(No Model.)

F. H. DE GUERRE.

GRATE.

No. 374,176. Patented Dec. 6, 1887.

Fig. 1.

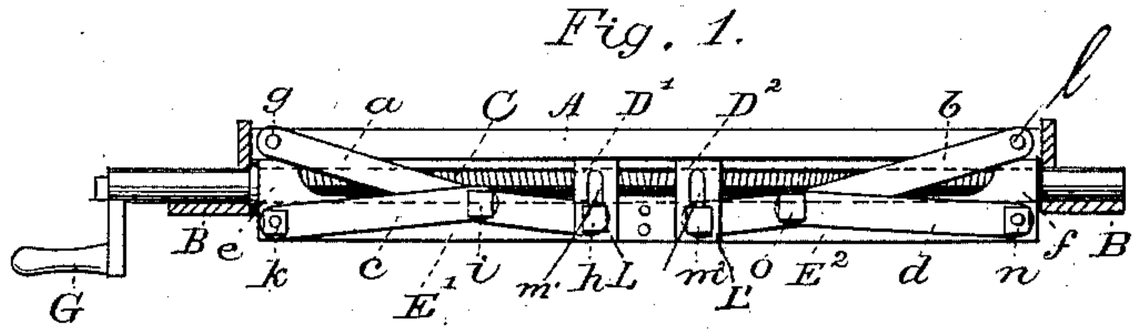


Fig. 2.

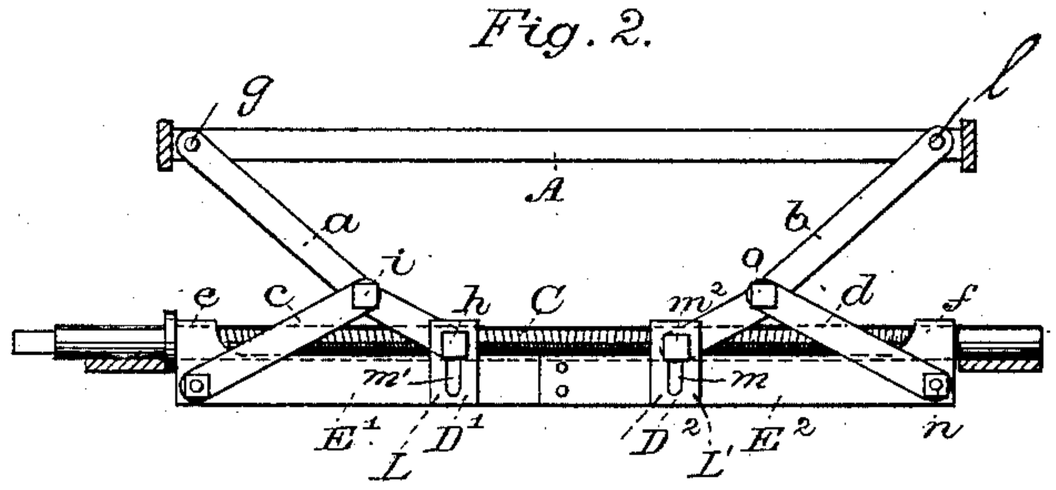


Fig. 3.

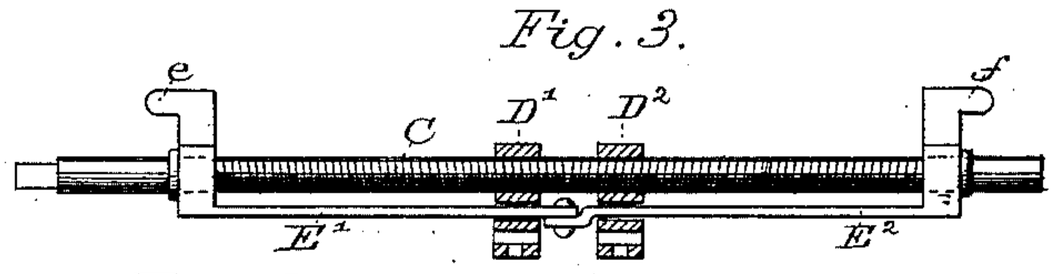


Fig. 5.

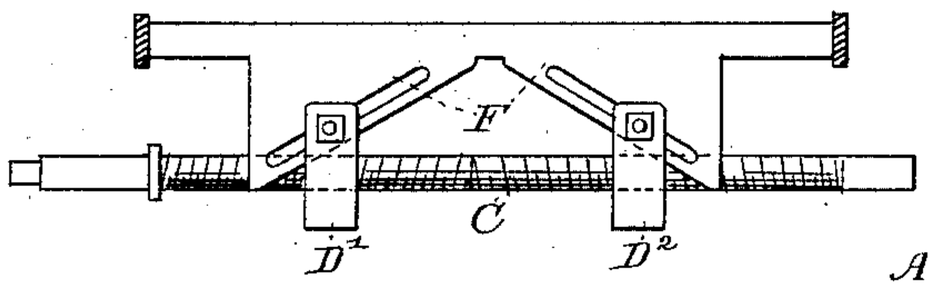
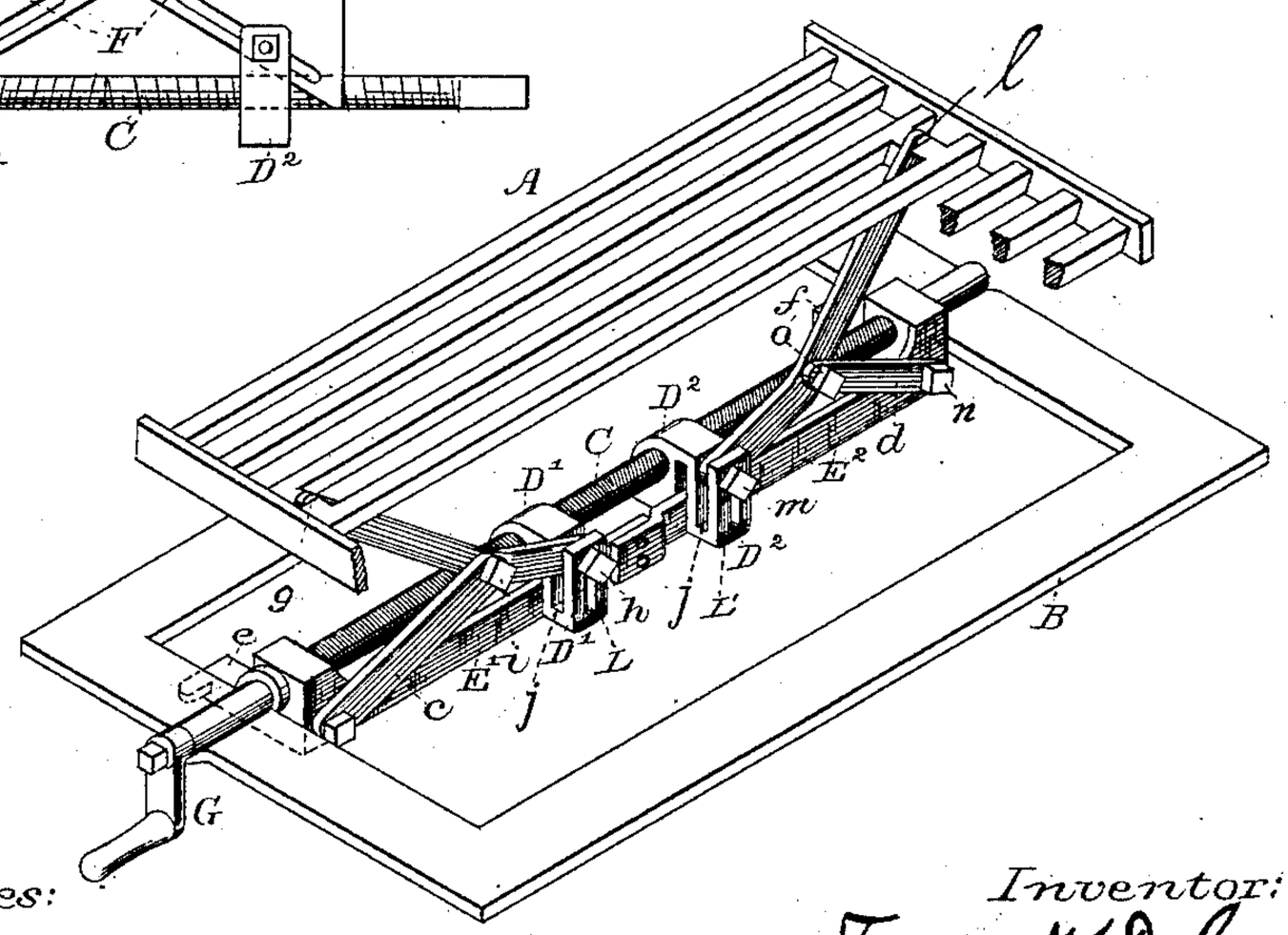


Fig. 4



Witnesses:

C. A. Brandau

Ferdinand Imhorst

Inventor:

Frank H. De Guerre

By his Att'y.

Alphonso C. Smith

UNITED STATES PATENT OFFICE.

FRANK H. DE GUERRE, OF SAN FRANCISCO, CALIFORNIA.

GRATE.

SPECIFICATION forming part of Letters Patent No. 374,176, dated December 6, 1887.

Application filed January 10, 1887. Serial No. 223,956. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. DE GUERRE, a citizen of the United States of America, and a resident of the city and county of San Francisco, State of California, have invented new and useful Improvements in Adjustments for Grates, of which the following is a full, clear, and exact description, referring to the accompanying drawings.

My invention relates to improvements in devices and mechanism for raising and lowering the grate of a stove, furnace, or fire-place.

Figure 1 is an elevation of the devices for raising and lowering the grate with the grate down. Fig. 2 is an elevation showing the grate raised. Fig. 3 is a plan of the screw-shaft, showing the right and left hand screw-threaded shaft and movable nuts. Fig. 4 is a perspective view. Fig. 5 is a longitudinal side elevation of a modified form of devices for raising and lowering grate.

Letter A refers to the grate; B, bed-plate; C, screw-shaft; D′, left-hand and D² right-hand movable nuts; E′, left-hand section and E² right-hand section of rest-bar; F F, wedges or inclines secured to grate as applied to a modified form of grate lifting and lowering device.

In my improved grate-lifting device I place the suitably-constructed screw-shaft C, which is provided with right and left hand screw-thread, in suitable position on the bed-plate B. The rest-bar I prefer to make in two sections, E′ E², and they are suitably connected at such length as required. The rest-bar is also provided with suitable arms or elbows, *e f*, which are provided with suitable holes or slots for admitting the screw-shaft C. Mounted and traveling upon said screw-shaft C are the nuts D′ D², screw-threaded in opposite directions, which approach and recede from each other by turning said screw-shaft. These nuts D′ D² are provided with U-shaped portions or arms L L′, and also with slots *j j′*, in which works the rest-bar. The U-shaped portions or arms are provided with vertical slots *m m′* for the reception of nuts, which form the pivotal connections for the angular arms or levers now to be described. The angular lever *a* is at its one end pivotally secured at point *g* to the grate. Its other end is pivotally secured to the arm of nut D′ at point *h*. The lever *c* is pivotally secured at point *i* to the lever *a*. The other end of the lever *c* is pivotally secured at point *k* to the rest-bar F. The angular arm or lever *b* is pivotally secured at point *l* to the grate at its one end, while the other end is pivotally secured to the nut D² at point *m*. The lever *d* is pivotally and suitably secured to the rest-bar E at point *n* at its one end. Its other end is secured pivotally at point *o* to the angular arm *b*. The front end of the screw-shaft C, which projects on the outside or front of the stove, is made of angular form and suitably constructed for the use of handle G.

For operating my improved devices I turn the handle and the screw-shaft around toward the right. Then the nuts D′ D² are drawn apart or toward the bed-plate, thereby forcing the arms *a b c d* toward an upright position and the grate A upwardly, thereby bringing the grate and the fuel nearer to the pot or kettle on the stove, and by turning the handle G around and toward the left, then the nuts are brought nearer to each other, and the devices and the grate are lowered, and when the nuts are brought close together, until the grate rests upon the screw-shaft, then the grate may be turned over or around and the fuel dumped into the box below the grate.

The modification, Fig. 5, shows the inclines F, which form a part of the grate. When the nuts D′ D² are made to approach or recede from each other, by the operation described, the grate is raised and lowered thereby.

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

1. In a device for raising and lowering grates, the combination, with the grate A, of the screw-shaft C, nuts D′ D², mounted and traveling thereon and provided with the slotted U shaped arms, and the rest-bar consisting of sections E′ E², ending in arms *e f*, which embrace said screw-shaft C, substantially as set forth.

2. The combination, in a device for raising and lowering grates, with the grate A, of the screw-shaft C, having oppositely-threaded portions, nuts D′ D², the rest-bar consisting of sections E′ E², ending in arms *e f*, which embrace said screw-shaft, bent pivoted levers *a b*, and the levers *c d*, all arranged and operating in the manner and for the purpose set forth.

FRANK H. DE GUERRE. [L. S.]

Witnesses:
ALPHONSO B. SMITH,
H. HERBERT COOK.