March 7, 1967 G. G. HUME 3,307,532

FIREPLACE APPLIANCES

Filed June 3, 1965

Fig. 1.

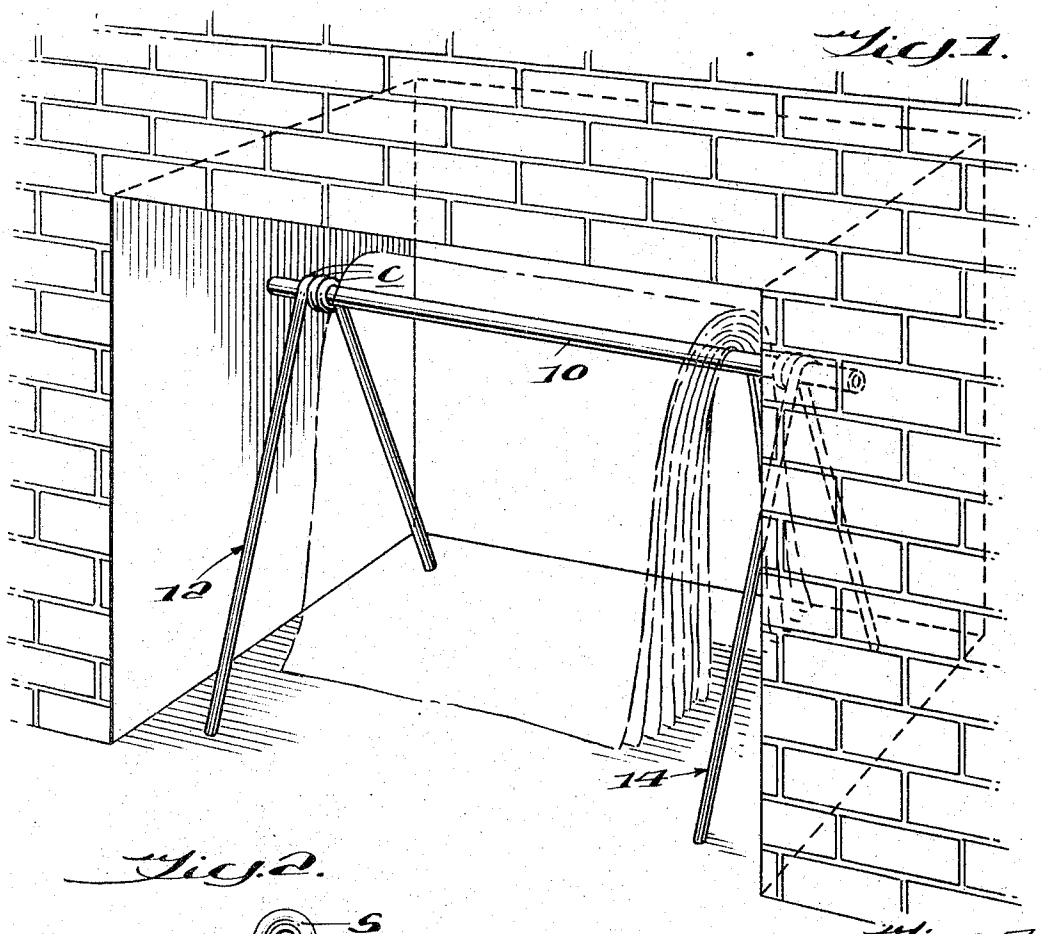


Fig. 2.

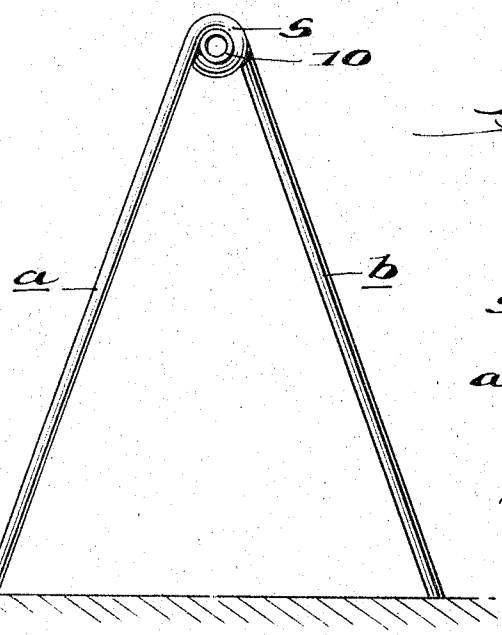
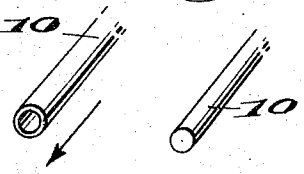
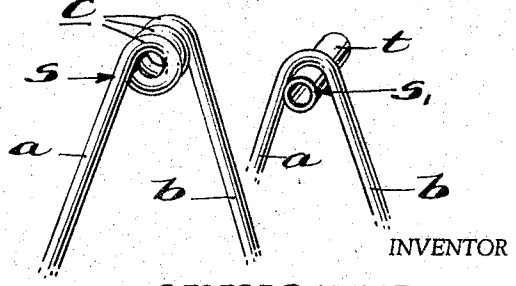


Fig. 4.

Fig. 3.





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United States Patent Office

3,307,532
Patented Mar. 7, 1967

3,307,532

FIREPLACE APPLIANCES

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Filed June 3, 1965, Ser. No. 461,036
1 Claim. (Cl. 126—298)

This invention relates to improvements in fireplace appliances, and more particularly to a grate of a type suited to the burning of newspapers in home fireplaces for warmth.

Among the objects of the invention may be noted the provision of a practical and inexpensive fireplace grate suited to the burning of old newspapers in fireplaces in manner as to extract useful heat therefrom; the provision of a fireplace grate for burning newspapers as fuel in fireplaces in place of the conventional fireplace fuels, which is constructed and arranged so as to be set up for use in a fireplace without disturbing other fireplace equipment such as andirons already in place therein; the provision of a fireplace grate designed for the burning of old newspapers for warmth but which may also be used, when set up for use as aforesaid, as a temporary collecting rack for storing newspapers subsequently to be burned for their heating value in orderly array; the provision of a fireplace grate suited to holding a collection of old newspapers to be burned in suspended position above a supporting surface such as the floor of a fireplace and folded in half about a fold line extending across the middle portion of the newspaper; and the provision of a fireplace grate suited to the burning of old newspapers in home fireplaces for warmth, which is of so-called knockdown construction as enables it is to be shipped and stored flat, quickly set up for use as and when desired, and readily dismantled for storage when its further use is not immediately anticipated.

Other objects and features of advantage of a fireplace grate for burning old newspapers in manner as to extract useful heat therefrom according to the present invention will appear from or be set forth in detail in the following description thereof, in which reference is had to the accompanying illustrative drawing in which:

FIG. 1 is a perspective view showing the grate of the invention set up for use in a typical home fireplace;

FIG. 2 is an end view of said grate;

FIG. 3 is a broken-away perspective view depicting the manner of assembly of the cross bar to the leg structures of the grate shown in FIG. 1; and

FIG. 4 is a view similar to FIG. 3 but illustrating a modified form of cross-bar-to-leg structure connection or coupling.

As illustrated, a grate according to the present invention comprises three main parts, each capable of ready fabrication, as follows: a cross bar **10** and two identical leg structures **12** and **14** adapted when assembled to the cross-bar to support same in raised position above a horizontal surface such as the tile or brick floor of a residential or home-type fireplace.

While the dimensions of the material from which the three main parts aforesaid are fashioned are subject to variation for particular applications, the following general statement thereof is offered as a guideline to the manufacture of the herein newspaper grate. The cross bar **10** is preferably fashioned from one-half inch diameter steel tubing and its length is approximately twenty-four inches, which latter dimension is less than the width dimension of the opening of a conventional home fireplace but greater than the width of the pages of a standard 24″×15″ newspaper page. The excess in the length of the cross bar **10** over the 15″ wide newspaper page provides the cross bar **10** with ends which are adapted to be received in coupling means provided therefor at the upper portion of the aforesaid leg structures **12**, **14**.

More particularly, said leg structures are each preferably fashioned from a length of ¼″ steel rod bent to the shape of an inverted V, thus to provide downwardly divergent legs *a*, *b* whose free ends function as feet. In a typical leg structure said legs are spread apart about twelve inches, and the pointed upper or apical portion of the V is disposed about sixteen inches above said floor. In the form of leg structure illustrated in FIGS. 1–3, the cross-rod coupling means is of one piece with the apical portion thereof, and comprises a plurality of closely adjacent convolutions or coils *c*, for example, three, formed in the rod making up said leg structure midway of its length, as by wrapping or coiling said rod about a mandrel having diameter slightly larger than that of the cross bar **10**. The so formed convolutions provide an integral sleeve- or bushing-like coupling formation S having bore diameter slightly greater than that of said rod whereby it may freely receive an end portion of the cross rod **10** at the apical portion of each leg structure, and of axial length such that when the cross bar is inserted therein and in a like coupling formation provided in the apical portion of a companion leg structure, the resulting set up grate possesses marked stability. This type of coupling means enables the cross bar and leg structures to be readily assembled simply by inserting the cross bar ends into the bores of said bushing-like coupling formations S, and said parts may be just as readily dismantled one from the other by withdrawing the cross-bar ends from said bores.

FIG. 4 illustrates a variant sleeve- or bushing-like formation designated S_1 for separably or detachably coupling the ends of the cross bar to the leg structures. In this variant form, the side legs *a* and *b* of each leg structure converge upwardly to a somewhat rounded point, and an initially separate short length of steel tubing *t* is securely welded into the space or crotch between said legs. The bore of the tubing *t* is slightly oversize with respect to the diameter of the cross bar, so that an end of the latter is freely receivable in and withdrawable from said tubing, just as with the previously described coupling formation S.

The steel stock used from which the aforesaid parts **10**, **12** and **14** (and the tubing *t* if the latter is included) are made is of course selected for its ability to withstand fireplace temperatures without buckling or deterioration.

While it is believed that the manner of use of a grate for burning newspapers for their heating value as herein proposed will be clear from the above, taken with FIG. 1 illustrating said grate set up for use in a fireplace opening, it is explained that when a collection of newspapers weighing about six pounds, for example, which is about the weight of a full Sunday edition of the newspaper entitled "The New York Times," is suspended from the grate cross bar **10**, as shown in FIG. 1, and thereupon ignited, each outermost page tends to burn from its free bottom edge upwardly and in so doing to peel away from the underlying pages or layers thereof, as effectively supplies the successively burning pages with combustion air. Such results not only in a progressive or substantially one-at-a-time burning of the individual pages of the collection of newspapers hung from the cross bar, but also in a large area of paper undergoing combustion at any one time. Consequent to the former, a collection of old newspapers weighing approximately six pounds will, after a few minutes time required to start the combustion process, burn for about an hour with a steady, warm glow, and as a result of the relatively large area of paper, i.e. one-half the area of the standard newspaper page,

undergoing combustion at the same time, a large amount of reflected heat is steadily given off.

It is also explained that if only a few newspapers are placed on the grate and ignited, such will quickly find air for combustion and, as a result, will be quickly consumed without giving off any appreciable heat. Therefore, the grate of the invention is recommended for use only with substantial accumulation of newspapers, since only by use of the latter is it possible to achieve the desirable slow-burning effect resulting from the outer pages burning away substantially one-at-a-time.

Another practical recommendation is to place some extra weight on the outermost page of the collection of newspapers supported on the cross bar prior to igniting same, for the purpose of retarding the initial wholesale flaming of said outer page or the pages immediately underlying same, as may result in burning particles of paper being carried up the chimney by the first flash of heat. Such weighting may be readily accomplished, as by laying a newspaper section tightly folded to narrow width, or a suitable metallic weight device, such as a V-shaped metallic strap shaped for straddling the cross bar **10** and the layers of the newspapers placed thereon, over said cross bar so that it rests on said outermost page.

Without further analysis, it will be appreciated that a fireplace grate for burning newspapers in manner as to abstract useful heat therefrom as described achieves the objectives of the invention as set forth in the foregoing in exceedingly simple and practical manner. However, as changes could be made in applying the grate as proposed to its many possible uses without departing from the scope of the invention as defined by the appended claim, it is

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.

I claim:

A grate for burning newspapers in a domestic fireplace in manner as to extract useful heat therefrom comprising: a cross bar and a pair of leg structures removably coupled to the end portions of said cross bar and supporting the latter in elevated position, said leg structures each having the shape of an inverted V and including a sleeve-form coupling means in the apical portion thereof for the reception of an end portion of the cross bar, each said leg structure being fashioned complete from a length of metal rod and said coupling means in the apical portion thereof comprising a plurality of adjacently disposed convolutions formed in said rod and providing a sleeve-like formation of diameter slightly greater than that of said rod and of appreciable axial length, said cross bar and leg structures adapted when assembled to one another within a fireplace to provide therein a raised cross-bar type of support for a collection of newspapers suspended in folded-over relation from said cross bar.

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