No. 717,231. Patented Dec. 30, 1902.

W. F. LOWRY.

FIREPLACE AND GRATE BLOWER.

(Application filed June 18, 1902.)

(No Model.)

Fig. 1.

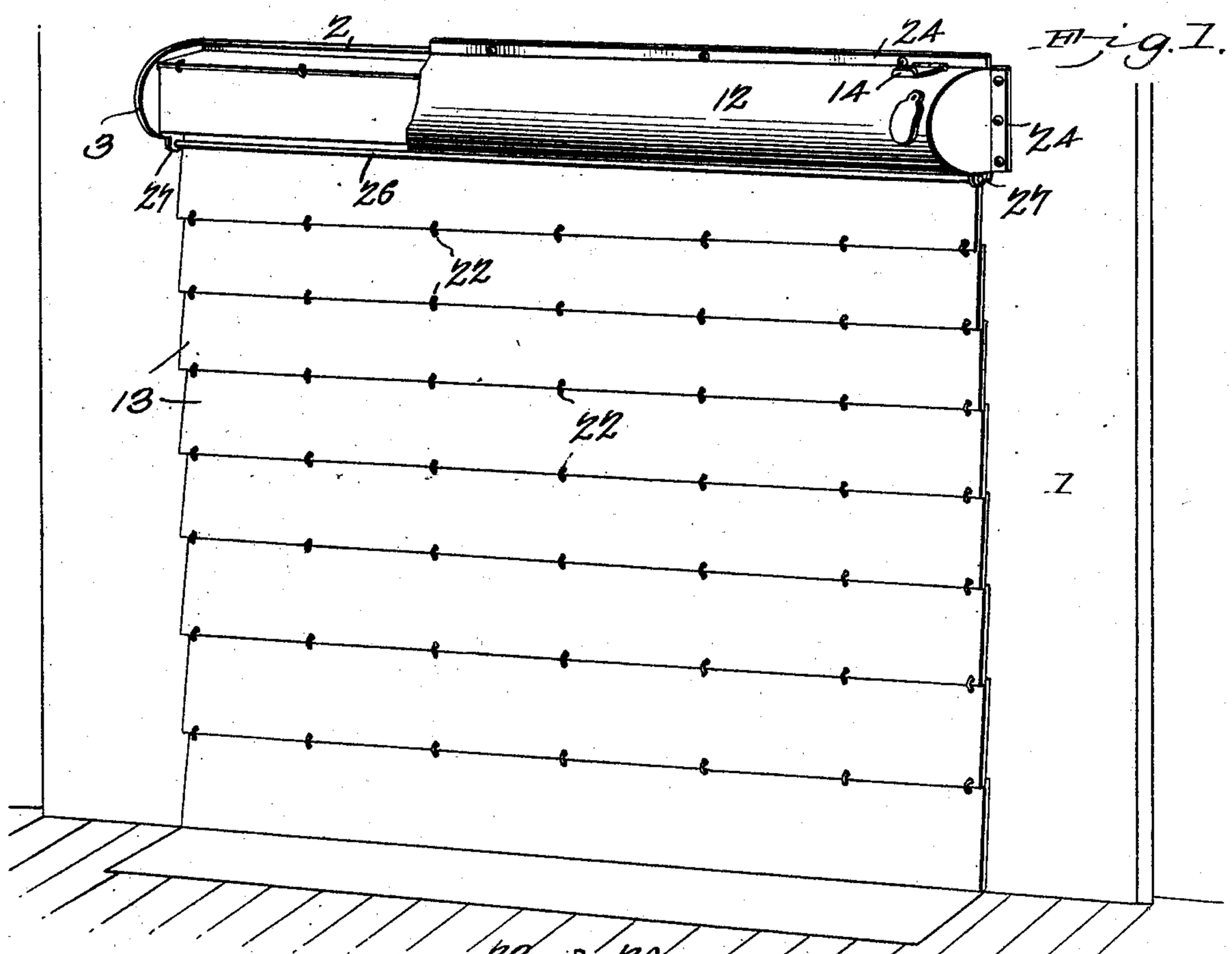

Fig. 3.

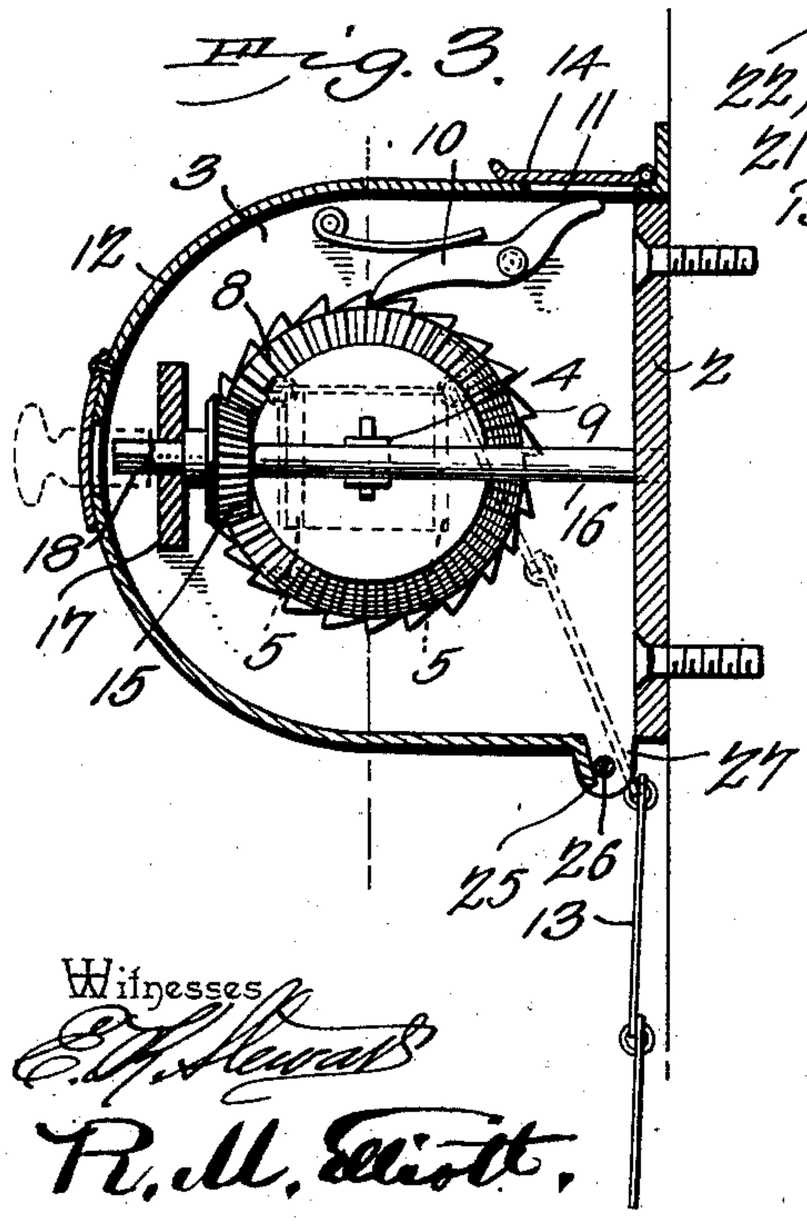

Fig. 4.

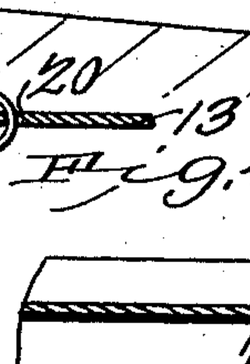

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

WALTER F. LOWRY, OF McMINNVILLE, TENNESSEE.

FIREPLACE AND GRATE BLOWER.

SPECIFICATION forming part of Letters Patent No. 717,231, dated December 30, 1902.

Application filed June 18, 1902. Serial No. 112,228. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. LOWRY, a citizen of the United States, residing at McMinnville, in the county of Warren and State of Tennessee, have invented a new and useful Fireplace and Grate Blower, of which the following is a specification.

This invention relates generally to grate-blowers, and particularly to that class adapted for vertical adjustment to regulate the draft through the grate or wholly to check it, if desired.

The object of the invention is to improve the construction of the curtain-actuating mechanism and also the curtain, whereby the parts are rendered more efficient and durable in use and the construction of the device as a whole is simplified.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a grate-blower, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in these drawings—

Figure 1 is a view in perspective of a grate-blower constructed in accordance with the present invention, exhibiting the same operatively positioned upon a mantel, one end of the inclosing casing being broken away. Fig. 2 is a front elevation, partly in section. Fig. 3 is a transverse sectional view. Fig. 4 is a sectional detail view showing the manner of connecting the slats of the curtain.

Referring to the drawings, 1 designates the stiles of a mantel, which may be of the usual or any preferred construction, and therefore require no detailed description. Secured to the mantel across the lintel (not shown) is a plate 2, to each end of which is secured an outstanding bracket 3, the two constituting bearings for a shaft 4. This shaft is preferably rectangular in cross-section and in this instance is constructed of two plates or bars 5, secured at each end to blocks 6, one only of the latter being shown, and in the blocks are disposed rods 7, one only being shown, which project beyond the blocks and work in bearings in the brackets. The form of shaft herein described is employed on account of its lightness; but it is to be understood that the invention is not to be confined to this particular construction of curtain-supporting shaft, as other forms may be adopted and still be within the scope of the invention. To one end of the shaft, preferably the right-hand end, is secured a combined ratchet and bevel-gear 8, the ratchet-teeth 9 of the gear to be engaged by a spring-pressed trip-pawl 10, the free end of which is disposed beneath an opening 11 in an inclosing casing 12, thus to be in position to be operated to release the shaft to allow the curtain 13 to drop to the desired distance above the hearth, the said opening being normally closed by a lid or plate 14, as already shown in Fig. 1. The teeth of the gear-wheel are engaged by a beveled pinion 15, carried by a stub-shaft 16, the ends of which are journaled, respectively, in the plate 2 and in an offset 17, carried by the bracket. The outer end of the shaft projects through the offset and is squared, as shown at 18, to permit engagement by a suitable socket-key to effect raising of the curtain when desired.

The curtain 13, to which reference has been made, is secured in any preferred manner to the shaft and is constructed of strips of sheet metal, of any preferred character, the sections of which gradually decrease in width from the free or lower end upward, thereby to permit the sections to be folded in laminated order around the shaft 4 and wholly within the casing 12, thus to be entirely hidden from view. As will be seen by reference to Fig. 1, the curtain-sections are arranged in lap-joint order in order to present a practically solid structure, which will preclude admission of air to the grate at any point except beneath, a further object of this arrangement being to cause the sections snugly to bear upon each other as they are wound upon the shaft. The means for connecting the sections is at once novel and thoroughly efficient for the purpose

designed and consists in providing each section 19 with a plurality of alined openings 20 and 21, respectively, the openings to be engaged by closed rings 22, as clearly shown in Fig. 3, the rings to be of such size as to cause the edges of the opposed sections to overlap. Under this arrangement and without the provision of means operating to the contrary the sections could not fold squarely around the shaft in laminated order, as described, as it will be seen that the rings would prevent this, and to accomplish the object sought there is a recess 23 cut in the upper edge of each section in alinement with the openings 21, and in these recesses the rings rest when the sections are folded around the shaft, as clearly shown in Fig. 4.

The casing 12, to which reference has been made, is constructed of any suitable material, preferably metal, and may be suitably ornamented to give a neat and finished appearance to the structure and is preferably rounded to conform to the brackets 3, the upper rear side of the casing being provided with a flange 24, by which it is attached to the plate 2, as by nails or screws, the lower side of the casing being provided with a downturned flange 25, which operates as a guide for the curtain-sections.

To hold the curtain close against the stiles of the mantel, there is provided a guide-roller 26, the terminals of which work in bearings formed in the ears 27, carried by the brackets 3.

The casing opposite the squared end of the shaft 16 is provided with a hinged or pivoted door or cover 28, by which the said element is hidden from view, thereby to add to the neat and finished appearance of the device.

The operation of the device will be apparent. Should the curtain be rolled up in the casing and it be desired to lower it, it will only be necessary to depress the free end of the pawl 10 to throw it out of engagement with the ratchet-wheel. Should it be desired partially or wholly to raise the curtain, this may be effected by applying the key to the shank of the shaft 10.

By disposing the stub-shaft at right angles to the curtain-shaft, as shown, raising of the curtain will be greatly facilitated, and, further, by this arrangement it will be possible to arrange the casing closer to the lintels than would be possible if the curtain-shaft were operated from the end of the casing, as is usual in devices of this character in common use.

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

1. A grate-blower comprising an attaching-plate, brackets disposed near each end thereof, a shaft journaled in the brackets and carrying a curtain, means for raising the curtain and for holding it at any desired adjustment, comprising a combined miter-gear and ratchet-wheel, a trip-pawl having one end coacting with the ratchet portion of the said wheel and its other end provided with a finger-hold, a shaft disposed at right angles to the curtain-shaft and having its terminals journaled respectively in the attaching-plate and in an offset carried by one of the brackets, the outer end of the shaft being squared for the reception of a key, a miter-pinion carried by the latter shaft and meshing with the miter-gear, a casing secured to the attaching-plate and provided in its upper side with an opening beneath which the finger-hold of the pawl is disposed and in its front with an opening located opposite the squared end of the transverse shaft, closures for the said openings, and a guide-roller carried by the lower portion of the brackets.

2. In a grate-blower, a curtain composed of metallic strips, the edges of which lap joint, the upper edges of each of the strips being provided with a plurality of orifices having recesses adjacent thereto, and the lower edges having orifices alining with those of the adjacent strips, and rings or links engaging the orifices.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALTER F. LOWRY.

Witnesses:
S. L. BACON,
C. W. BACON.