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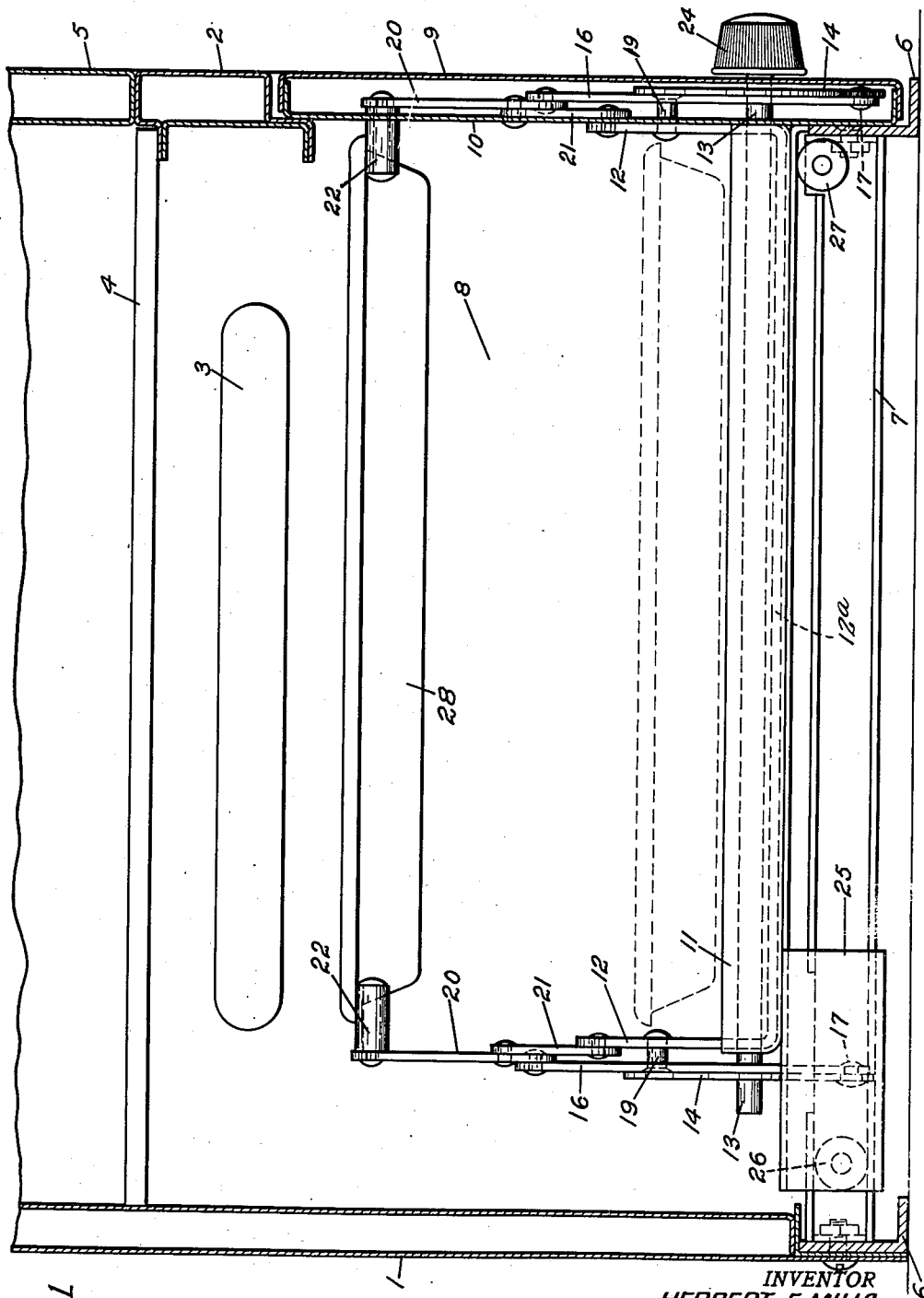
H. E. MILLS

2,047,979

DRAWER TYPE BROILER

Filed March 28, 1931

3 Sheets-Sheet 1



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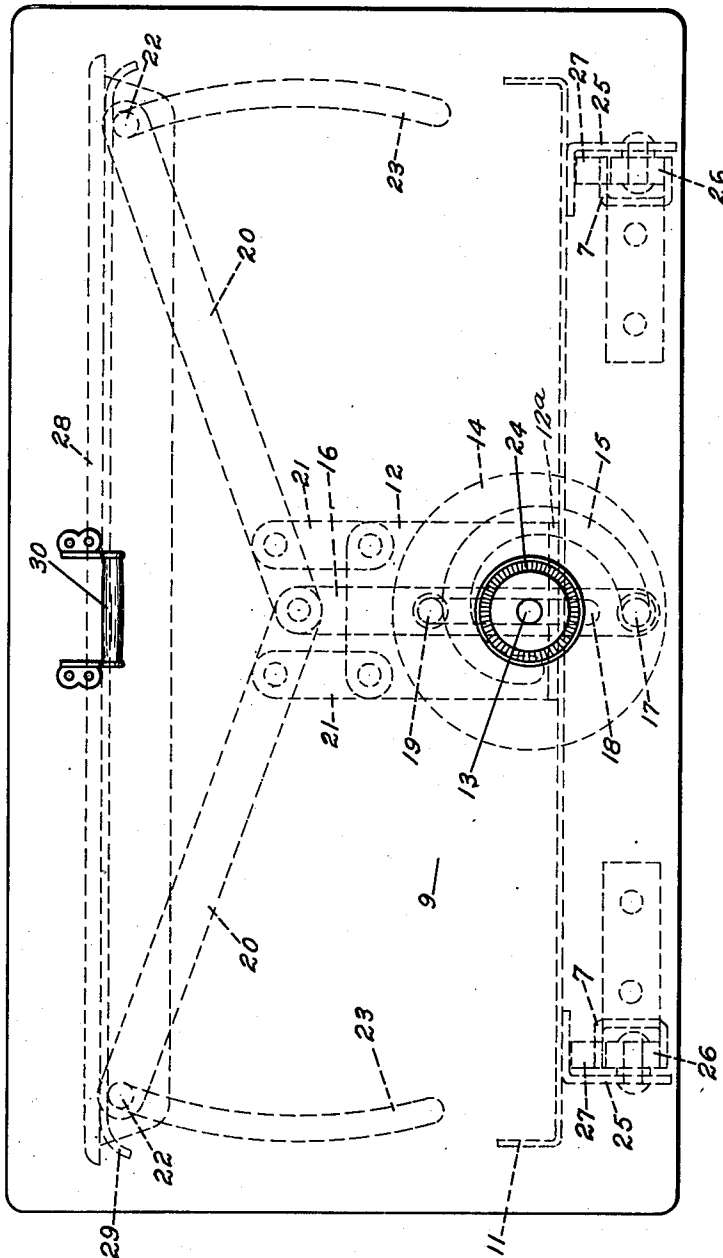
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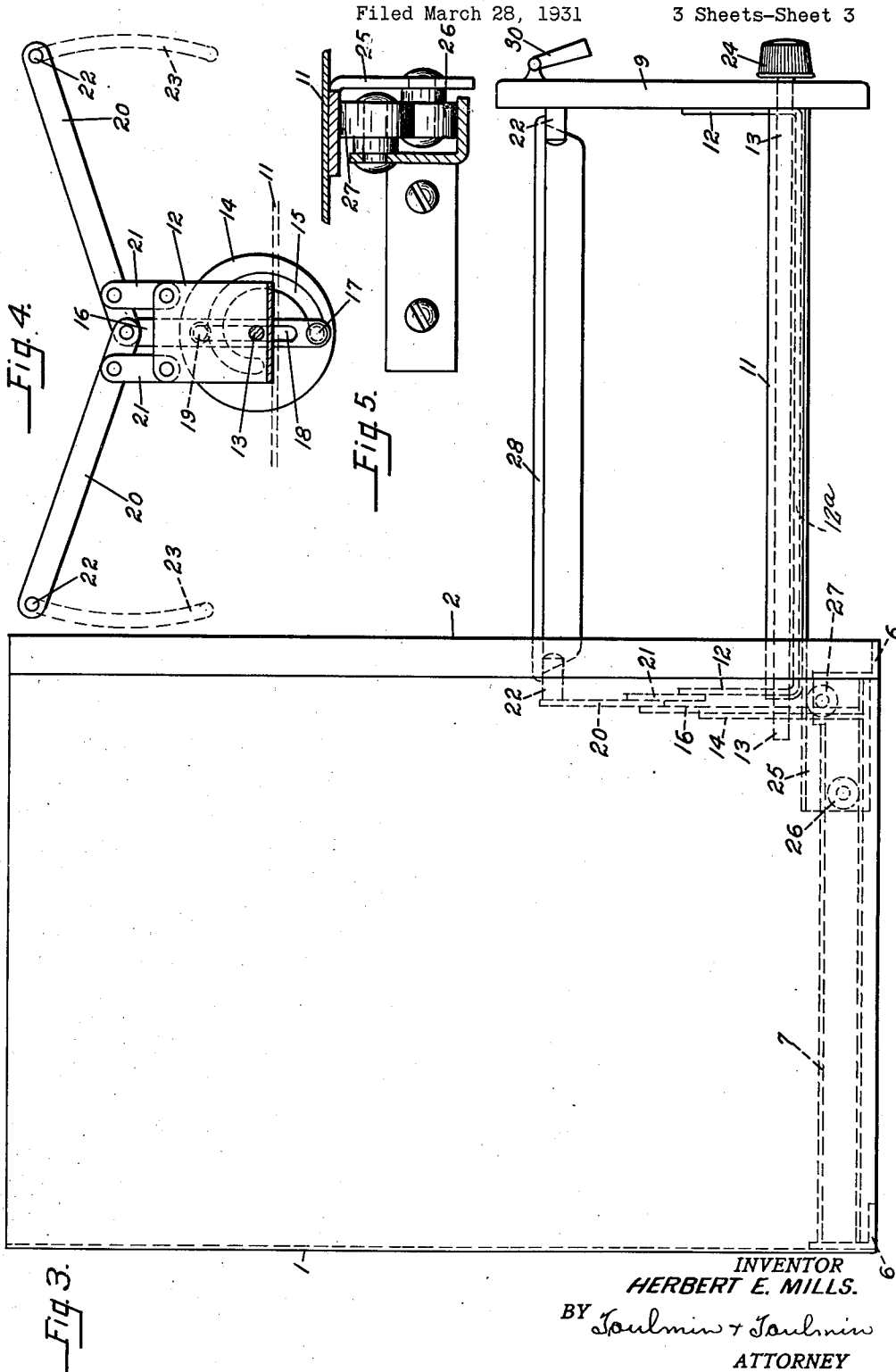
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UNITED STATES PATENT OFFICE

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DRAWER TYPE BROILER

Herbert E. Mills, Piqua, Ohio, assignor, by mesne assignments, to The Estate Stove Company, Hamilton, Ohio, a corporation of Ohio

Application March 28, 1931, Serial No. 526,032

6 Claims. (Cl. 126—41)

This invention relates to improvements in broilers used in connection with ranges and cook stoves, and has for its object to provide means for elevating a portable broiler carried on a drawer adapted to be inserted into and withdrawn from the broiler compartment of a stove or range.

It is also an object of this invention to provide rollers for supporting a broiler for movement into and out of the broiler compartment. In connection with the rollers is a track for supporting the broiler. This track, in combination with the rollers, is adapted to support the broiler in the broiler compartment as well as when it is withdrawn and in a position outside of the broiler compartment.

It is also an object of this invention to provide a trackway for a broiler attached to the front and rear walls of the stove to give strength and rigidity to the stove structure.

These and other advantages will appear from the following description taken in connection with the drawings, in which there is shown one embodiment of this invention.

Referring to the drawings:

Figure 1 is a vertical section through one side of a range, showing the broiler supported therein and the means for elevating and lowering the broiler.

Figure 2 is a front elevation of the broiler door showing in dotted lines the mechanism for raising and lowering the broiler.

Figure 3 is a side elevation of a stove with the broiler withdrawn through the door.

Figure 4 is a front elevation of one side of a link mechanism for supporting the broiler.

Figure 5 is a section showing one trackway and the rollers in the trackway supporting the broiler frame.

The drawer type of broiler herein disclosed is adapted to be used with various types of ranges and cook stoves. The back of the stove is indicated by the numeral 1 while the front is indicated by the numeral 2. The numeral 3 represents a burner beneath the oven 4, which has the usual door 5. Transversely of the rear and front of the stove are angle irons 6, which serve to support and strengthen the stove and are suitably attached thereto.

Extending between the ends of these two angle irons and attached at each end thereof is a trackway 7. This trackway is channel-shaped with the channel part extending toward the outside part of the stove. Beneath the burner 3 is a broiler chamber 8 which is closed by a broiler door 9. This broiler door has double walls, the

inside of one of which is indicated by the numeral 10. Near the bottom of the broiler chamber is a broiler frame 11, supported by the trackways 7, one on each side of the broiler chamber.

Extending longitudinally of the broiler frame from one end thereof to the other, and projecting upwardly therefrom, is a lift base 12a terminating in arms 12. Extending longitudinally of the broiler frame is a shaft 13. The front end of this shaft extends through the broiler door, while the rear end of the shaft extends slightly beyond the inner arm 12 at the rear of the broiler frame. Adjacent each end of the shaft 13 is a disc-shaped cam 14, as shown in Figure 4, which has an eccentric arcuate slot 15 therein.

Vertically adjacent each arm 12 of the lift base 12a is a cam arm 16, which has on its lower end a pin 17 or other suitable means for engaging in the slot 15 so that as the shaft and the cams 14 rotate the cam arms 16 will be moved up and down. Each cam arm has a slot 18 in which the shaft 13 is located. There is also provided on each arm 12 a pin or guide lug 19, also fitting in the slot 18 for guiding the cam arm 16.

Pivoted to the upper end of the cam arm 16 are two pan lifting arms 20. Each arm is pivoted at one end to the cam arm, and pivoted to each pan lifting arm adjacent the pivot point of the cam arm 16 is a cam arm link 21. One end of each link is pivoted to the arm 20 while the other end is pivoted to the arm 12, one on each side of the cam arm 16. On the other end of each pan lifting arm is a pan supporting roller 22, as clearly shown in Figure 1. The rollers on the front arms extend through slots 23 in the inside wall of the door of the broiler chamber, as shown in Figure 1. The structure here described is found at each end of the broiler frame. Only the front rollers 22 are guided as by the inside wall 10 of the door. The mechanism here described is located within the door, while the mechanism at the rear of the broiler frame is unprotected.

For rotating the shaft to rotate the cams 14 there is on its outer end, outside of the door, a knob 24. As this shaft rotates the relative positions of the eccentric slots in the cam vary so that the cam arms 16 move up and down, and as they move up and down they cause the free ends of the pan supporting arms to move up and down and thereby raise or lower the pan supported on the rollers 22. On each side of the broiler frame and extending beyond the rear end thereof is a slide plate 25, which has on its rear end a roller

26. This roller is adapted to be guided by the track 7. Each side of the frame has one of these rollers engaging the track on that side, thereby making two rollers, one on each side at the rear of the broiler frame. These rollers support the rear end of the broiler raising and lowering structure.

The front end of the broiler frame is supported by rollers 27, of which there are two, one at the front end of each trackway 7. These rollers are stationary. While the rollers 26 move with the broiler frame and travel along the track, the broiler frame passes over this roller 27 as it is inserted into and moved from the broiler chamber. The relative positions of the rollers 26 and 27 are shown in Figures 1 and 3. Figure 1 shows the position of these rollers when the broiler is within the broiler chamber. Figure 3 shows the position of these rollers when the broiler is withdrawn and is without the chamber.

Supported on the rollers 22, as shown in Figure 1, is a broiler pan 28. These rollers may engage under the edge of the pan, as shown in Figure 1, or they may engage under a pan guide 29, as shown in dotted lines in Figure 2. The door is provided with an operating handle 30 by which the door and the broiler pan supporting structure may be withdrawn from or inserted into the broiler chamber.

In Figure 1 the broiler pan is shown just below the burner. By rotating the shaft by means of the knob 24 the position of the broiler pan may be varied. When the parts are in the position indicated in Figure 4 the broiler pan is supported in its extreme elevated position. As the cams 14 are rotated clockwise by means of the knob 24 and shaft 13, the cam arms 16 are caused to move upwardly, thereby lowering the outer or free ends of the pan lifting arms 20. When the cams are sufficiently rotated that the pins 17 in the lower ends of the cam arms engage the parts of the slots closest to the shaft 13, the outer or free ends of the pan arms are in their lowest position, and at the same time the broiler pan is in its lowered position as shown in dotted lines in Figure 1.

I desire to comprehend within my invention such modifications as may be embraced within my claims and the scope of my invention.

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

1. In combination with a stove having a broiler chamber, a trackway in said broiler chamber, a

broiler frame supported on said trackway, an arm extending up from each end of the frame, a pair of levers pivotally connected to each arm, the pivot of each of said levers being near one end thereof, and means connected to said one end of each lever for causing the other ends of said levers to move up and down.

2. In combination with a stove having a broiler chamber, a broiler frame adapted to be placed in said chamber, an arm extending up from each end of the frame, a pair of levers pivotally connected to each arm, the pivot of each of said levers being adjacent one end thereof, and means on the frame to operate the levers to cause the free ends thereof to move up and down at the same time.

3. In combination with a stove having a chamber, a broiler frame adapted to be placed in said chamber, a pair of levers pivotally supported at each end of the frame, each lever being pivoted adjacent one end, and means connected to the end of each lever adjacent its pivot on the frame to operate said levers to cause the other ends to move up and down.

4. In combination with a stove having a chamber, a frame adapted to be placed in said chamber, a shaft supported by said frame, hoisting means on said frame consisting of a pair of levers at each end of the frame disposed transverse the shaft, and a connection between said shaft and the levers whereby rotation of the shaft will operate the hoisting means.

5. In combination with a stove having a chamber, a frame adapted to be placed in said chamber, a shaft supported by said frame, a plurality of levers, each pivotally connected adjacent one end to said frame, and a connection between said shaft and one end of each of the levers whereby a rotation of the shaft will cause the other ends of the levers to move up and down.

6. In combination with a stove, a sliding drawer, a vertically disposed face on said drawer having oppositely disposed arcuate slots, a centrally disposed cam plate having a cam slot, a system of levers guided by said arcuate slots, a broiler pan connected to said system of levers, means for pivotally supporting said levers on said drawer, and means at the end of the drawer for actuating said system of levers whereby the broiler pan is elevated to any desired position within the range of the levers and the slots and maintained in said position by reason of the frictional engagement of one of the levers with said cam slot.

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