(No Model.) 3 Sheets—Sheet 1.

C. P. WHITE.

GRATE FOR STOVES, RANGES, &c.

No. 551,518. Patented Dec. 17, 1895.

Fig. 1

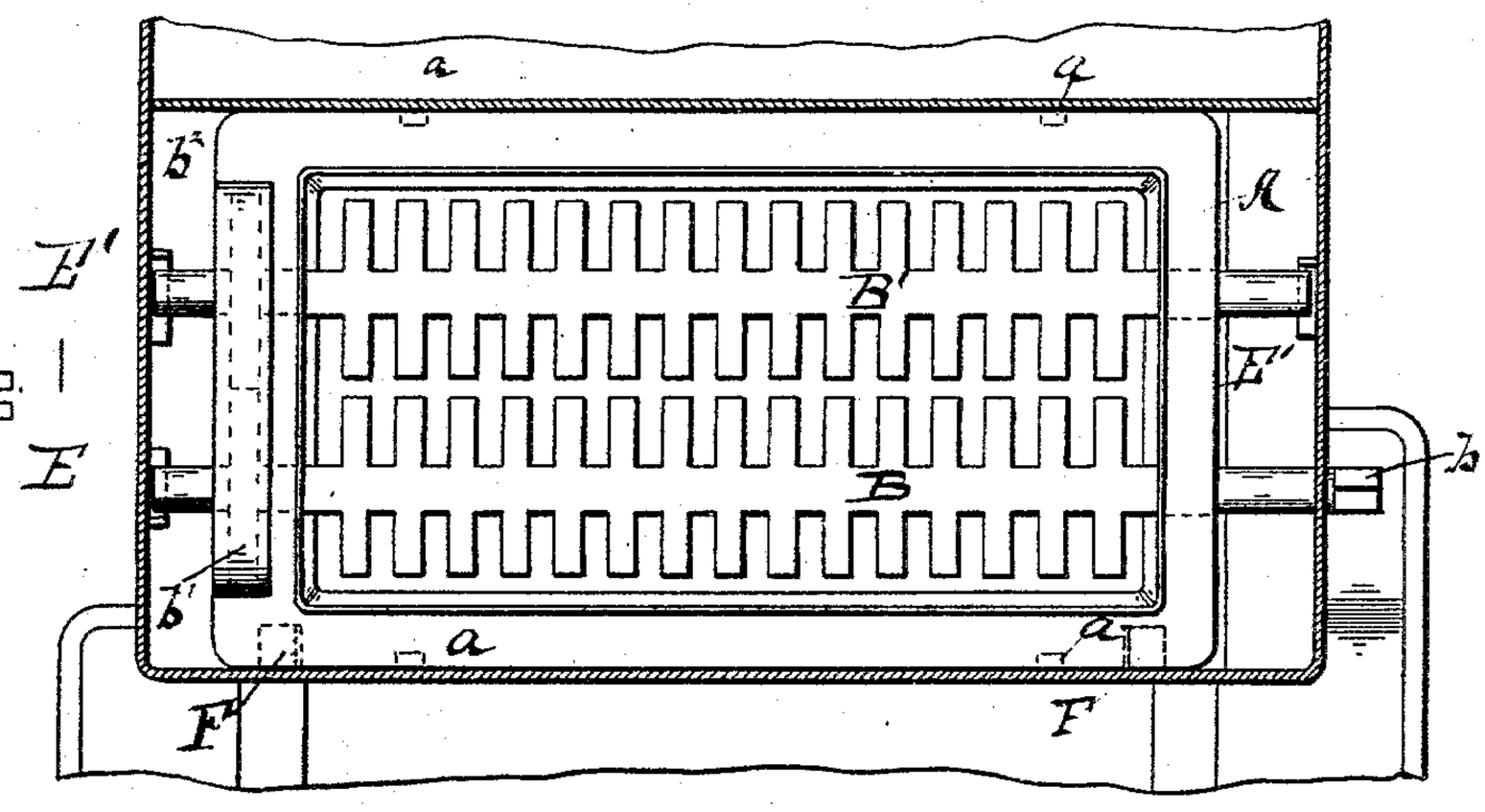

Fig. 2

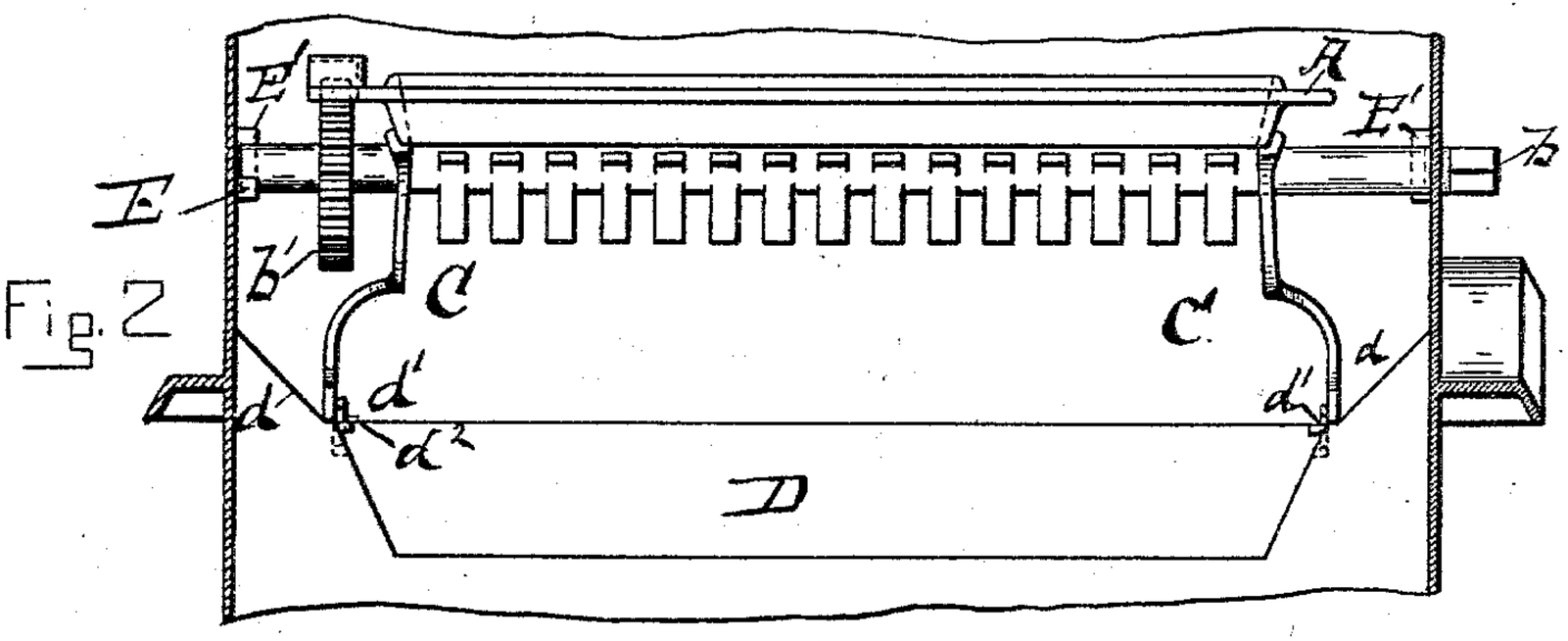

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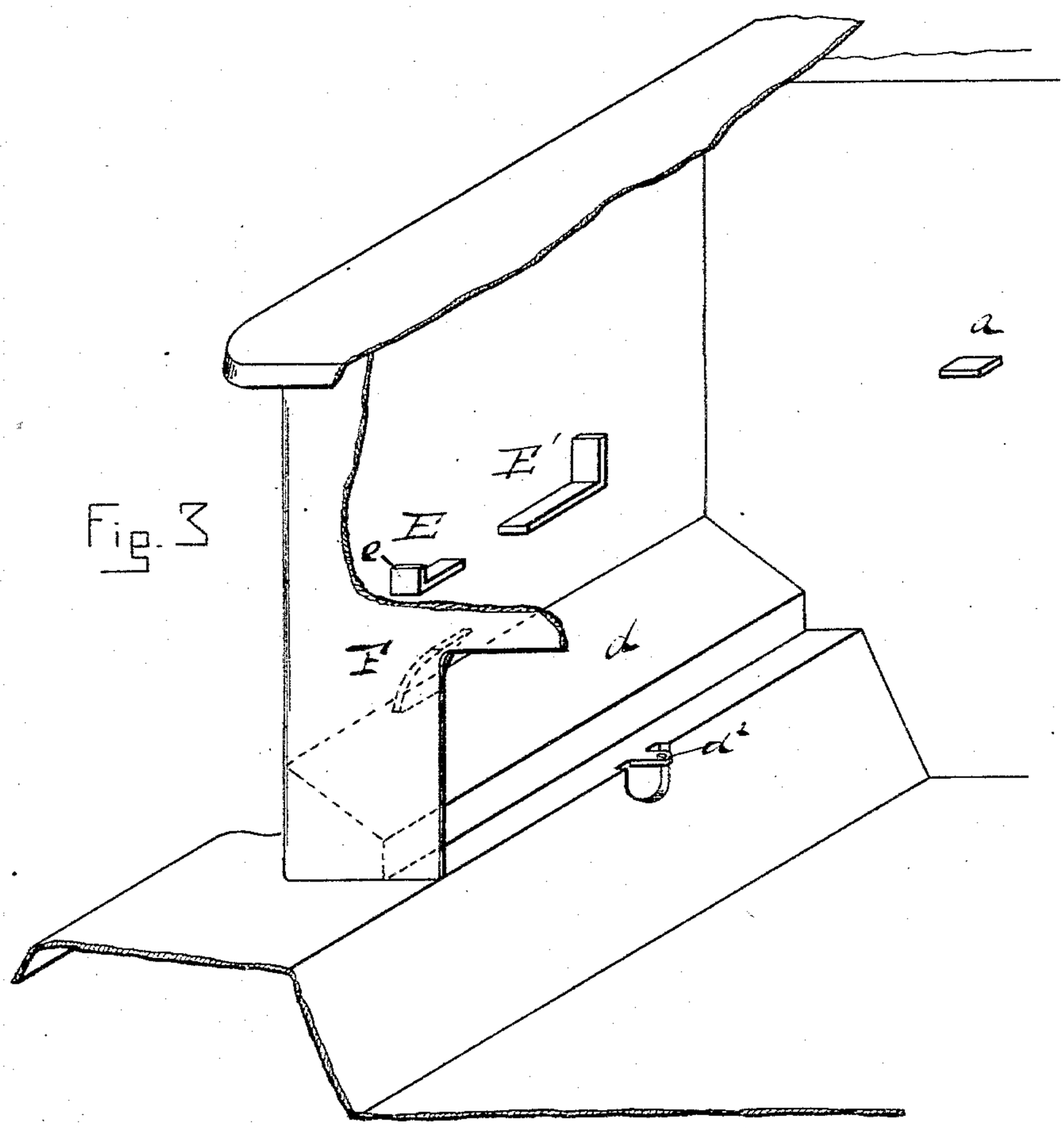
Fig. 3



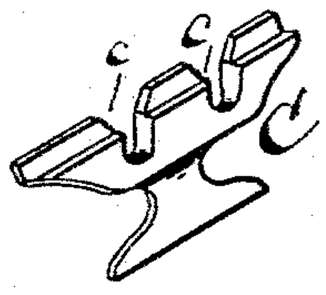


Fig. 4

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No. 551,518. Patented Dec. 17, 1895.

Fig. 5

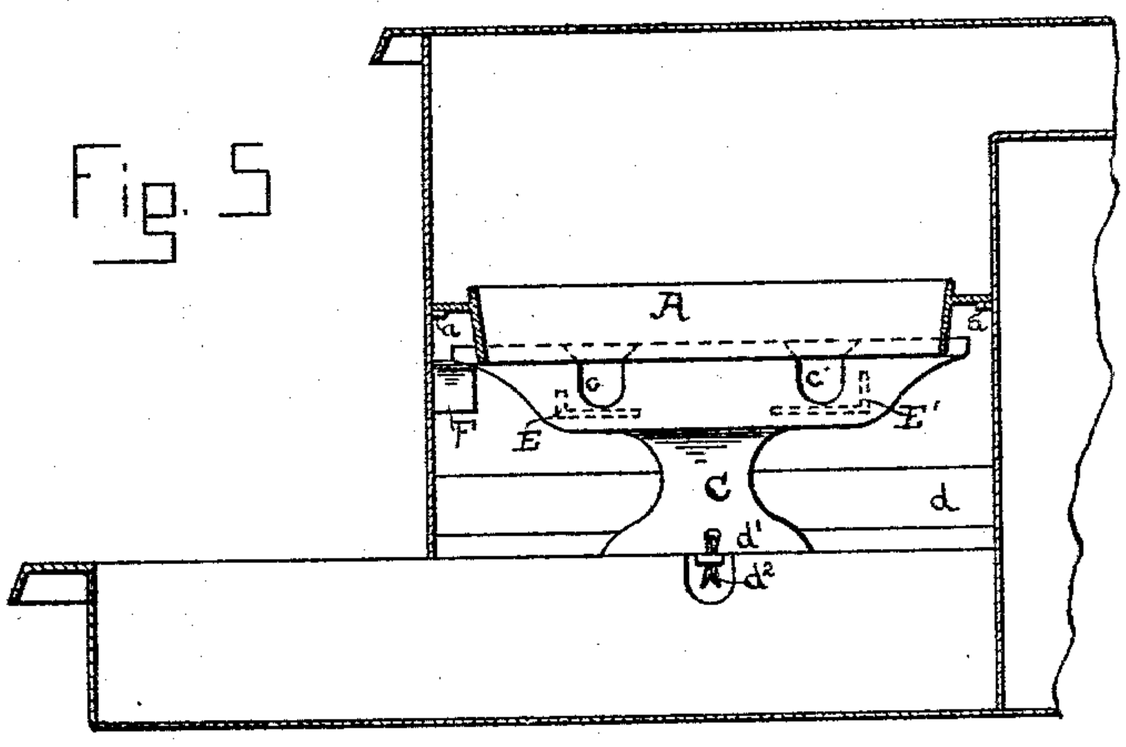
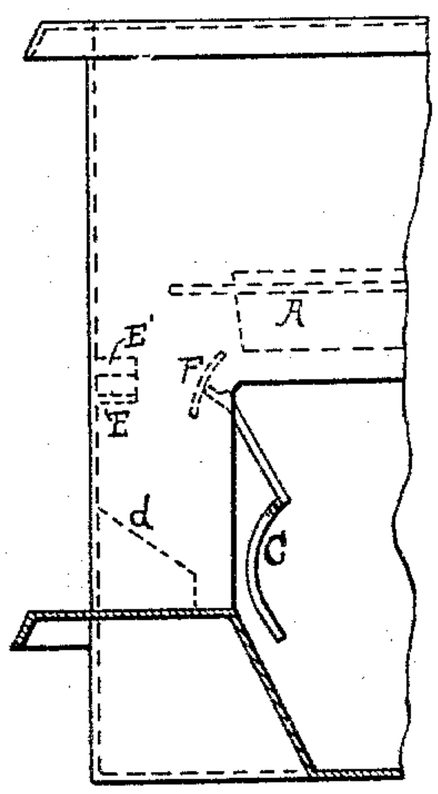


Fig. 6



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UNITED STATES PATENT OFFICE.

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GRATE FOR STOVES, RANGES, &c.

SPECIFICATION forming part of Letters Patent No. 551,518, dated December 17, 1895.

Application filed October 26, 1894. Serial No. 527,025. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. WHITE, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Grates for Stoves, Ranges, and the Like, of which the following is a specification.

My invention is intended to be applied to that class of heaters in which the lining is supported independently of the grate—for example, by means of a frame which is permanently located within the walls of the stove; and it consists in improved means for supporting the grate which shall allow the grate to be easily removed through the ash-pit without disturbing the lining or any other part of the stove.

My invention will be easily understood by reference to the drawings, in which my invention is shown applied to a cooking-stove.

Figure 1 is a plan of a fire-box embodying my invention, Fig. 2 being a front elevation of the ash-pit, the front wall being removed to show the parts in position. Fig. 3 is an enlarged perspective view of a portion of the interior of the stove, all the removable parts being omitted. Fig. 4 is a perspective of the standard for supporting the grate. Fig. 5 is a cross-section of my stove, showing the interior arrangement of the parts at one end; and Fig. 6 is a diagrammatic detail, partly in section and partly in elevation, showing the manner in which the grate-supports are put into place.

My invention is shown applied to a stove in which there are two grates adapted to be oscillated to shake down the ashes.

A is a frame permanently set on suitable brackets *a* just below the linings so as to assist in holding them in place.

B B′ are the grate-bars, both being so hung as to be oscillated. The grate-bar B is provided with a shaft which extends out through the wall of the stove and is square at the end *b* so as to be operated by the ordinary shaking-handle. It is provided at the other end with a gear *b′* which engages with the corresponding gear b^2 in the end of the grate-bar B′, so that both grate-bars will be oscillated at the same time by the shaking-handle. The journals of these grate-bars are supported in two standards C, shaped as shown in Fig. 4. Each of these standards is provided with two rests *c*, which form journal boxes or rests for the grate-bars, and the foot of each standard is preferably bent, as shown in Fig. 2, so as to rest upon the floor, or a suitable portion of the ash-pit D, and be there held in place, for example, between the sloping wall *d* of the ash-pit and a bolt *d′* or other projection provided for the purpose, if necessary. As shown, the bolt *d′* projects from the ear d^2 in the wall of the ash-pit. E E′ are brackets attached to the inner wall of the stove and adapted to receive the ends of the grate-bars B B′ when the standards C have been removed. These brackets are preferably attached to the said wall slightly below the level of the ends of the grate-bars so as not to interfere with the operation of the grate-bars, and yet at the same time not to allow the grate-bars to drop any appreciable distance when the standards C have been removed. The rear edge of the brackets E′ and the front edge of the bracket E project slightly upward, as shown, to keep the bars from sliding off.

Guides F are attached to the front wall of the stove, as shown in Figs. 1 and 3, to assist in placing the standards in position, these guides being so shaped and placed that the standards C may be easily slipped into position without any great care. As shown, these guides are curved to conform to the shape of the curved portion of the standards C, so that when one of the standards is placed against this guide F it will only be necessary to push the support back into place, lifting the adjacent ends of the grate-bars slightly to allow the support to be pushed under them.

The operation of this mechanism is as follows: When it is desired to remove the grate-bars for any purpose—for example, when worn so as to need replacing—the standards C C are first removed. The grates will then drop so that their ends will be supported by the brackets E E′ and the hole in the stove-wall, through which the end *b* of the grate B passes. The grates may then be lifted out in turn, the front edge *e* of the bracket E being made quite low for that purpose, yet being

made sufficiently high to prevent the grate-bar B from falling off the bracket. To replace the grate-bars, they are first set up onto these brackets E E′, the end *b* being passed through the hole in the wall. The standards C are then put in place, each guide F being so shaped and placed that a standard may be put into the ash-pit against it, and then pushed along into place, it serving as a guide, so that the work can be done practically without inspection. The ends of the grates are lifted into the rests *c c* as the standard is pushed into place. It will be noticed that the under side of each guide is concave and its curved surface will direct the top of the standard which is pushed up against it, so that it will strike the under side of the part A. By this means it is possible to put the standards into position by feeling merely, and without watching carefully the direction in which they are moving. The shape of this standard and of the brackets E E′ may be altered to conform with other styles of grate-bars, and the shape and location of the guide F may also be altered to conform to any other shaped standard or may be omitted entirely, my invention consisting mainly in the use of a removable standard to support the grate and fixed brackets by which the grate will be supported temporarily when the standards have been removed. The utility of this device will be apparent to all who have had experience with removing grate-bars.

I prefer to make the standards sufficiently high so that they may engage with the frame A, which with this form the top of the rests *c*, so that the ends of the grate-bars will not slip out of their bearings.

What I claim as my invention is—

1. In a stove having removable grate bars, the removable supports C, in combination with brackets located to receive and support the grate bars in substantially their normal position when the supports have been removed, and at the same time allow the grate bars to be removed therefrom, all as and for the purposes set forth.

2. In a stove of the kind described, in combination with removable grate bars B, B, removable supports C adapted to hold said grate bars permanently in place and to be removed therefrom before removing said grate bars and the guides F located on or in proximity to the front wall of the stove below the level of the top of said supports and adapted to guide said supports into place, as set forth.

3. In a stove, in combination, the stationary frame A the removable grate bars, the standards C provided with rests *c* adapted to receive and support the ends of said grate bars, the upper ends of said standards resting against said frame A and adapted to be steadied thereby, as and for the purposes set forth.

In witness whereof I have hereunto set my hand this 24th day of October, 1894.

CHARLES P. WHITE.

Witnesses:
JENNIE M. WHITTERS,
HOWARD L. PHILLIPS.