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WOOD BURNING GRATE ASSEMBLY FOR FIREPLACE

Filed June 11, 1968

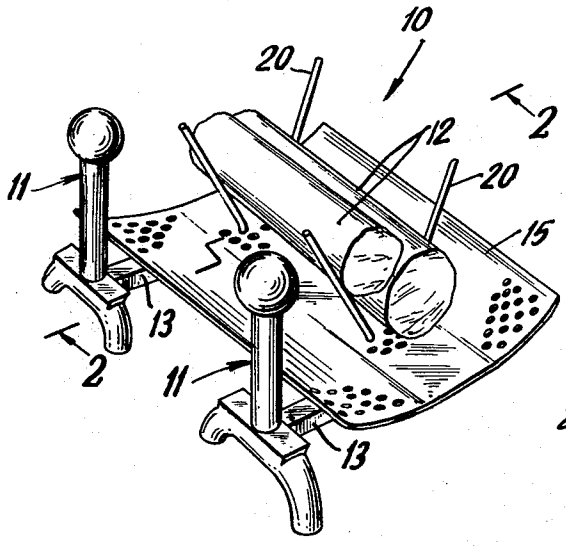


FIG. 1

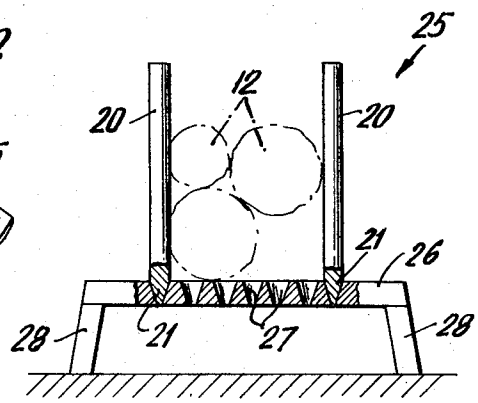


FIG. 3

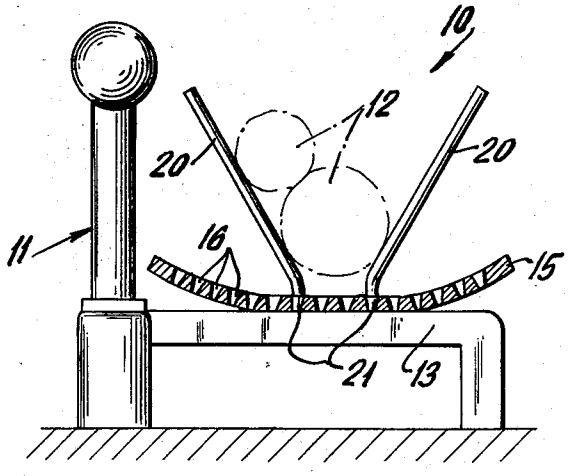


FIG. 2

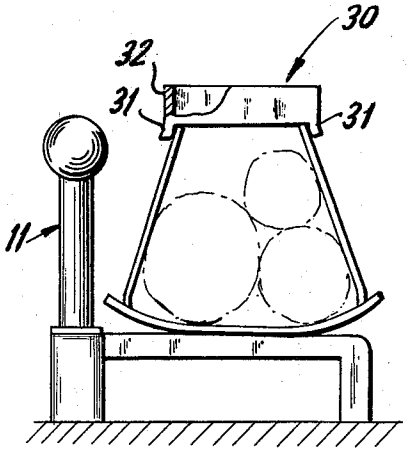


FIG. 4

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WOOD BURNING GRATE ASSEMBLY FOR FIREPLACE

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ABSTRACT OF THE DISCLOSURE

A wood burning grate assembly, for fireplace use, includes a metal grate having a laterally extended log-supported shelf formed with apertures therethrough, and having means supporting the shelf in elevated position. A plurality of relatively elongated metal prongs are insertable into apertures to extend above the shelf to retain logs in a selected pattern. The perforations in the shelf converge downwardly from the upper surface thereof, and the lower ends of the prongs are correspondingly tapered to fit into the tapered apertures. The shelf may be an upwardly concavely curved metal plate set on supporting means such as andirons.

BACKGROUND OF THE INVENTION

In burning logs and the like in a fireplace, supporting means are usually provided to maintain the logs in more or less elevated position for adequate circulation of air beneath the logs to maintain the fire. A known supporting arrangement comprises andirons, and other arrangements comprise log-holding troughs or like.

However, with known arrangements it is not possible to maintain the logs in a predetermined pattern for securing the best results in burning, and it is difficult to maintain a fire, particularly with poor quality wood.

Additionally, it is difficult to prevent logs rolling out of the fireplace and difficult to maintain the fire at the back of the fireplace. This latter is particularly important in reducing smoking of fireplaces having a faulty draft.

SUMMARY OF THE INVENTION

This invention relates to wood-burning grate assemblies for burning logs and the like in a fireplace and, more particularly, to a novel and improved grate assembly whereby the logs, kindling and the like can be maintained in a predetermined pattern for easier fire starts and efficient fires.

In accordance with the invention, the wood-burning grate assembly includes a metal grate including a laterally extended log-supported shelf formed with perforations therethrough, preferably over the major portion of its area. Suitable means support this shelf elevated above a support base for flow of air upwardly through the apertures. The means may comprise, for example, andirons, supporting a shelf in the form of a metal plate which may be curved to be concave upwardly.

The log retaining means comprises a plurality of relatively elongated metal prongs insertable into selected appertures to extend above this shelf to retain the logs in the shelf in the selected pattern. The apertures and the prongs have cooperating formations limiting the depth of insertion of the prongs in the apertures. Preferably, these cooperating formations include tapered apertures in the shelf and tapered lowered ends on the prongs, these shelf apertures converging downwardly from the upper ends thereof. The prongs may be readily inserted into and removed from selected apertures in accordance with the particular fire pattern desired and the particular type of combustible material to be retained in a predetermined pattern, and also to be so placed so as to prevent logs rolling out of the fireplace.

An object of the invention is to provide an improved wood-burning grate assembly for burning logs and the like in a fireplace.

Another object of the invention is to provide such grate assembly including means for readily retaining combustible material, such as logs and kindling, in a predetermined pattern.

A further object of the invention is to provide such a grate assembly including a metal grate having a laterally extended log-supporting shelf formed with apertures therethrough.

Yet, another object of the invention is to provide such a grate assembly including a plurality of relatively elongated metal prongs insertable into selected apertures to extend above the shelf to retain the logs in a selected pattern.

A further object of the invention is to provide such a grate assembly in which the apertures converge downwardly from the upper surface of the shelf and the lower ends of the prongs are tapered to fit into the tapered apertures.

Still another object of the invention is to provide such a grate assembly in which the shelf is curved transversely to be concave upwardly.

A further object of the invention is to provide such a grate assembly in which a food cooking grill or the like may be easily supported on the upper ends of the prongs above the fire.

For an understanding of the principles of the invention, reference is made to the following description of typical embodiments thereof as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective view of one form of fireplace grate assembly embodying the invention;

FIG. 2 is a sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is an end elevation view, partly in section, of another form of fireplace grate assembly embodying the invention; and

FIG. 4 is an end elevation view illustrating a food cooking grill supported on the upper ends of the prongs of the fireplace grate assembly.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIGS. 1 and 2, a grate assembly **10** embodying the invention is illustrated as including a traversely curved plate or shelf **15** for suporting logs or the like, indicated generally at **12**, in a predetermined pattern. Plate or shelf **15** is supported in elevated relation above a support surface **13** by suitable means such as, for example, a pair of andirons of any desired form, as indicated at **11**.

Referring more particularly to FIG. 2, plate **15** is formed with apertures **16** therethrough, the apertures covering the major portion of the surface of plate or shelf **15**. Apertures **16** are tapered so that they converge downwardly from their upper ends. The apertures **16** serve not only for circulation of air beneath plate or shelf **15** and upwardly through the combustibles supported thereon but also to receive a plurality of prongs **20** which serve to retain the logs **12**, or the like, in a predetermined pattern on the plate or shelf. Prongs **20** are relatively elongated metal rods which have tapered lower ends **21** having conforming engagement in the tapered perforations **16** to limit the depth of insertion of prongs **20** into the apertures **16** in the metal plate or shelf **15**. The prongs **20** may be selectively inserted into apertures **16** in any desired locations in accordance with the type of combustible material which is to be burned in the grate assembly. Furthermore,

and due to the tapered fit of the lower ends **21** or prongs **20** in the aperture **16**, the prongs can be readily withdrawn from the apertures and reinserted into other apertures, when necessary or desirable during burning of the fire.

In the embodiment of the invention shown in FIGS. 1 and 2, plate **15** is curved transversely so that it is concave in an upward direction, and is supported on the andirons **11**. However, the principles of the invention are applicable equally to other forms of grate assemblies. One of these forms is shown in FIG. 3.

Referring to FIG. 3, the grate assembly **25** illustrated therein comprises a horizontal metal shelf **26** formed with tapered apertures **27** which are identical with the apertures **16** of grate assembly **10**. Shelf **26** is supported on legs **28**, there being a leg at each corner of shelf **26**. Legs **28** may be either integral with shelf **26**, be detachably connected thereto, or merely be inserted into downwardly facing recesses in the shelf **26**. The arrangement otherwise operates in the same manner as described for the grate assembly **10** of FIGS. 1 and 2.

In accordance with a further feature of the invention, a cooking grill may be supported on the upper ends of the prongs **20** above the fire. FIG. 4 shows such an arrangement as applied to the grate assembly **10** of FIGS. 1 and 2. A cooking grill **30** of any desired type is positioned on the upper ends of prongs **20** and retained thereon in any suitable manner. In the particular embodiment illustrated, a pair of longitudinal edges of the cooking grill are formed with downwardly extending ribs or flanges **31** serving as retaining means for the grill **30**. The flanges **31** could be formed on all four edges of the grill **30** as well as on only a pair of opposite edges. Alternatively, a bowl-shaped grill arranged normally to be seated on the upper ends of the legs of a tripod can be equally effectively positioned on the upper ends of prongs **20**, the bowl-shaped grill being the type usually having an open flat grill supported on its upper rim. In the embodiment shown in FIG. 4, and solely by way of example, grill **30** is illustrated as having an upper rim **32** extending therearound for the purpose of retaining food juices.

The grate assembly of the invention has many advantages. For example, it eases the starting of fires, making fire starting sure, easy and quick. The prongs **20** will hold paper, kindling and wood in selected proportions. The wood used may be either new or old fireplace wood, which may be either soft or hard, wet or dry, green or seasoned. The grill will burn scrap as well as logs which may be either short, long, thin, or thick.

In addition, the grate assembly of the invention allows making a fire using only one log and miscellaneous odd-shaped other pieces of wood. The prongs hold one or more logs in position so that a slab or other logs can be leaned vertically against the thus positioned logs, making possible the building of very interesting fire patterns.

The fire structure, comprising the logs, can be made very much higher than possible with the present grates.

An important advantage of the invention is that the prongs can be so positioned as to completely prevent logs rolling out of the fireplace by maintaining the logs safely on the grate assembly. Another important advantage is that the logs may be easily retained in a position maintaing the fire at the back of the fireplace, thus reducing or preventing smoking of a fireplace having a faulty draft.

What is claimed is:

1. A wood-burning grate assembly, for burning logs and the like in a fireplace, comprising, in combination, a metal grate including a laterally extended log supporting said shelf, formed with apertures therethrough, and means supporting said shelf elevated above a support base; and a plurality of relatively elongated metal prongs insertable into selected apertures to extend above said shelf to retain logs on said shelf in a selected pattern; said apertures and said prongs having cooperating formations limiting the depth of insertion of said prong in said apertures; said apertures being tapered so that they converge downwardly from the upper surface of said shelf.

2. A wood-burning grate assembly, as claimed in claim **1**, in which said prongs have tapered lower ends engageable in said tapered apertures.

3. A wood-burning grate assembly, as claimed in claim **2**, in which said shelf is transversely curved so as to be concave upwardly.

4. A wood-burning grate assembly, as claimed in claim **2**, in which said shelf is a metal plate and said supporting means comprises a pair of andirons.

5. A wood-burning grate assembly, as claimed in claim **4**, in which said shelf is transversely curved so as to be upwardly concave.

6. A wood-burning grate assembly, as claimed in claim **2**, in which said metal plate includes a substantially horizontally extending log supporting shelf, and said supporting means comprise legs extending downwardly from each corner of said shelf.

7. A wood-burning grate assembly, as claimed in claim **2**, including a food-cooking grill supported on the upper ends of said prongs.

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