Oct. 31, 1950 W. P. BIDDLE ET AL 2,528,333

STOVE FEED PLATE

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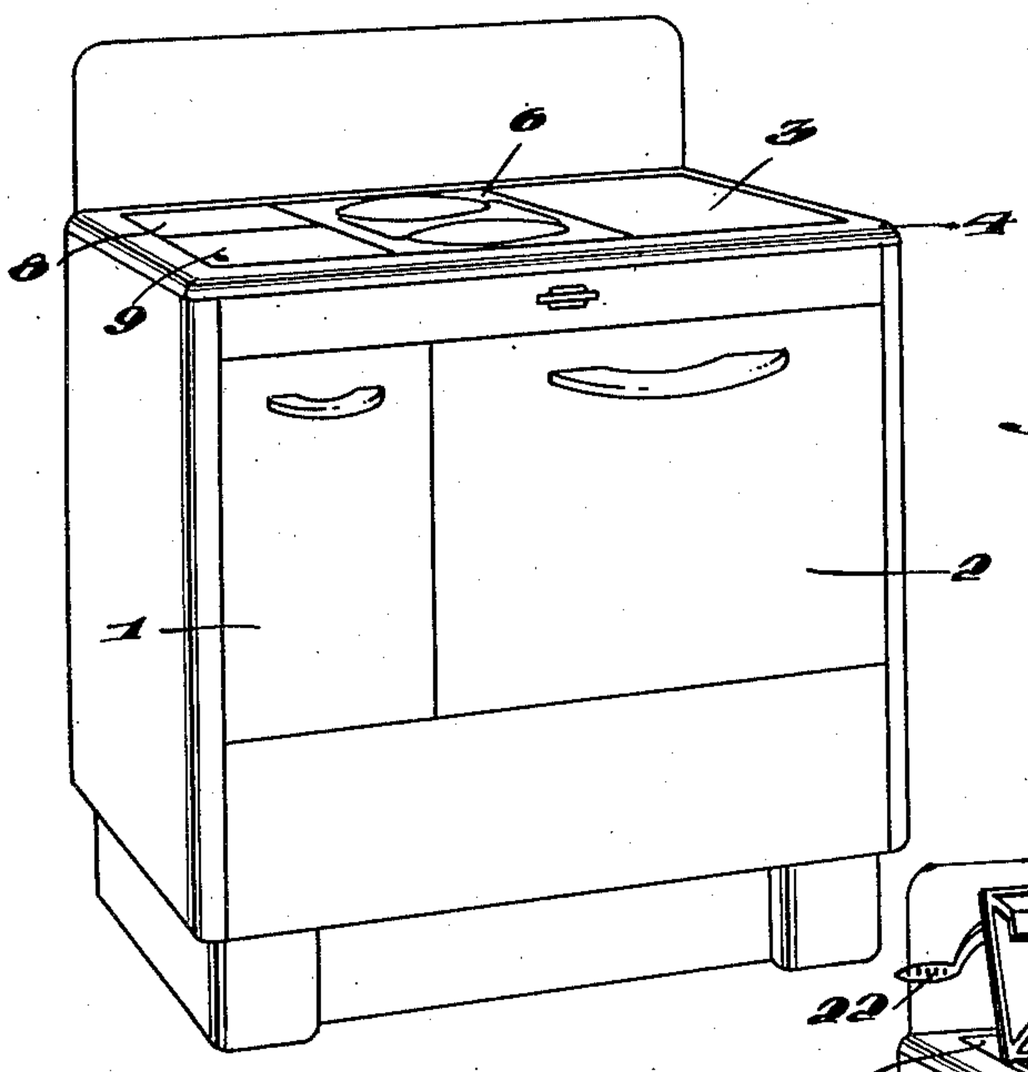

Fig. 1.

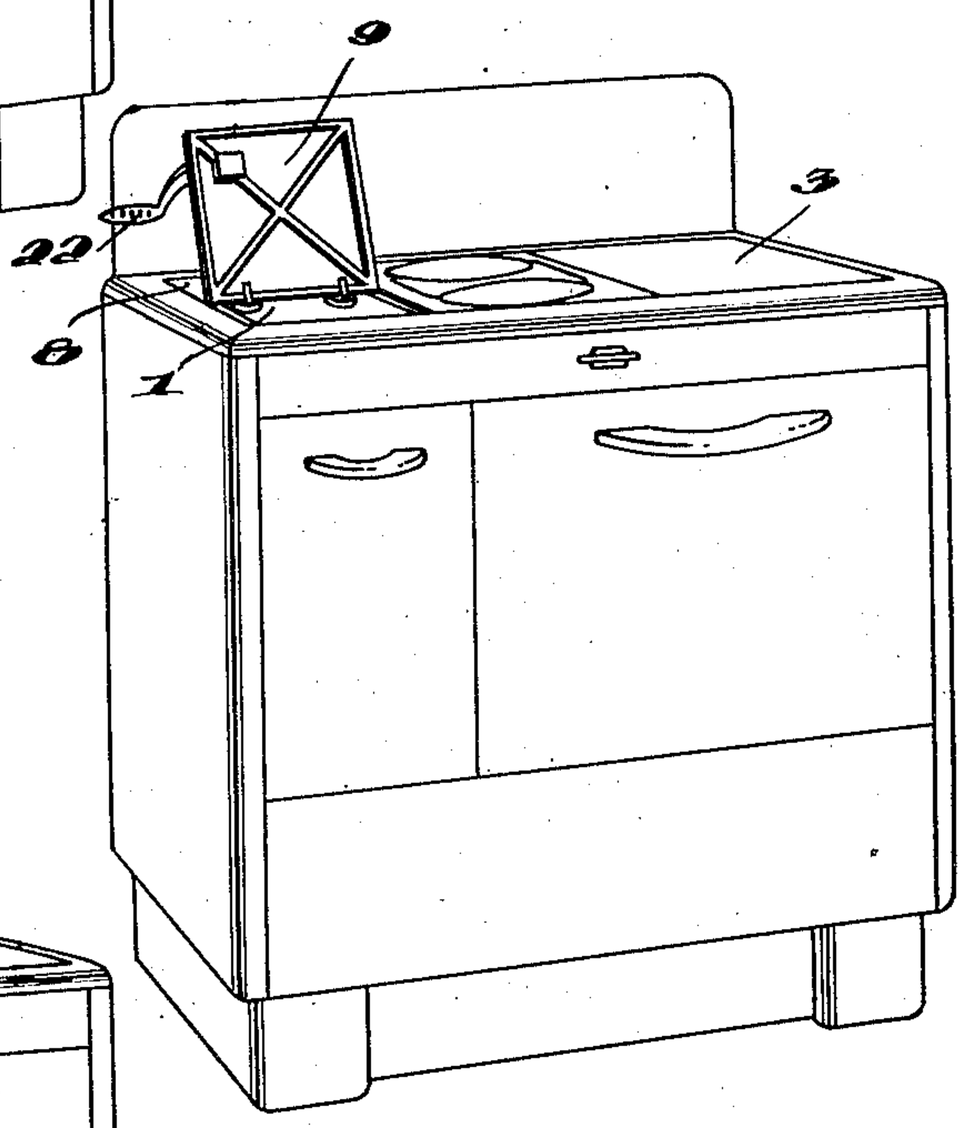

Fig. 2.

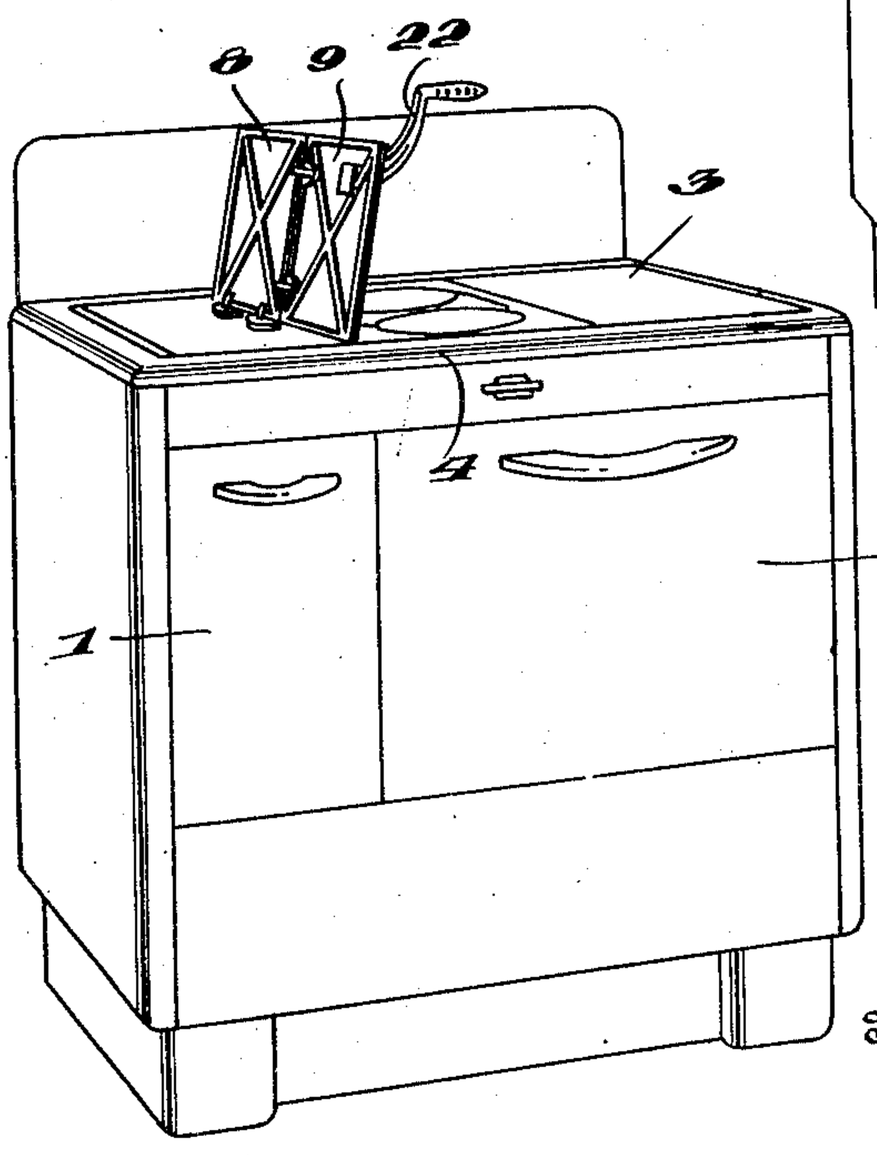

Fig. 3.

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Fig. 4.

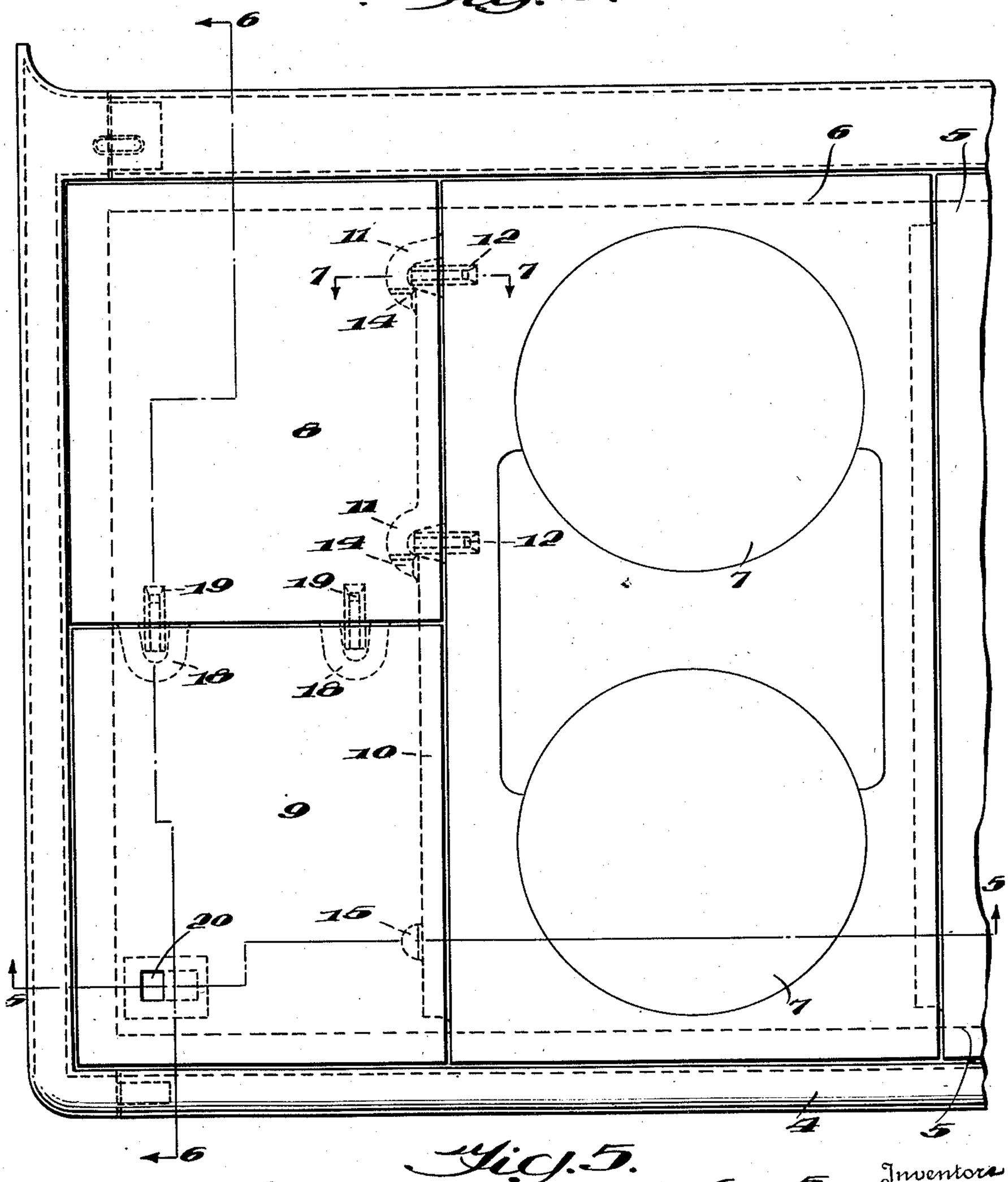

Fig. 5.

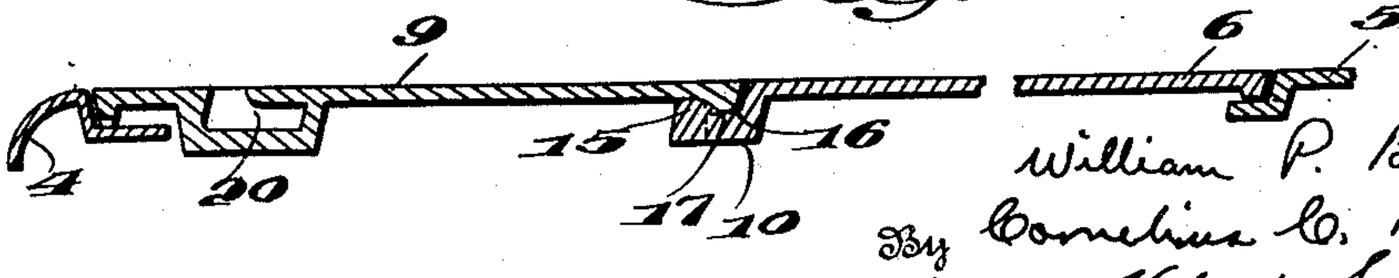

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Fig. 7.

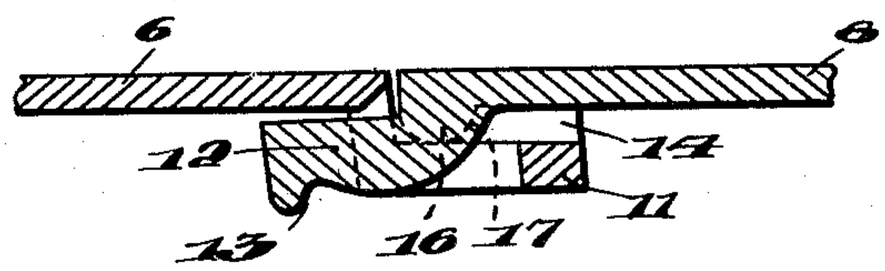

Fig. 6.

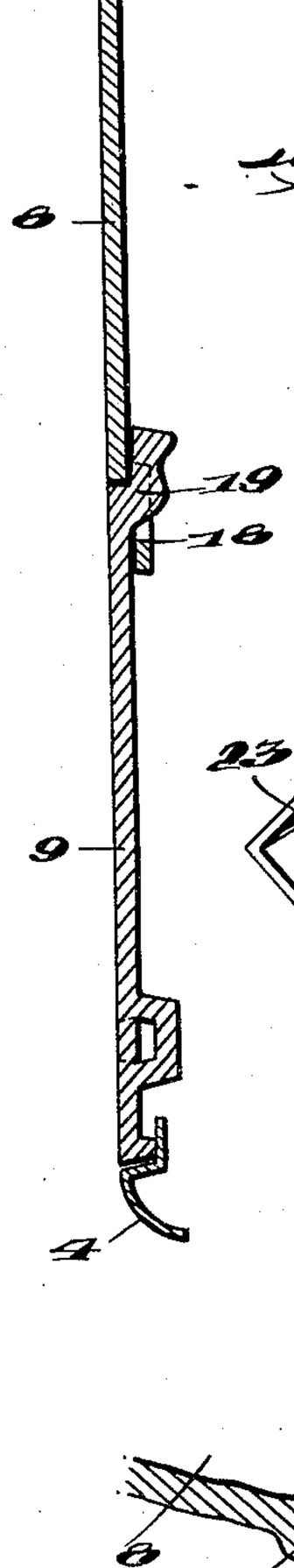

Fig. 8.

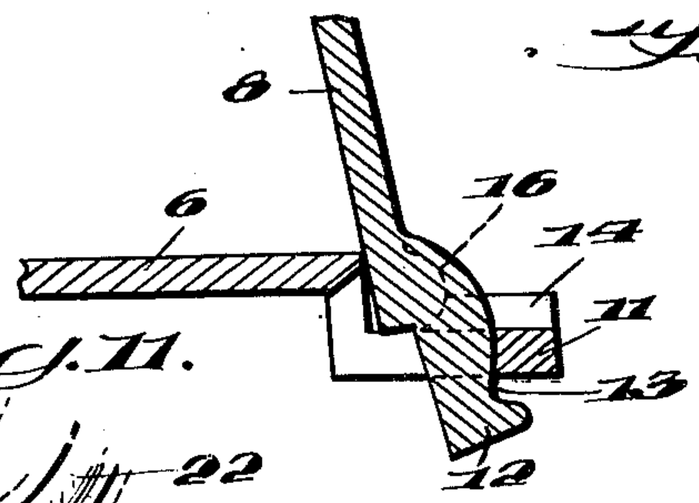

Fig. 11.

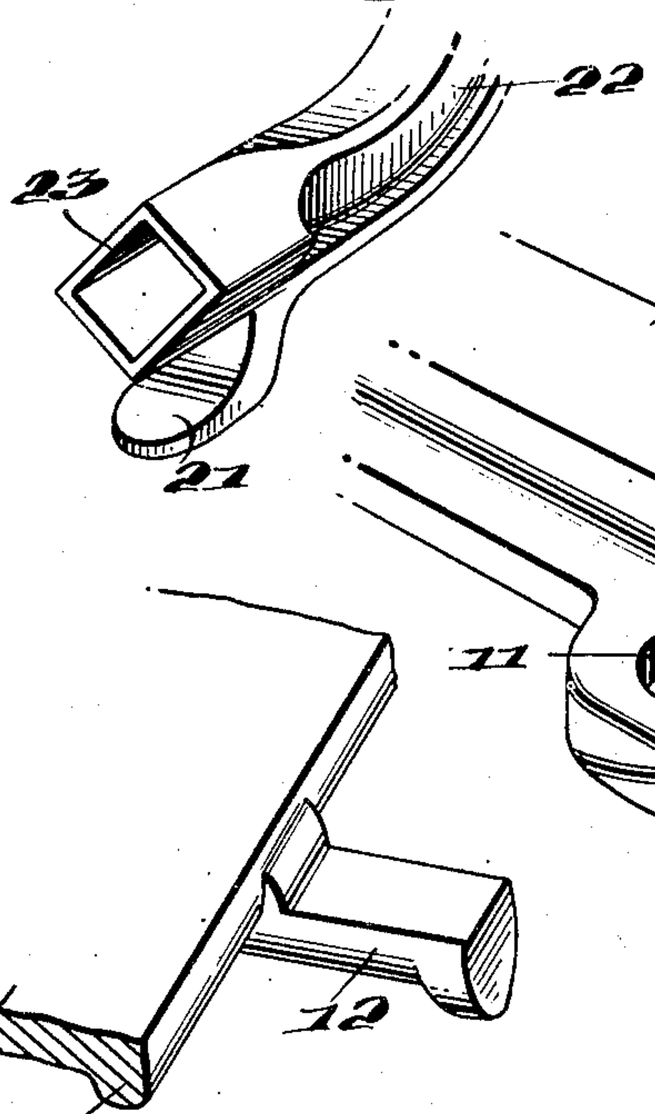

Fig. 9.

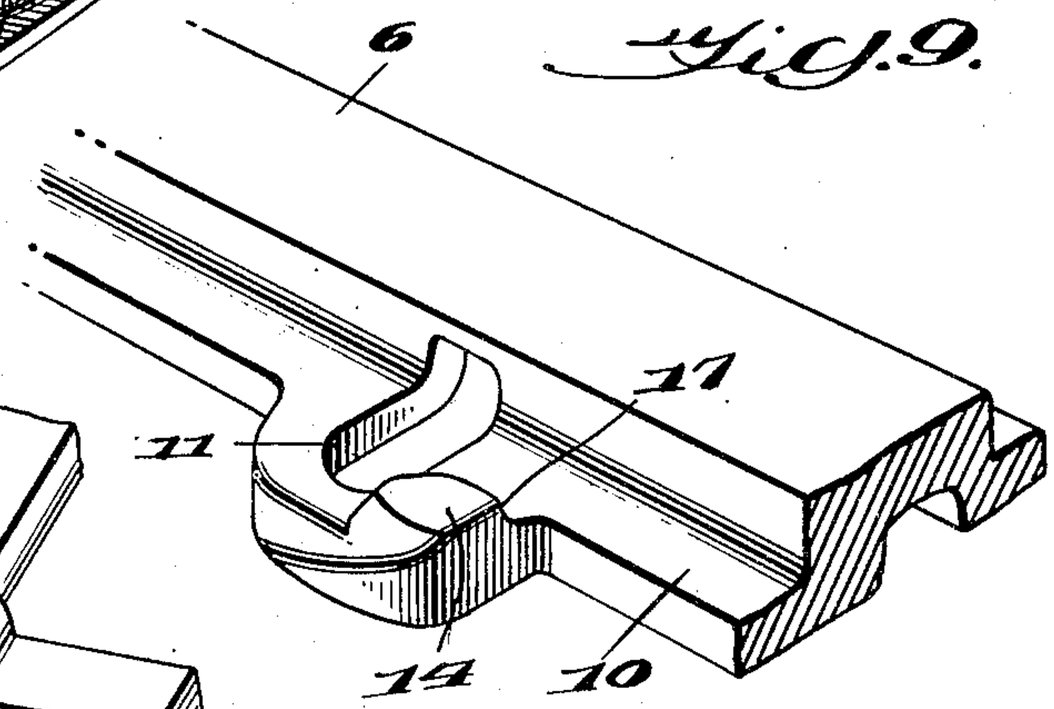

Fig. 10

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UNITED STATES PATENT OFFICE

2,528,333

STOVE FEED PLATE

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Application July 7, 1944, Serial No. 543,795

13 Claims. (Cl. 126—211)

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This invention relates to improvements in stove feed plates, particularly the cover plate for the fire-box of a coal or wood stove.

Heretofore, it has been the practice to provide a one-piece lift feed plate over the fire-box, either with or without separate lids therein. These have been objectionable, however, because it has been necessary to raise the entire feed plate to an elevated position in order to feed fuel into the fire-box. This leaves substantially the entire area of the top of the fire-box open, which immediately sucks in such a large volume of cold air as to destroy the effect of the draft, causing a large amount of smoke from the fuel bed to be discharged into the room through this open top of the fire-box.

The principal object of this invention is to improve the construction of the cover plate for the fire-box of a coal or wood stove so as to permit the refueling operation to be performed without the discharge of smoke from the fuel bed into the room as a result of the refueling operation.

A further object of the invention is to provide in the feed plate a sectional construction such that either part or substantially the entire top portion of the fire-box may be opened. This makes it possible to open only a section of the feed plate when it is desired to feed fuel into the fire bed, or the entire plate can be raised to an open position out of the way so as to expose the entire fire-box for easy access when building a fresh fire therein.

These objects are accomplished preferably by constructing the feed plate in two sections, hinged to each other, while one of the sections is hinged to the top portion of the stove. This makes it possible to swing back one of the sections relative to the other to expose a portion of the fire-box when access thereto is desired, or to swing back both sections jointly and simultaneously for exposing the entire top of the fire-box when building a fresh fire therein. The hinge connections are preferably detachable for ready separation of the sections from each other, as well as from the stove, and yet are so constructed that the open section or sections of the feed plate are held in open position by gravity and out of the way of the operator in gaining access to the desired or entire portion of the fire-box.

Still another object of the invention is to provide a detachable handle means for opening and closing the two-section cover plate. This means comprises a socket formed in a corner of the front section and a handle having a finger insertable in said socket when it is desired to raise

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either or both of the sections. The lifter member may be moved from front to back to raise only the front section, tilting the latter beyond its upright position when the section will be retained elevated by engagement of lugs thereon with the loops or sockets that form coacting parts of the hinge means. The lifter is so constructed as to be retained in the socket in different positions, even when elevated. When the front section is lowered to a closed position, the lifter handle may be moved from left to right, swinging the sections simultaneously to raised position, which motion continues as these sections move past dead-center when they will be retained in their elevated positions by the engagement of the top lugs with edges of the sockets, whereby to hold the feed plate securely in raised position.

A preferred embodiment of the invention is shown in the accompanying drawings, in which:

Fig. 1 is a perspective view of a stove with the improved feed plate therein, in closed position;

Fig. 2 is a similar view showing the front section of the feed plate raised;

Fig. 3 is a similar view showing both sections of the feed plate raised;

Fig. 4 is a top plan view of the feed portion of the stove embodying this invention;

Fig. 5 is a cross-section through the top portion thereof on the line 5—5 of Fig. 4;

Fig. 6 is a similar view at right angles thereto, on the line 6—6 of Fig. 4;

Fig. 7 is a detail cross-section through a hinge of the feed plate, on the line 7—7 of Fig. 4;

Fig. 8 is a similar view with the feed plate in elevated position;

Fig. 9 is a detail perspective view, partly in section, of a portion of the stove top, showing the hinge socket loop;

Fig. 10 is a detail perspective view of a portion of the back lift plate, showing the hinge lug thereof; and

Fig. 11 is a perspective view of the lifter.

The invention is shown as applied to a stove for burning coal or wood, of conventional construction, for which it is adapted. The stove is constructed with a fire-box 1 in one end thereof and an oven 2 in the opposite end thereof. The stove top is designated generally at 3, which forms the cooking top of the stove. This cooking top is usually provided with removable lids, such as the standard open plates or French plates, enclosed within a surrounding top frame 4. While these lids, for the most part, may be constructed of different characters, the stove shown has one

French plate 5 (Fig. 4), one standard open plate 6 with removable lids 7, and a lift feed plate over the fire-box 1.

The lift feed plate is constructed of two sections, a back section 8 and a front section 9, these being substantially of equal area, as shown in Fig. 4, and adapted to cover substantially the entire area of the top of the fire-box 1.

While the sections 8 and 9 are adapted to be supported at their outer edges on a flange on the top frame 4, the inner side edge of the back section 8 is preferably hinged to the adjacent top section of the stove, in this instance, the standard open plate 6, to form a hinged support for the two sections of the feed plate. For this purpose, the top plate 6 has a lateral flange along the edge thereof, shown at 10, which forms a ledge adapted to underlie the adjacent edge portions of the sections 8 and 9 throughout a substantial portion of the length thereof from front to back of the stove.

As shown in Figs. 4, 7 and 8, the top plate 6 is provided with a plurality of open loop sockets 11 integral therewith, spaced along the edge of the back section 8. These sockets 11 are off-set downwardly from the plane of the top plate 6, as shown in Figs. 7 to 9, substantially in longitudinal alignment with the ledge 10. The adjacent edge of the back section 8 is provided with off-set lugs 12 formed thereon, as shown in Figs. 7, 8 and 10, in position to enter the sockets 11 and thereby form an interconnected hinge between the section 8 and the top plate 6. The lugs 12 have notches 13 in the end portions thereof in positions to receive the ends of the loops 11 when the section 8 is elevated as shown in Fig. 8, and to provide a hook portion on the end of each lug to hold the sections elevated, and preventing them from accidentally becoming disconnected from the top plate 6. Nevertheless, the sections 8 and 9 may be disconnected when desired, merely by lifting the lugs 12 out of the loop sockets 11, as will be evident from Figs. 7 and 8.

Each of the loop sockets 11 has an upstanding supporting lug 14 thereon, at one side thereof, in position to engage under the plate section 8, and hold the latter flush with the stove top. A corresponding supporting lug 15 is provided on the ledge 10, adjacent the front of the stove, as shown in Fig. 4, for supporting the section 9. The lateral edges of the sections 8 and 9 are provided with ribs 16 thereon at the under side thereof, which ribs rest upon the ledge 10. Each rib 16 is substantially semi-circular in cross-section, as shown in Fig. 5, and the inner surface of each supporting lug 14, 15, is formed concave at 17, complementary thereto, so as to form a hinged connection between the sections 8 and 9, respectively, and the top plate 6, permitting these sections to rotate transversely relative to the top plate, the weight of the two sections causing the ribs 16 to be retained in these bearings during the raising and lowering movements of the sections.

The sections 8 and 9 are hinged together by means of loop sockets 18 and lugs 19. The relation of these parts is such that the top edges of the lugs 19 are always in close proximity to the adjacent under surface of the back section 8, remaining in close proximity to the adjacent surfaces of the sockets 18 during the raising and lowering movements of the front section, thereby keeping the two sections in proper relationship to each other. They are detachably

connected for separation, if desired, substantially as described above with respect to the hinge connections 11—12.

The section 9 is provided with a lifter socket 20 therein, adjacent the front corner of the stove. This socket 20 is adapted to receive a flattened finger 21 formed in an off-set relation from a lifter handle 22. The finger 21 is shown as formed integral with a shaker socket 23 to permit one implement to serve both purposes. The shape of the finger 21 cooperating with the shape of the socket 20, causes the lifter member to be retained on the section 9 when moved to different elevated positions, as shown respectively in Figs. 2 and 3, and yet is detachable therefrom, when desired. Thus, it is possible to hang the lifter member in a convenient place away from the heat of the stove so as to keep it cool until its use is desired, when it may be used without fear of burning the hand.

It will be evident from Figs. 2 and 3 that either the section 9 may be opened individually, or the sections 8 and 9 jointly opened simultaneously, as may be desired. In either event, the lifter finger 21 will be inserted into the socket 20 in a direction transversely of the section 9. Then, upon swinging the lifter 22 from front to back of the stove, the section 9 may be raised to the elevated position shown in Fig. 2. The lugs 19 will engage the forward ends of the loop sockets 18 to limit this swinging movement, while retaining the parts in interconnected relation. This is the position desired for feeding fuel into the fire-box 1, inasmuch as it does not expose the entire top of the fire-box to cold air which would cause smoke to be discharged into the room. Tests have shown that when only this much of the cover plate is opened for the refueling operation, no smoke is discharged into the room through this aperture.

Whenever a fresh fire is to be built in the fire-box, it is necessary to expose the entire area of the top of the fire-box. This may be done in the manner shown in Fig. 3, by swinging the lifter handle 22, with the section 9 closed, from left to right in Fig. 3, which will cause the sections 8 and 9 to be moved together. This movement will continue until they have been moved past the vertical position when the stop lugs 12 will engage the ends of the loop sockets 11, as shown in Fig. 8, thereby holding the back plate 8, and thereby the front plate 9, in elevated positions by the interengagement of these lugs and sockets, out of the way of the person building a fire in the fire-box. These sections may be closed merely by reversing the movement of the lifter handle 22. As shown, the handle will remain attached to the section 9 in either elevated position by reason of the interconnection 20—21.

Thus, it is possible, in a very simple construction, to provide for gaining access to the fire-box for feeding fuel thereto without danger of smoking, because only part of the fire-box need be exposed for this purpose. Nevertheless, the feed plates is so constructed that the entire top may be opened, whenever desired, for the purpose of building a new fire.

We claim:

1. In a stove having a stove top with an opening therein, a stove lid for closing said opening comprising a plurality of sections hinged together at adjacent edges thereof, and means at another edge of one of said sections at an angle to said first-mentioned hinge edges for hingedly mounting said sections on the stove top.

2. In a stove having a stove top with an opening therein, a stove lid for closing said opening comprising a plurality of substantially rectangular sections arranged in side-by-side relation, means for hingedly connecting adjacent edges of said sections together for swinging movement of one of said sections relative to another of said sections, and means arranged at another edge of one of the sections at an angle to the first-mentioned hinge edges for hingedly supporting said sections on the stove top.

3. In a stove having a stove top with an opening therein, a stove lid for closing said opening comprising two substantially rectangular sections arranged with edges thereof adjacent to each other, means hingedly connecting said adjacent edges to each other for swinging movement of one of the sections to an open position relative to the other section, and means for hingedly supporting a lateral edge of said other section approximately at right angles to the first-mentioned hinge edge thereof for hingedly mounting the sections on the stove top.

4. In a stove having a stove top with an opening therein, a stove lid for closing said opening comprising two substantially rectangular sections arranged in edge-to-edge relation, means for hingedly supporting one of the sections upon the other section and connecting said adjacent edges together, and hinge means at a lateral edge of said other section at right angles to the first-mentioned hinge edges for mounting the sections on a stove for joint swinging movement to an open position in a direction laterally relative to the first-mentioned hinge means of one section with the other.

5. A stove having a frame with a lid-receiving opening therein, a stove lid comprising a plurality of sections arranged in edge-to-edge relation, means hingedly connecting the sections with each other for opening movement of one section relative to another, and means hingedly connecting another of said sections with the frame at an angle to the first-mentioned hinge means for joint swinging movement of the sections to an open position with respect to the opening and frame.

6. In a stove having a frame with a lid-receiving opening therein, a plurality of sections mounted in the opening, means hingedly connecting one of the sections with another thereof for opening movement relative thereto in one direction, and means hingedly connecting another of said sections with the frame for joint opening movement of said plurality of sections in a different direction relative thereto.

7. In a stove having a frame with a lid-receiving opening therein, a lid mounted in said opening and including two rectangular sections arranged in edge-to-edge relation, means hingedly mounting one of the sections on the other for swinging movement in one direction to an open position relative thereto, and means hingedly mounting the other section on the frame structure for swinging movement of said sections in another direction substantially at a right angle to the first-mentioned direction of swinging movement.

8. In a stove having a fire-box therein and a cooking top thereover with a surrounding frame, said cooking top having an elongated opening therein over the fire-box, a feed plate mounted on the frame in said opening and comprising two sections disposed in side-by-side relation, means hingedly mounting one of the sections on the other thereof for swinging movement in a direction lengthwise of the opening to an open position for feeding fuel into the fire-box, and means hingedly mounting the other section at a lateral edge of the opening for joint swinging movement of the sections in a direction laterally of the opening to expose the opening for building a fire in the fire-box, each of said hinge means being constructed for detachment and separation of the sections from each other and from the cooking top.

9. In a stove having a fire-box therein and a cooking top thereover with a surrounding frame, said cooking top having an elongated opening therein over the fire-box, a feed plate mounted on the frame in said opening and comprising two substantially rectangular sections disposed in lengthwise relation relative to the opening, means hingedly mounting one of the sections on the other thereof for swinging movement in a direction lengthwise of the opening to an open position for feeding fuel into the fire-box, and means hingedly mounting the other section at a lateral edge of the opening for joint swinging movement of the sections in a direction laterally of the opening to expose the opening for building a fire in the fire-box, each of said hinge means being constructed for detachment and separation of the sections from each other and from the cooking top.

10. In a stove having a stove top, a stove lid comprising two substantially rectangular sections arranged with edges thereof adjacent to each other, means hingedly connecting said adjacent edges to each other for swinging movement of one of the sections to an open position relative to the other section, and means for hingedly supporting a lateral edge of said other section approximately at right angles to the first-mentioned hinge edge thereof for hingedly mounting the sections on a stove top, each of said hinge means being constructed for detachment and separation of the sections from each other and from the stove.

11. In a stove having a stove top, a stove lid comprising two substantially rectangular sections arranged in edge-to-edge relation, means for hingedly supporting one of the sections upon the other section and connecting said adjacent edges together, and hinge means at a lateral edge of said other section at right angles to the first-mentioned hinge edges for mounting the sections on a stove top for joint swinging movement to an open position in a direction lateraly relative to the first-mentioned hinge means of one section on the other, each of said hinge means being constructed for detachment and separation of the sections from each other and from the stove.

12. In a stove having a fire-box wth an opening thereover, a removable closure for said opening comprising a plurality of sections arranged over the opening in side-by-side relation, hinge means supporting one of the sections on another for swinging movement relative thereto to an open position, and means hingedly connecting another of said sections with the stove for swinging movement of the sections to an open position relative thereto, said last-mentioned means being arranged at an angle to the first-mentioned hinge means.

13. In a stove having a fire-box with an opening thereover, a removable closure for said opening comprising a plurality of sections arranged over the opening in side-by-side relation, hinge

means supporting one of the sections on another for swinging movement relative thereto to an open position, and means hingedly connecting another of said sections with the stove for swinging movement of the sections to an open position relative thereto, said last-mentioned means being arranged at an angle to the first-mentioned hinge means, said last-mentioned hinge means being constructed for detachment and separation of the sections from the stove.

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