tending to resist a relative rotary movement of the thread and the parts with which it engages. Mounted upon a spool or ring 6 is a mantle 7 of any desired form, which is preferably secured in place by means of an asbestos cord, hemmed within one end thereof, within a recess formed by shoulder 8. Spool 6 is lined with a resilient suspending means 9, which is preferably formed of a refractory fibrous material, as asbestos wicking, so as to be adapted to resist the high temperature to which it is exposed and form a tight and resilient means of suspension for the mantle. Although other material may be used in place of asbestos, it has been found that this material is peculiarly adapted for the purpose in question, as it performs its functions of cushioning the jar or vibration of supporting member 1 without moving the mantle to any appreciable degree, and hence avoiding the undesirable feature of a moving source of light. Asbestos is also desirable, because aside from the advantageous features above indicated it also possesses by virtue of its fibrous character the quality of forming a tight packing, and thus overcoming any tendency of the gas to leak between supporting member 1 and the spool 6. Packing 9 may be held within spool 6 by means of water-glass or any other desired cement 10; but this spool is preferably provided with an inwardly-turned flange 11 in order more positively to hold the packing in place. Support 1 projects downwardly through spool 6 in such manner as to direct the flame caused by the burning of the gas against the mantle 7. By reason of this feature the lower part of supporting member 1 is termed throughout this description and in the following claims a "flame-nozzle," and by such term is meant any member adapted to discharge gas or other material in such position as to be efficiently burned at the point of discharge.

The manner of assembling the parts of the above-described embodiment of my invention is as follows: The mantle 7 having been secured upon spool 6 and the wicking 9 being held within the same in any desired manner, the mantle-supporting spool, with the associated parts, is screwed upon the threaded lower end of supporting member 1, so as to cause the threads to firmly take into the asbestos packing and form a tight and yet resilient joint with the ring. As above noted, the teeth 5 will permit the packing readily to pass the same when turned in the direction in which the parts are assembled; but if it is attempted to separate the same the sharp rear faces of the teeth will engage the packing and tend to resist such movement.

With the parts in the assembled form, as above described, it will readily be seen that

any jar or vibration of supporting member 1 is cushioned by means of packing 9, so as to transmit the same to mantle 7 in such manner as substantially to do away with the harmful effects thereof. Sufficient clearance is of course provided between the supporting member 1 and spool 6 to obviate all chance of direct mechanical contact between these parts.

It will thus be seen that I have provided a means of suspension for lamp-mantles and other fragile objects which are subject to injury through vibration or jarring of the structure in which they are mounted, which is simple and efficient, and comprises few and easily-assembled parts. The construction is such as to form a tight joint and prevent leakage of gas and yet to permit the ready removal of the lamp-mantle and the member to which it is immediately secured without detriment to the resilient suspending means or any other part of the device. It will also be seen that the device may be used in connection with lighting systems now in use without the necessity for extensive alterations in the same, the change being made in the burner only and the form of chandelier or other secondary suspending device not being affected.

In Fig. 3 is shown another embodiment of my invention which is similar to that above described and differs from the same mainly in the form of retaining means upon the supporting member 12. As in the former embodiment, the supporting member is provided with integral shoulders 13, between which is secured a metallic ring 14 in any desired manner. This ring is provided upon its outer surface with a thread 15, which is of the ordinary type, but is cut so as to form teeth 16, as shown in Fig. 4 of the drawings. The method of assembling the several parts and the operation of the same when assembled are substantially the same as in the above-described embodiment, the teeth 16 tending to resist movement in either direction. If it be desired to form the supporting member of metal with this form of thread, it is preferred to use a construction such as is shown in Fig. 6. In this form the spool 17, with the parts immediately associated therewith, is substantially the same as in the last-described embodiment, but the supporting member 18 is provided with a thread 19 cut thereon instead of upon a separate member. The means of assembling and operation of this device is substantially the same as that above described.

In Fig. 5 is shown another embodiment in which the supporting member 20 is of such dimensions as to take into the wicking 21, substantially as above described, but not to project entirely through the spool 22. The latter member is contracted at its lower end and is so shaped, as by means of the downwardly-projecting shoulder 23, as to adapt it to form a flame-nozzle in the sense above in-

licated. The other parts of this embodiment are substantially the same as in that first described.

In Fig. 7 is shown another modification of the embodiment shown in Fig. 5, the parts being reversed and the threaded portions being formed upon the inner surface of a ring 24, secured within spool 25, and the asbestos wicking being secured about the lower end of supporting member 26. Although in this embodiment the flame-nozzle is formed upon the spool, it will be seen from the construction above set forth that this may be changed so as to cause supporting member 26 to perform such a function, if desired. The means of assembling this embodiment and the operation of the same are substantially identical with those previously described.

Although the above description has reference to a burner in which the mantle is suspended by its upper part, it will nevertheless be obvious that the device may be used in connection with mantles which are mounted in any other position. It will also be seen that the means of suspension is not limited to a gas-burner, but will have a broad application in similar devices.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description and shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a mantle - supporting member, a supporting member, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

2. In combination, a mantle - supporting member, a gas-conducting member, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

3. In combination, a mantle - supporting member, a supporting member, and resilient means interposed between said members, said second-mentioned member having thereon a part threaded into said resilient means.

4. In combination, a mantle - supporting member, a supporting member, and resilient fibrous means interposed between said members, one of said members having thereon a part threaded into said resilient means.

5. In combination, a mantle - supporting member, a supporting member, and asbestos packing interposed between said members, one of said members having thereon a part threaded into said packing.

6. In combination, a mantle - supporting member, a supporting member, a metallic

member secured to said second - mentioned member, and resilient means interposed between said first and second mentioned members, said metallic member being threaded into said resilient means.

7. In combination, a mantle - supporting member, a supporting member, fibrous incombustible means interposed therebetween, and a metallic member secured to said second-mentioned member, said last-mentioned member being threaded into said incombustible means.

8. In combination, a mantle - supporting member, a gas-conducting member protruding through the same, and resilient means interposed between said members, one of said members having thereon a part threaded into said resilient means.

9. In combination, a mantle, a mantle-supporting member, and a member upon which said mantle-supporting member is resiliently mounted adapted to project flame against said mantle said resilient mounting being adapted to cushion the vertical movement of said mantle-supporting member in both directions.

10. In combination, a mantle - supporting member, a member protruding through said mantle - supporting member, and resilient fibrous means interposed between said members and adapted to support the former upon the latter.

11. In combination, a mantle, mantle-supporting means, a member adapted to project a flame against said mantle, and resilient refractory means interposed between said mantle-supporting means and said last-mentioned member and adapted to support the former upon the latter said last-mentioned member having a part thereon threaded into said resilient refractory means.

12. In combination, a mantle, a ring to which said mantle is directly secured, a flame-nozzle adapted to project flame against said mantle and projecting through said ring, and an asbestos packing interposed between said flame-nozzle and said ring and adapted to prevent the passage of gas therebetween and resiliently support said ring upon said flame-nozzle.

13. In combination, a mantle-supporting member, a flame-nozzle and resilient means interposed between said members, one of said members having a threaded connection with said resilient means.

14. In combination, a mantle-supporting member, a flame-nozzle, and resilient fibrous refractory means interposed between said member and said flame-nozzle, said flame-nozzle having a threaded connection with said resilient means.

15. In combination, a mantle, a mantle-supporting member, a flame-nozzle adapted to project a flame against said mantle, and an asbestos packing interposed between said ring and said flame-nozzle, said flame-nozzle hav-

ing a threaded connection with said asbestos packing.

16. In combination, a mantle, a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a thread formed upon the outer surface thereof, and an asbestos packing interposed between said metallic member and said mantle-supporting member, the thread upon said metallic member engaging said asbestos packing.

17. In combination, a mantle-supporting member, a second supporting member, and fibrous means interposed between said members, one of said members having a threaded part engaging said fibrous means.

18. In combination, a mantle-supporting member, a supporting member, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means.

19. In combination, a mantle-supporting member, a main supporting member, and resilient, fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said resilient, fibrous means.

20. In combination, a mantle-supporting member, a main supporting member, a metallic member secured to said second-mentioned member, and resilient means interposed between said first and second mentioned members, said metallic member being provided with a toothed thread engaging said resilient means.

21. In combination, a mantle-supporting member, a gas-conducting member protruding through the same, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means.

22. In combination, a mantle-supporting member, a flame-nozzle, and fibrous means interposed between said members, one of said members having a part provided with a toothed thread engaging said fibrous means.

23. In combination, a mantle, a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed upon the outer side thereof, an asbestos packing interposed between said metallic member and said mantle-supporting member, and a thread upon said metallic member engaging said asbestos packing.

24. In combination, a mantle-supporting member, a main supporting member, and fibrous means interposed between said members, one of said members having a part pro-

vided with a toothed thread engaging said fibrous means, the teeth upon said thread being adapted to permit movement of said fibrous means in one direction and resist such movement in the opposite direction.

25. In combination, a mantle-supporting member, a gas-conducting member protruding through the same and resilient means interposed between said members, one of said members having a part provided with a toothed thread engaging said resilient means, the teeth upon said thread being adapted to permit a relative movement of said resilient means in one direction and resist such movement in the opposite direction.

26. In combination, a mantle, a mantle-supporting member to which the mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed upon the outer surface thereof, and a fibrous packing interposed between said metallic member and said mantle-supporting member, the thread upon said metallic member engaging said fibrous packing in such manner as to permit a relative movement thereof in one direction and resist such movement in the opposite direction.

27. In combination, a mantle, a mantle-supporting member to which said mantle is directly secured, a flame-nozzle projecting through said mantle-supporting member and adapted to project a flame against said mantle, a metallic member secured to said flame-nozzle and having a toothed thread formed on the outer surface thereof, and a refractory, fibrous packing interposed between said metallic member and said mantle-supporting member, whereupon said metallic member engages said asbestos packing in such manner as to permit the same readily to be screwed thereupon and to resist a movement thereof in a reverse direction.

28. In combination, a mantle, a mantle-supporting member, a conduit, an asbestos packing positioned between said conduit and said mantle-supporting member and secured upon its outer surfaces to the latter, and a part positioned upon said conduit threaded into the inner surfaces of said asbestos packing.

29. In combination, a mantle, a mantle-supporting member, a conduit, an asbestos packing positioned between said mantle-supporting member and said conduit, the outer surfaces thereof being laterally supported by said mantle-supporting member, and a part positioned upon said conduit threaded into said asbestos packing.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES M. LUNGREN.

Witnesses:

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