R. E. ACKROYD.

DEVICE FOR INCREASING COMBUSTION IN FIREPLACES

APPLICATION FILED JUNE 2, 1920.

1,430,781. Patented Oct. 3, 1922.

FIG. 1.

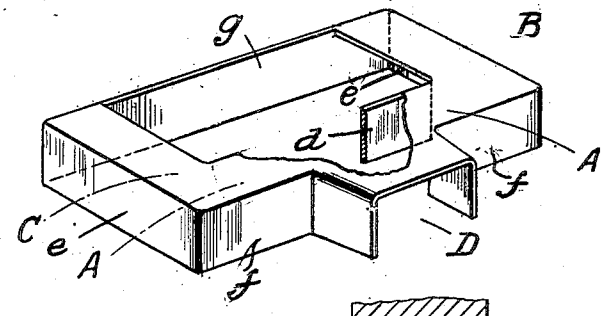


FIG. 2.

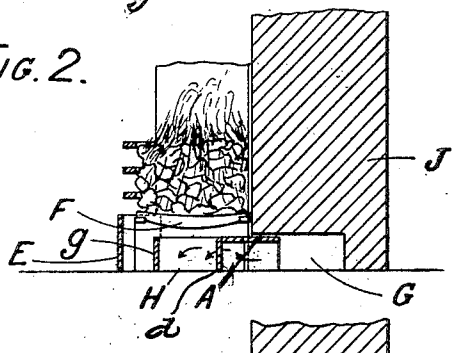
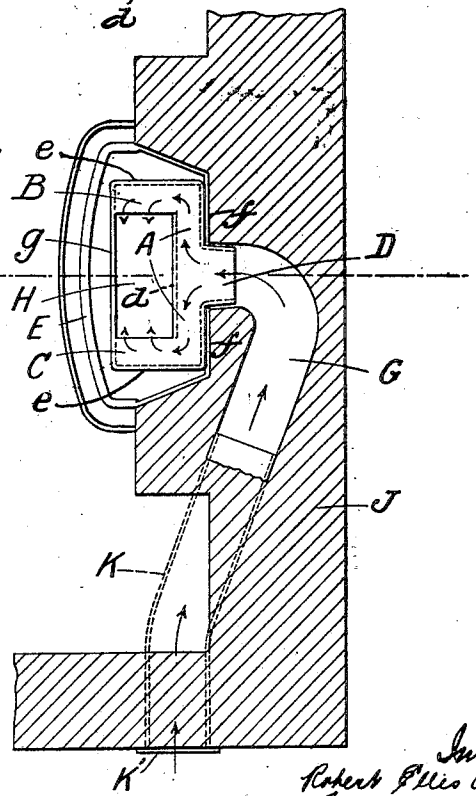


FIG. 3.



Inventor:
Robert Ellis Ackroyd.
by Frank S. Anderson
Atty.

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UNITED STATES PATENT OFFICE.

ROBERT ELLIS ACKROYD, OF NORTHAMPTON, ENGLAND.

DEVICE FOR INCREASING COMBUSTION IN FIREPLACES.

Application filed June 2, 1920. Serial No. 385,904.

To all whom it may concern:

Be it known that ROBERT ELLIS ACKROYD, a subject of the King of Great Britain and Ireland, residing at 75 St. Giles Street, Northampton, in the county of Northampton, England, have invented new and useful Improvements Relating to Devices for Increasing Combustion in Fireplaces, of which the following is a specification.

This invention comprises essentially an appliance for assisting in the combustion of fires, by promoting a draught which will be conducted to the most effective points in the fireplace, and, if desired, will be drawn solely from the air which is external to the room where the fireplace is situated.

The last mentioned feature may prove to be one of special importance, and as my invention is peculiarly applicable to such a purpose, I may point out that there are sometimes circumstances in which it is desirable that the air of the room shall be prevented from being drawn into the fire and the fire should be fed from external air alone. When this is not so, the draught created by the outside air entering the room through chinks in the window or door to replace the air which is being drawn into the fire has the undesired effect of cooling the atmosphere of the room. This is specially noticeable when a fire is first lighted indoors, the temperature often falling considerably, owing to the above cause.

Fresh air from outside, moreover, has a better effect upon the fire by assisting more efficiently in the combustion.

The present invention is intended to obviate the drawbacks above named and it is illustrated by the accompanying drawing in which Figure 1 is a perspective view partly broken away, Figure 2 is a vertical section of a fireplace provided with my invention, and Figure 3 is a horizontal section of the same.

The same reference letters in the respective figures denote the same parts.

The invention in use is placed in a fireplace having a flue which enters the rear portion of the fireplace above the hearth, and extends preferably to the outer air, such flue G being partially formed in the chimney structure J, and by a pipe K, the end which extends to the outer air being adapted to be closed by a stopper K', which stopper or damper is removed when it is desired to admit air from the outside to the fireplace below the grate bars F, as indicated by the arrows on Figure 3 of the drawing. The flue G may be substantially horizontal or it may incline downwardly from its discharge end to its outer or air inlet end.

The fireplace is of the usual construction and its floor or hearth H is below the upper portion or top of the flue G, and upon the hearth beyond the front of the grate may be placed a shield or guard E which extends above the plane of the grate bars F.

The device for supplying air to a fireplace grate from a flue as described, comprises a structure preferably of sheet or cast iron which embodies in its construction a vertical front wall *g*, end walls *e*, *e*, rear walls *f*, *f*, an extension D, the vertical walls of which converge rearwardly and with the top when placed in position for use is placed within the flue G where it opens into the fire place, and with an intermediate vertical wall *d*, of less length than the front wall *g* and of greater length than the distance between the adjacent ends of the walls *f*, *f*. The vertical walls or members of the structure are integral with a top plate A which has forward of the wall *d* an opening that extends from said wall *d* to the front wall *g*, the opening being of less length than said front wall, and in use the opening through the top A, will be below the central portion of the grate bars F.

The top A and the vertical walls provide at its rear a laterally extending air passage or flue and end flues B and C, from which air is discharged through the opening in the top and under the grate bars.

In use the device is placed upon the hearth and positioned to locate the opening through the top below the center portion of the grate bars, to direct air from the flue G, below the grate, thus feeding air to the grate to increase the combustion of the fuel placed therein.

The device may be provided with a bottom plate when desired, so that ashes which may fall from the grate may be collected therein.

I claim:—

1. A device for feeding air to fireplace grates comprising a structure having front, back and end walls, a top wall having a cut out portion to permit the passage of air upwardly therethrough, and an intermediate wall having its ends spaced from the end walls and arranged in parallel relation to the back wall to provide an air passageway

for directing air to the ends of the body portion.

2. A device for feeding air to fireplace grates, comprising a structure having a front wall, end walls, a rear wall having an opening and rearward extending continuations of the rear wall, a wall which is spaced away from the end and rear walls, and a top having an opening therethrough which is located away from the end walls and extends from the front wall to a point above the wall that is spaced away from the end and rear walls.

In testimony whereof I have signed my name to this specification.

ROBERT ELLIS ACKROYD.