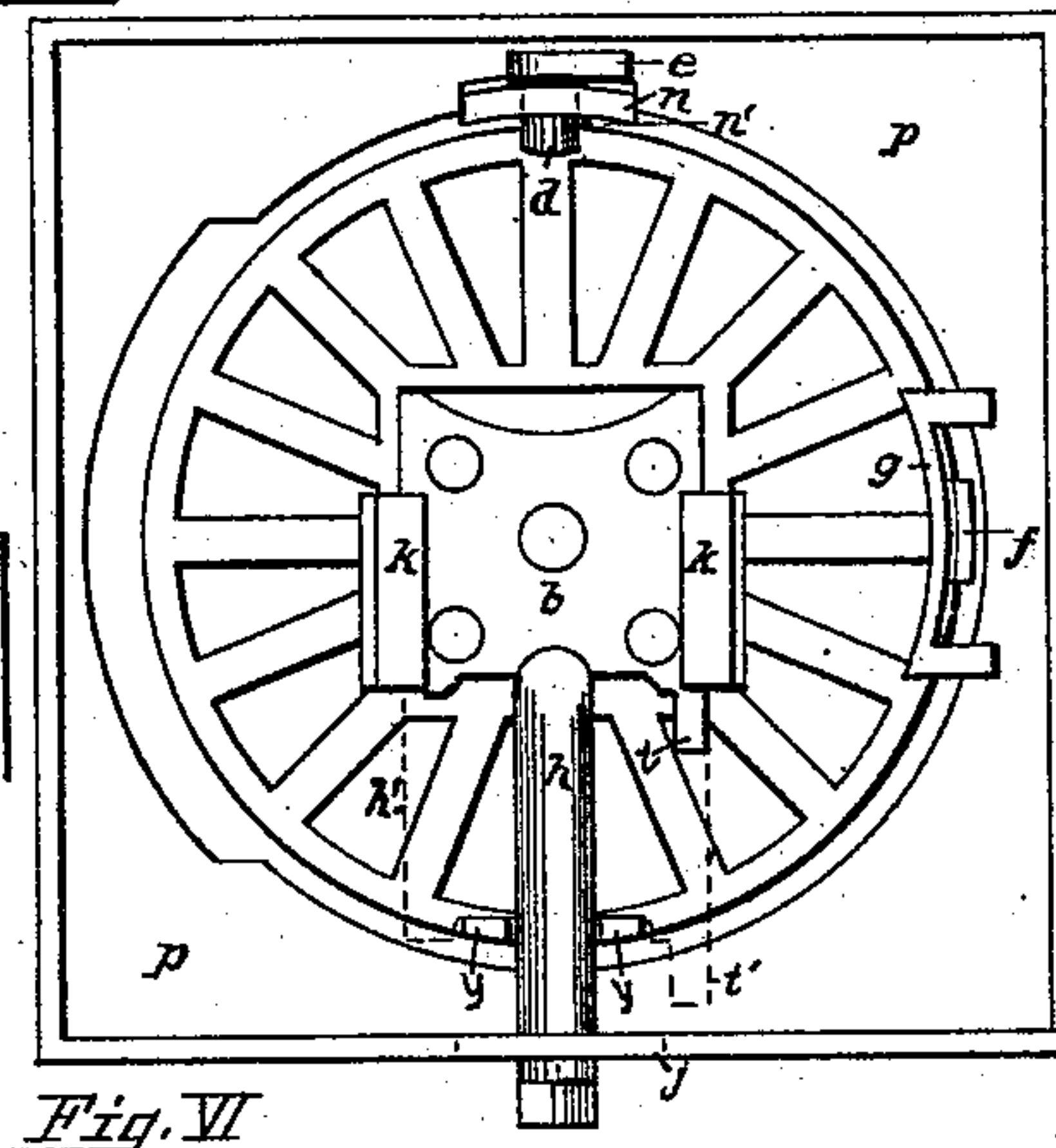
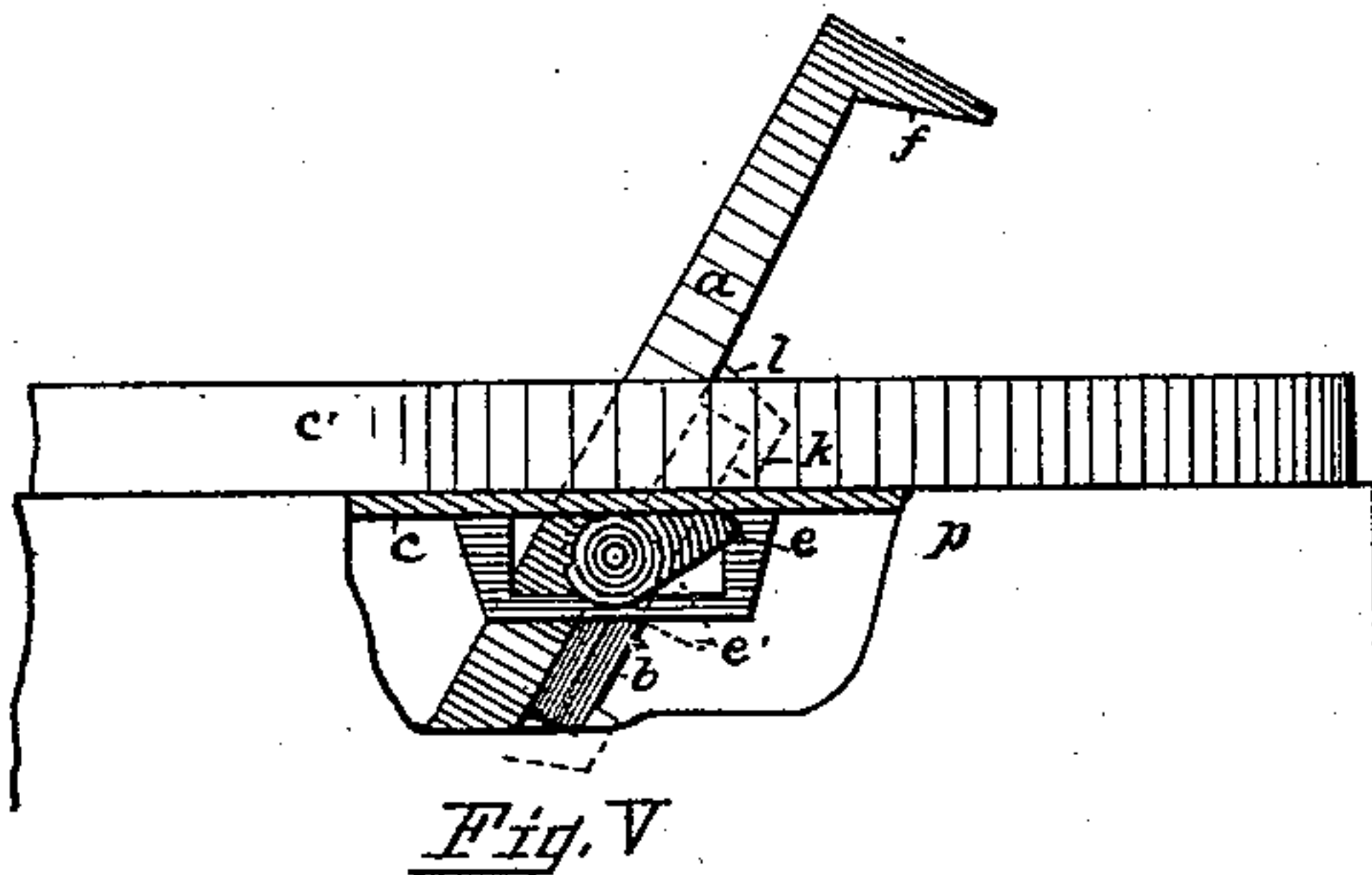
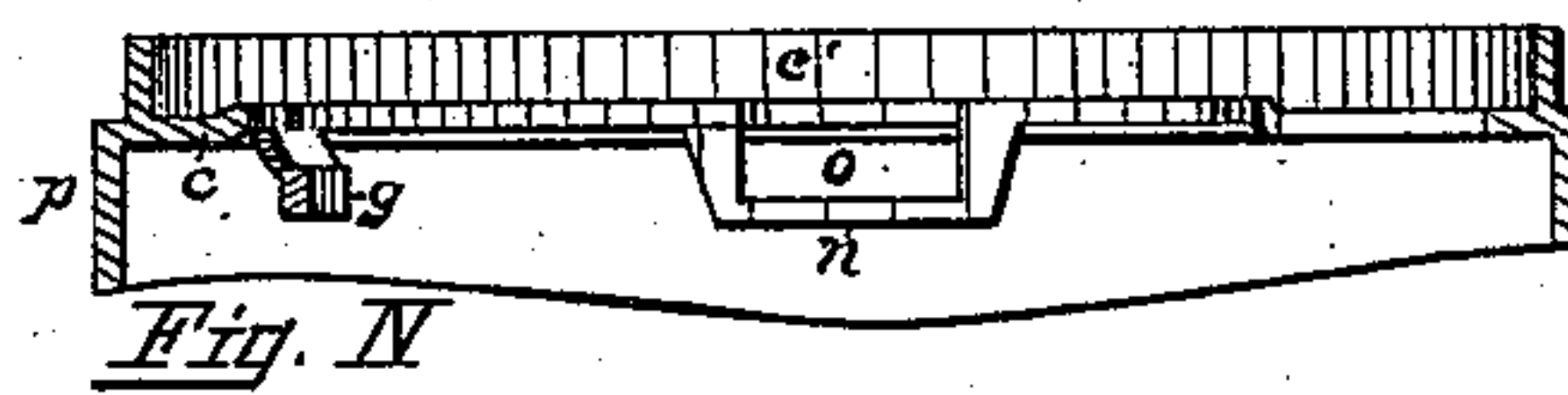
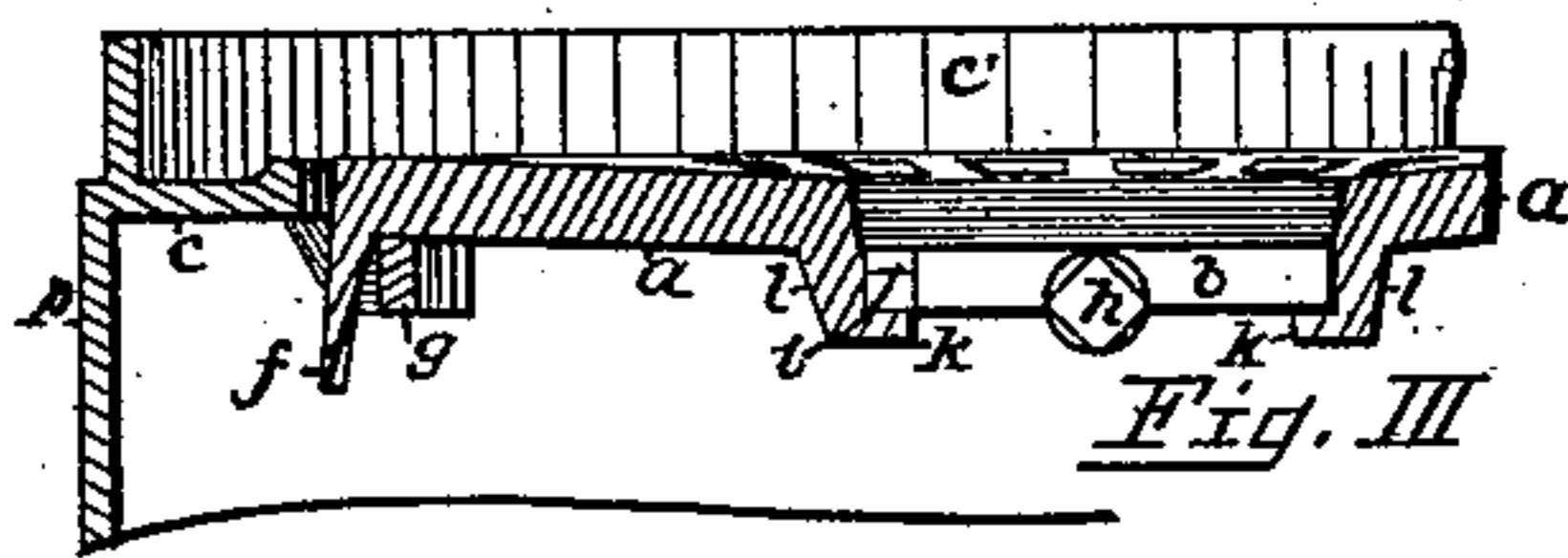
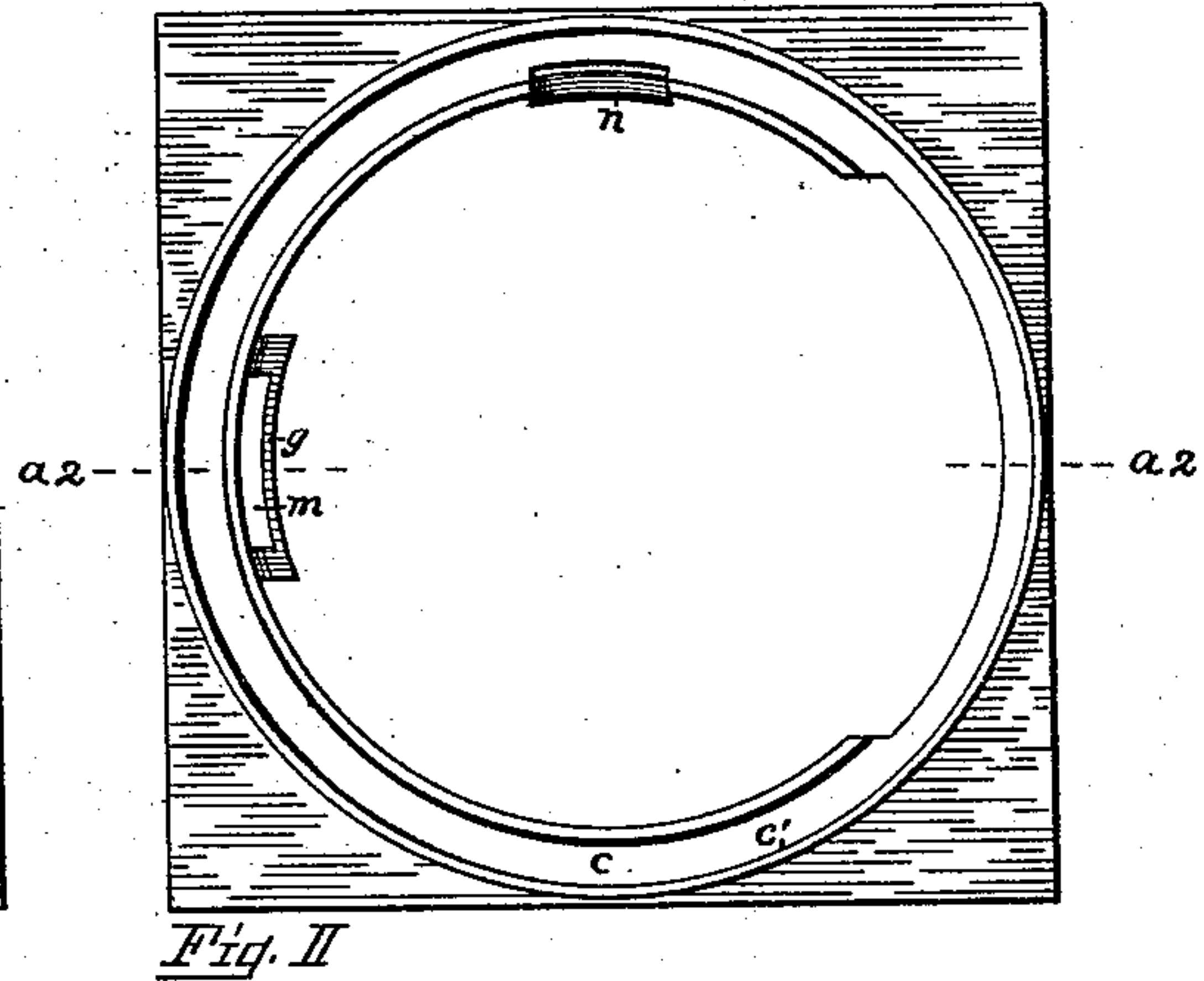
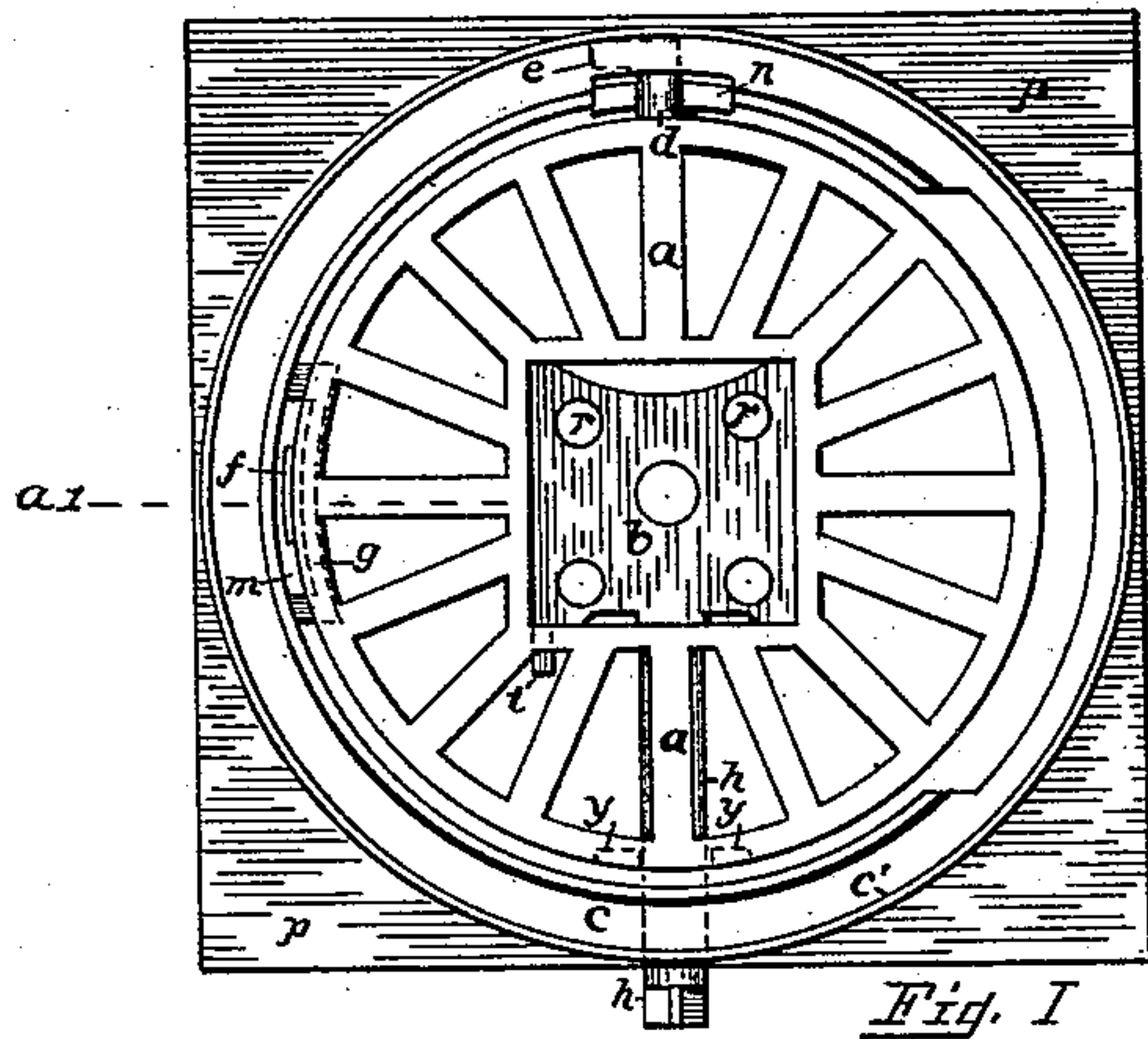


(No Model.)

W. D. SOUTHARD.  
STOVE GRATE.

No. 486,797.

Patented Nov. 22, 1892.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM D. SOUTHARD, OF PEEKSKILL, NEW YORK.

## STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 486,797, dated November 22, 1892.

Application filed January 26, 1892. Serial No. 419,369. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. SOUTHARD, a citizen of the United States, residing at Peekskill, in the county of Westchester and State of New York, have invented a new and useful Improvement in Stove-Grates, of which I declare the following specification to be a full, clear, and exact description, that will enable others skilled in the art to which it appertains to make and use the same, reference being made to the accompanying drawings.

The object of my invention is to produce a simple and easily made and mounted grate as well as one by which the finer ashes may be readily shaken down by the ordinary method—one which can be conveniently tipped or turned to remove larger ashes or clinkers from the sides of the fire-pot and having a draw-center by which ashes, clinkers, or foreign substances in the coal that may or may not have been burned may be removed from the center of the fire quickly and easily and without the trouble and annoyance caused by other grates or by a too-great complexity in the mechanical appliances adopted for such purposes. The manner of attaining these objects is herein fully described and is shown in the accompanying drawings, in which like letters refer to like parts throughout the various views.

Figure I is a top view of the base of a stove with the grate in place. Fig. II represents the base with the grate removed. Fig. III is an enlarged cross-sectional view through line  $a'$  of Fig. I. Fig. IV is a cross-section through line  $a''$  of Fig. II. Fig. V is an enlarged view of the back end of the grate. Fig. VI is a view of the under side of the grate and base.

My grate consists of two sections, the main section  $a$  having a square opening in the center, from which the bars radiate in regular order. A sliding grate  $b$  fills the opening, and it is perforated in the manner shown with circular holes  $r$ . The rear edge of the grate is provided with a trunnion  $d$ , and on the outer end of said trunnion is a lug  $e$ , set at right angles to the trunnion and at an angle of about sixty degrees with the plane of the grate. Its purpose is to be described further on.

The square opening in the center of the grate has drooping flanges  $l$  on the sides,

forming lugs  $k$   $k$ , Fig. III, for the support of the center grate. The trunnion  $h$  is a part of the center grate and extends outward under the main section and through the base  $p$ , a slot being provided in the base in the usual way for shaking the grate. On the front edge of the grate lugs  $y$   $y$  are provided, one on each side of the trunnion  $h$ . These lugs keep the trunnion in line with the trunnion  $d$  in the rear. They also limit the forward movement of the center grate, as indicated by the broken lines  $t'$  in Fig. VI. When the center grate is drawn out, the two sections may be easily separated and removed from their places by lifting up the section  $a$ . To avoid any such displacement of the grates when in use, the section  $b$  is provided with a lug  $t$ , which will prevent the dumping of the grate when the section  $b$  is drawn out, as is plainly indicated at  $t'$  in Fig. VI. It will be observed that the main section  $a$  has but one trunnion integral with it—i. e., trunnion  $d$ —the section being supported in front by the trunnion of the center grate. The back trunnion  $d$  rests upon a depression or hanger  $n$ . (Shown in all the illustrations except Fig. III.) The opening  $o$  through the hanger, Fig. IV, allows the passage through it of the lug  $e$  on the end of the trunnion  $d$ . The object of the lug  $e$  is clearly shown in Fig. V. The broken lines  $e'$  show the position of the lug when the grate lies in its normal or horizontal position. As the grate is tilted or "dumped" the lug comes in contact with the top of the base, as shown, and limits the movement of the grate. A collar  $n$ , Fig. VI, on the inner end of the trunnion  $d$ , in connection with the collar-like form of the lug at the end of the trunnion, keeps the trunnion in its place on the hanger. The base is further provided with a hook on one side, as at  $g$ , in all the figures except Fig. V.

Figs. I and IV represent top and bottom views of the hook, and Fig. III shows that the hook acts as a stop for the grate; but its particular purpose is to adapt the grate to be rotated as upon a center.

The grate-section  $a$  has a flange  $f$ , Figs. III and VI, which drops within the space  $m$ , formed by the hook. This hook has very little side play; but its lateral movement is the same as that of the trunnion  $d$  on its hanger  $n$  and the trunnion  $h$  in the slot in the base,



as indicated by *j* in Fig. VI, so that when the grate is shaken the flange *f* and hook *g* cause it to rotate as if it were suspended on a central axis.

5 This method of retaining all the advantages of a central axis simplifies and cheapens the construction of the grate and avoids the annoyance and trouble incident to the usual cross-bar underneath the grate to support an  
10 axis for it to rotate upon.

I reserve the right to modify the forms of construction I have shown so long as the principle of my invention is retained.

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

1. The combination of the dumping-grate *a*, having a back trunnion with a limiting-stop on the outer end and a flange *n'* on the inner  
20 end, and the center grate *b*, supported by lugs from the grate *a* and having a trunnion extending out through the stove-base affording support for the front of the grate *a*, the center grate having a stop *t* to prevent its separation from the main grate, substantially as  
25 set forth.

2. The combination, substantially as de-

scribed, of the stove-base provided with a hanger *n* and hook *g*, a grate-section with a flange *f* to engage with the hook *g*, a rectangular center grate supported by lugs from the  
30 main grate and having a stop *t*, and a trunnion extending through the base, the front of the grate-section *a* resting on said trunnion, the back trunnion of the said section being  
35 provided with a limiting-stop, all substantially as shown.

3. The combination, substantially as shown herein, of a stove-base, substantially as described, a grate comprising a main section *a*,  
40 having a side flange *f*, a back trunnion provided with a stop *c* and flange *n* and supporting a center grate by means of flanges *l* and lugs *k*, a center grate having a stop *t*, and a  
45 trunnion *h*, supporting the front of the main grate-section, which has lugs *y y*, extending downward on each side of the trunnion, all operating together, as and for the purposes described.

WM. D. SOUTHARD.

Witnesses:

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