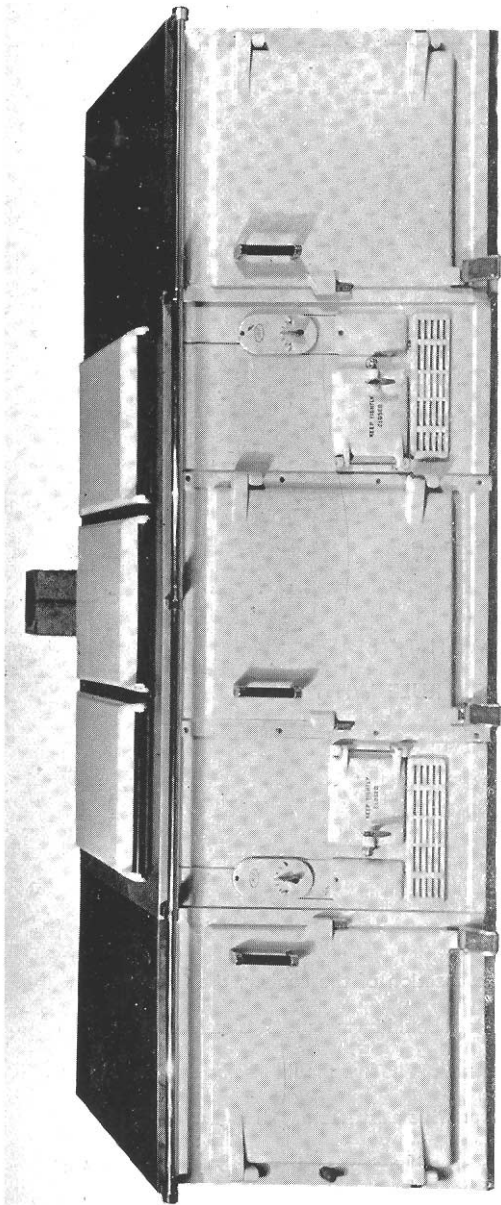




ILLUSTRATED
ERECTION
INSTRUCTIONS
FOR
"J" SERIES
AGA COOKERS

J A N U A R Y 1 9 4 1



AGA HEAT LIMITED

(Proprietors: ALLIED IRONFOUNDERS LTD.)

Head Office and Administration: COALBROOKDALE, SHROPSHIRE

Telephone: Ironbridge 240 (3 lines) Telegrams: Agaheat, Coalbrookdale

TOOLS AND EQUIPMENT REQUIRED FOR INSTALLATION

- I 1½ lb. BALL-PLANE HAMMER
 - I RUBBER Mallet
 - I PAIR 7" FOOTPRINTS
 - I ¼" x ⅝" SPANNER
 - I ⅜" x ½" SPANNER
 - I 12" ADJUSTABLE SPANNER
 - I 12" HALF-ROUND FILE
 - I ¼" ROUND FILE
 - I 3' FOLDING RULE
 - I PAIR FLAT-NOSED PLIERS
 - I 18" SCREWDRIVER
 - I 6" SCREWDRIVER WITH ⅜" BLADE
 - I VERNIER GAUGE OR RULE WITH MILLIMETRE SCALE
 - TIN OF WATER GLASS
-

Before commencing the erection of the cooker, the floor on which it is to be assembled should be tested. It is essential that this is perfectly flat and level. The flue should also be examined to ensure that this will provide a satisfactory draught.

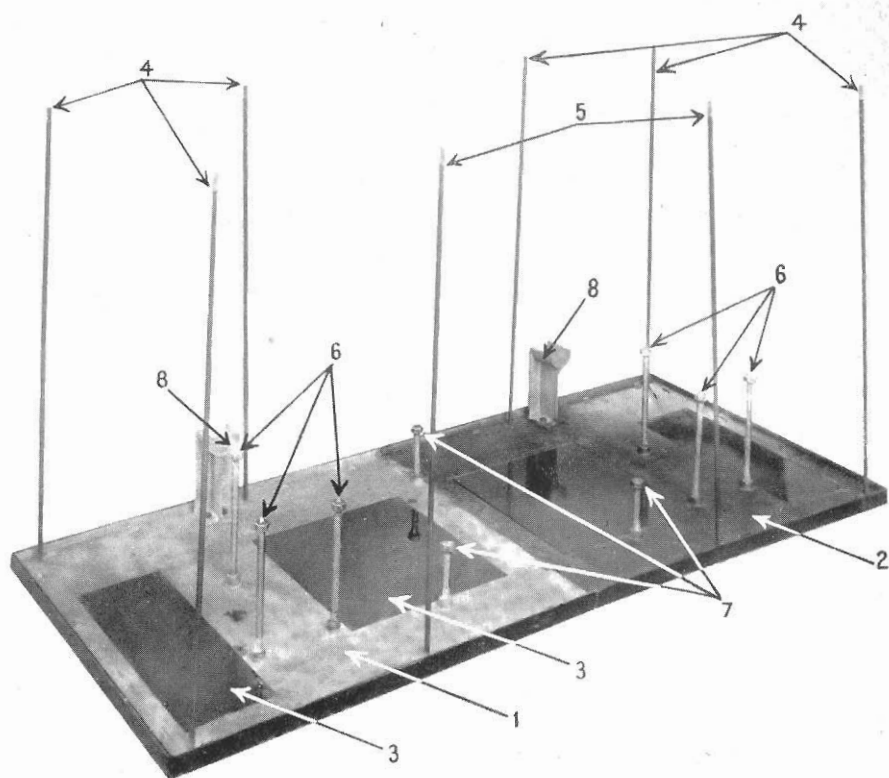


Fig. 1

INSTRUCTIONS FOR ASSEMBLING THE J 30 AGA COOKER

I

Bolt together the two base plates (1 and 2) with two $\frac{3}{8}$ " $\times$ $\frac{5}{8}$ " screws. Place in position the four sheet metal filler pieces (3). Screw into the base plates the six top plate stay rods (4). The two rods (5) should not be fitted until after the oven has been lifted in position (Fig. 2). Screw into the base plates the six conical headed ($\frac{1}{2}$ " $\times$ $7\frac{3}{8}$ ") ashpit supporting bolts (6) and the three $\frac{1}{2}$ " $\times$ $4\frac{1}{4}$ " oven supporting bolts (7). Fix to the base plates the two hot air duct supporting brackets with $\frac{1}{4}$ " $\times$ $\frac{5}{8}$ " screws (8).

In a normal installation the back plate (29, Fig. 6) and side plates (30, Fig. 6) would now be fitted and bolted together with six $\frac{1}{4}$ " $\times$ $\frac{1}{2}$ " screws, the two sections of the back plate being fixed together with four $\frac{1}{4}$ " $\times$ $\frac{5}{8}$ " screws and nuts, and the strengthening strips (31, Fig. 6) fixed along the top edge.

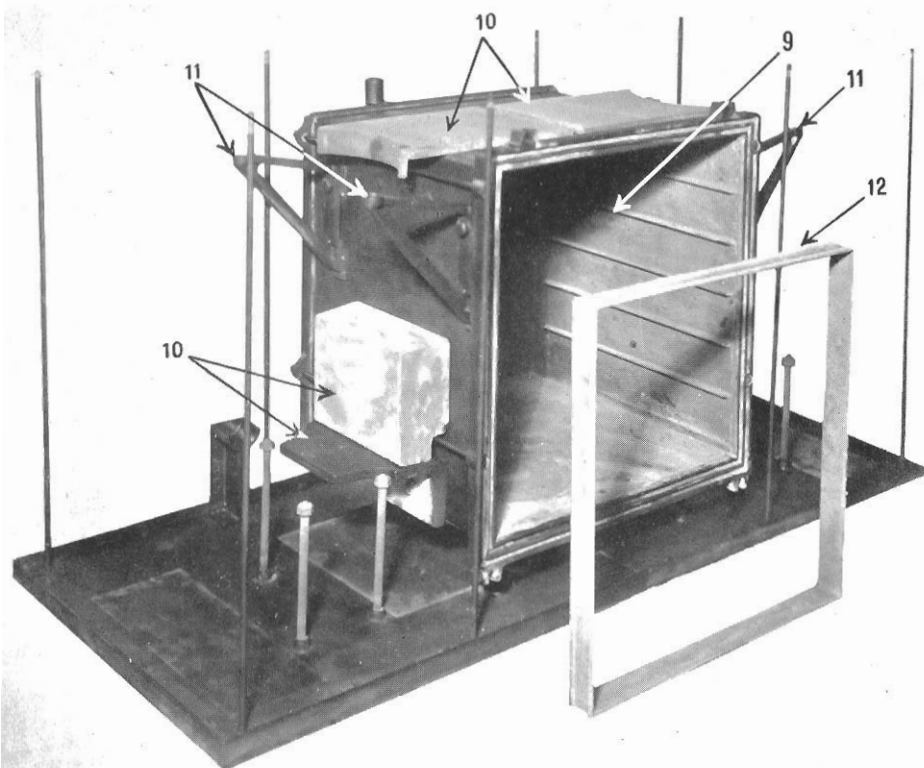


Fig. 2

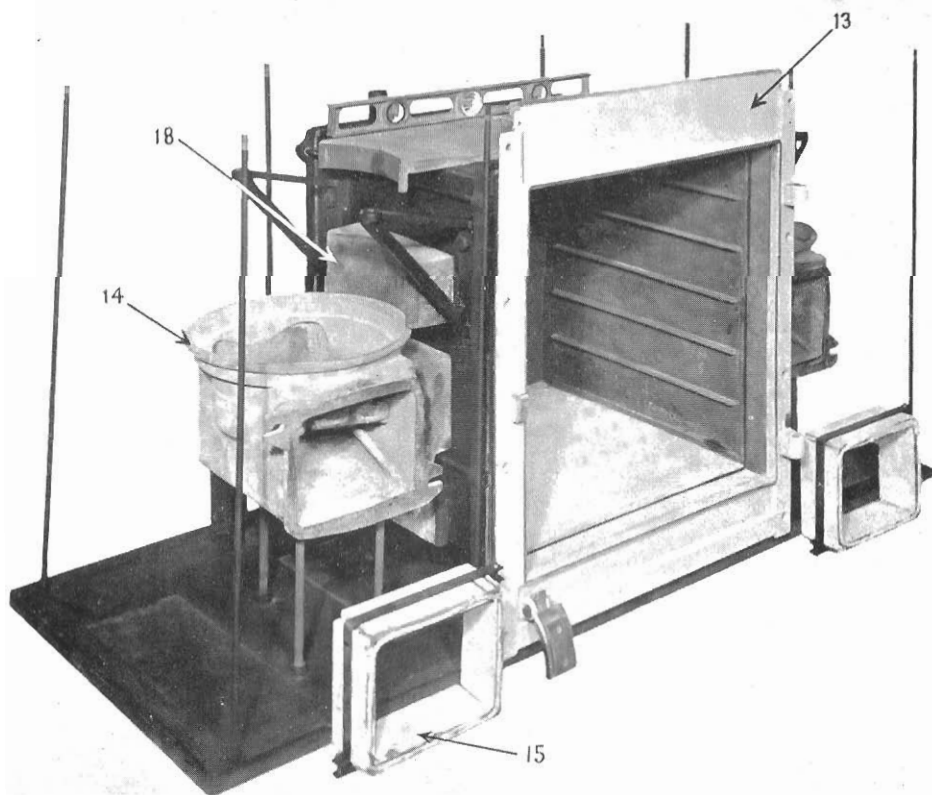
2

Place the roasting oven (9) in position on the supporting bolts (7). If this has been despatched unassembled, a tin of iron cement in powder form will have been supplied ; water must be added to the powder and mixed with a trowel to a plastic consistency. This must then be inserted into the inside edge of the front frame (Patt. No. 81200), the rebate in the back plate (Patt. No. 81201), and the rebates in the left and right-hand side plates. Place the front frame on the floor with the pattern number upwards, and the more widely-spaced lugs at the front. Insert the four stay rods. Place the oven side plates (Patt. No. 81199) in position with the edge of the plate nearest to the supporting bracket fixing hole in the front frame. Fit bottom plate (Patt. No. 81198) with pattern number on the outside the correct way up. Drop the back plate into position with the vent hole at the back. Secure lightly with $\frac{3}{8}$ " nuts and washers. Ease up the back plate and insert the top plate (Patt. No. 81198) with pattern number on the outside and the correct way up. Tighten up stay rod nuts and wipe off any surplus cement from the joints. Fix the six heat-conducting plates (10), the lower plates are held by $\frac{3}{8}$ " x $1\frac{1}{2}$ " screws, and the four outer barrel supporting brackets (11) with $\frac{1}{2}$ " x 1" screws. The frame (12) completes the joint between the front plate and the oven ; paint this with water glass and stick asbestos string into position before the front plate is fitted.

By adjusting the oven-supporting bolts (7) level the oven, and adjust its height to the opening in the centre front plate (13). Place the insulating frame (12) in position, and bolt the oven to the front plate with four $\frac{5}{8}$ " x 3" bolts and square asbestos washers. Press the asbestos string into the joints between the insulating frame, the oven, and the front plate to form a seal to prevent leakage of insulation material into the oven. Check with a spirit level to ensure that the front plate is vertical, and that the oven is level and resting evenly on the three supporting bolts. If the Cooker is to be insulated with "Stillite," a special form of Rock Wool, some of this material should now be inserted under the oven. The "Stillite" should not be packed tightly, but pushed gently into position. If the material is delivered in large blocks, these should be broken up into small pieces about the size of a twenty cigarette packet before packing them into the Cooker. If the Cooker is to be insulated with Kieselguhr, an insulating powder, this material should not be inserted until the assembly of the ironwork has been completed.

Place the ashpits (14) in position on their supporting bolts (6). The ashpit tunnels (15) will complete the joints between the ashpits and the left and right-hand front plates. These tunnels are sent out unassembled with export Cookers, and the fitter will have to assemble the four component bricks with the metal strap and fix the asbestos string to the edges of the bricks with water glass.

Fig. 3



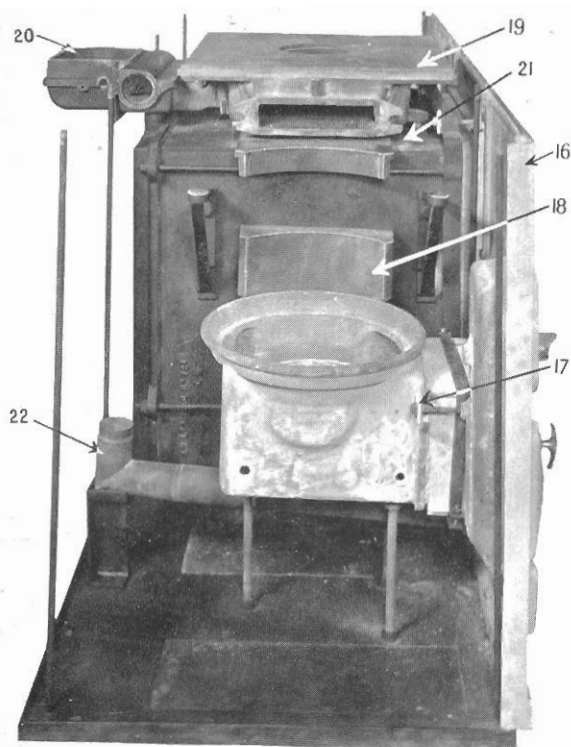


Fig. 4

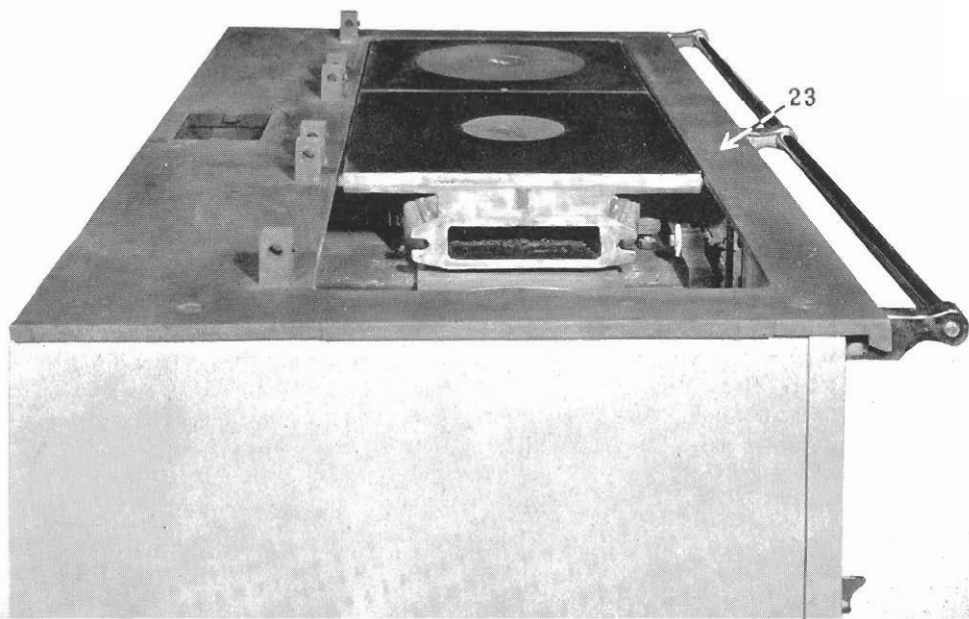
4

Fit the left and right-hand front plates (16) and fix these to the centre front plate with eight $\frac{5}{16}$ " $\times$ $1\frac{1}{8}$ " screws and nuts, completing the joint between the plates with asbestos string and water glass. By means of the adjusting bolts (6), level the ashpits to the doors on the front plates, and fix the ashpits to the front plates with two $\frac{5}{16}$ " $\times$ 3" bolts and two $\frac{5}{16}$ " $\times$ $5\frac{1}{8}$ " bolts and asbestos washers (17). Place the heat-conducting plates (18) in position—these rest on the edges of the ashpits. Fit the simmering plate (19) and flue manifold (20). Three $\frac{1}{2}$ " $\times$ $\frac{7}{8}$ " adjusting bolts (21) must be inserted in the under-side of the simmering plate, and it is also advisable to fix the flue manifold to the simmering plate before placing this casting in position on the oven—the joint between the two parts is made with a shaped asbestos gasket and two $\frac{1}{2}$ " $\times$ $1\frac{1}{2}$ " bolts. Fit the hot air duct (22). A further quantity of "Stillite" should now be added, and the whole of the bottom of the Cooker packed up to the level of the top of the ashpits. This material must not however be packed against the ashpits, and it should be finished in a wall 3" away from this casting, both underneath and round the sides. If auxiliary ovens are to be fitted, "Stillite" should be omitted altogether from the side of the ashpit to which the oven will be attached.

5

Fix guides to the top plate stay rods, and place top plate in position. Remove the guides and screw the top plate (23) securely down on to the back side and front plates. If a front rail is to be supplied, it is advisable to fix the brackets and rail at this stage, as it will facilitate fitting and removing the top plate. By means of the adjusting bolts (21, Fig. 4), level the simmering plate to the top plate and check with spirit level. Pack "Stillite" between the simmering plate and the roasting oven.

Fig. 5



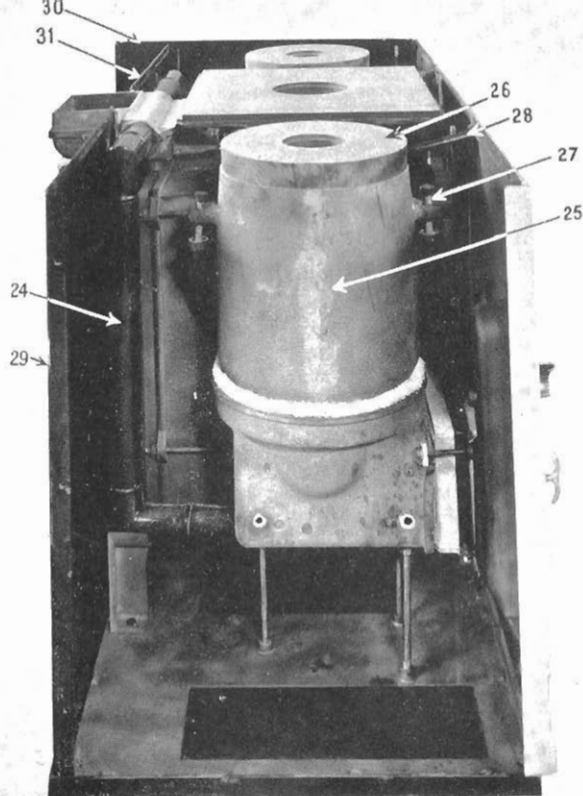


Fig. 6

6

Fit the vertical hot air duct (24). Place the outer barrels (25) and the inner barrels (26) in position. The outer barrels are supported on the brackets by $\frac{1}{2}$ " $\times$ 3" bolts and square nuts (27) and fixed to the simmering plate by $\frac{1}{2}$ " $\times$ 2 $\frac{1}{2}$ " bolts with nuts and washers. Before tightening these bolts, the supporting bolts (27) must be carefully adjusted until the surfaces of the inner barrels are perfectly level and flush with the surface of the simmering plate. Replace the top plate (23) and fit the hot plate surrounds (49, Fig. 16) ; check all levels with spirit level—the inner barrels, simmering plate and the hot plate surrounds should form one level surface flush with the top plate. Remove the top plate and hot plate surrounds, and fit ashpit ropes between outer barrels and ashpits. Fit the thermostat protector tube (28) between the front plate and the outer barrel ; the tube is held in position by the loose sleeve which fits into the recess provided in the front plate. If no auxiliary ovens are to be fitted, the insulation of the Cooker may now be completed (Fig. 11).

INSTRUCTIONS FOR FITTING THE J 40 SIMMER- ING OVEN

7

Pack "Stillite" or Slag Wool between the auxiliary oven and its external casing. Place the frame (33) and the asbestos gasket (34) in position on the heater casting (32). Fix the heater casting to the ashpit with two $\frac{3}{8}$ " x 2" bolts—the flat heads of the bolts being inside the ashpit.

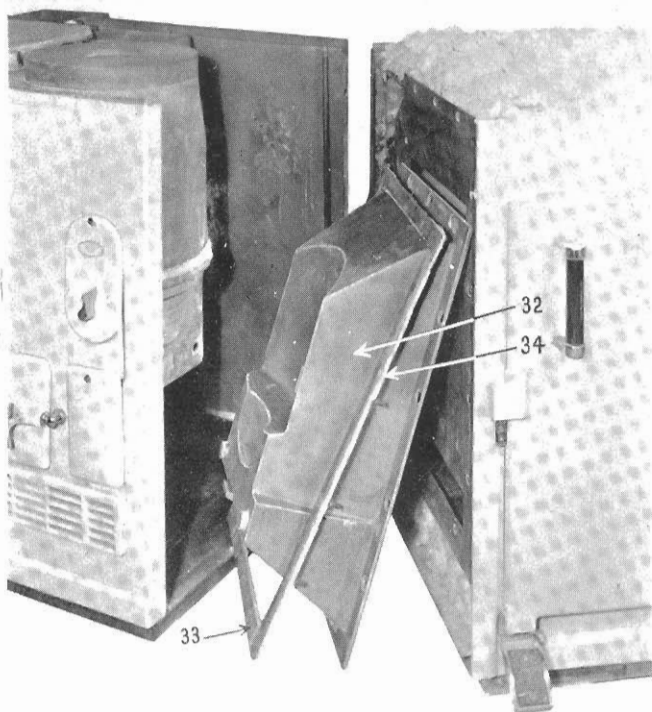


Fig. 7

8

Slide the auxiliary oven up to the Cooker and fix to the heater casting with fourteen $\frac{5}{16}$ " nuts and washers. Bolt the back plate of the hot cupboard to the back plate of the Cooker with three $\frac{1}{4}$ " x $\frac{1}{2}$ " bolts and nuts. Fit vent pipe from oven to flue chamber (36, Fig. 10).

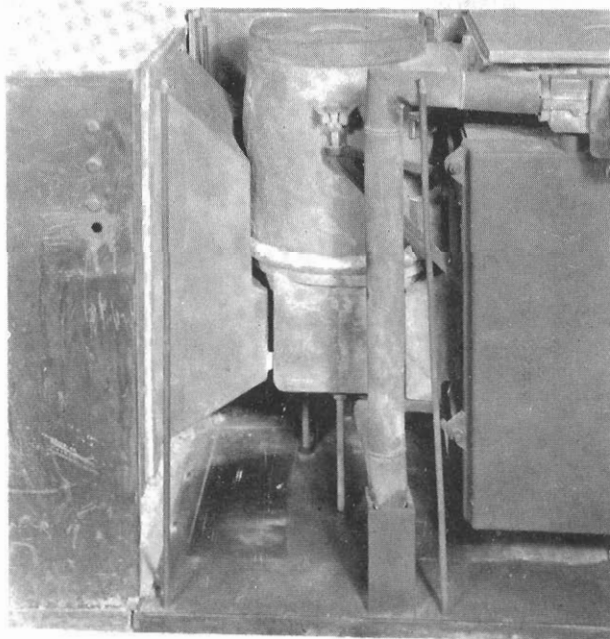
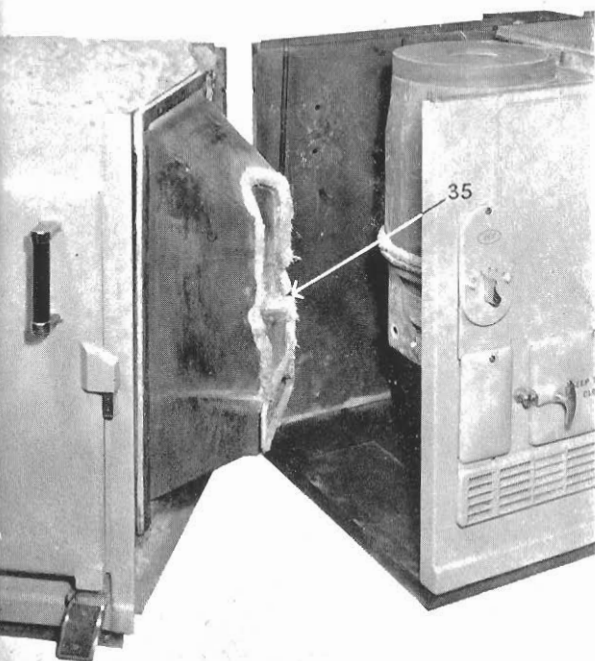


Fig. 8



INSTRUCTIONS FOR FITTING THE J 80 BAKING OVEN

9 & 10

The procedure is the same as that followed for the J 40 Simmering Oven, except that an asbestos rope gasket (35, Fig. 10) must be fitted round the edge of the heater casting in order to prevent any insulation material from getting into the space between the fire unit and the heater casting.

Fig. 9

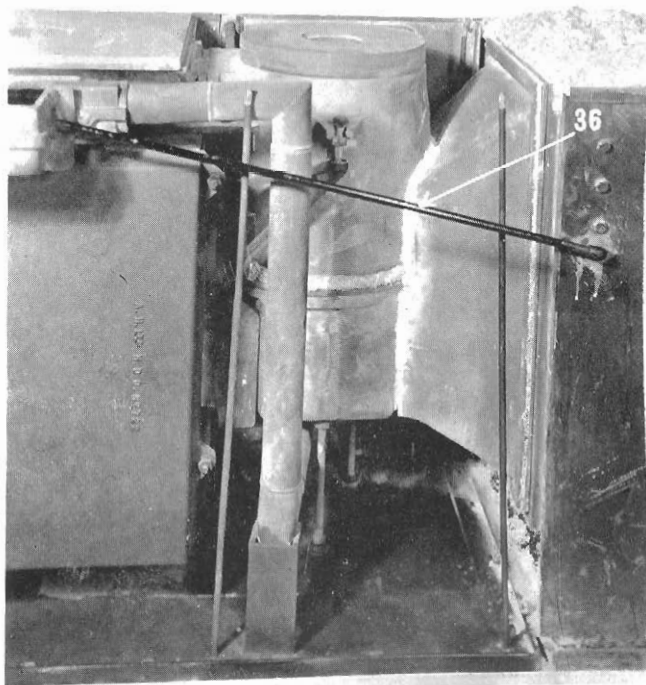
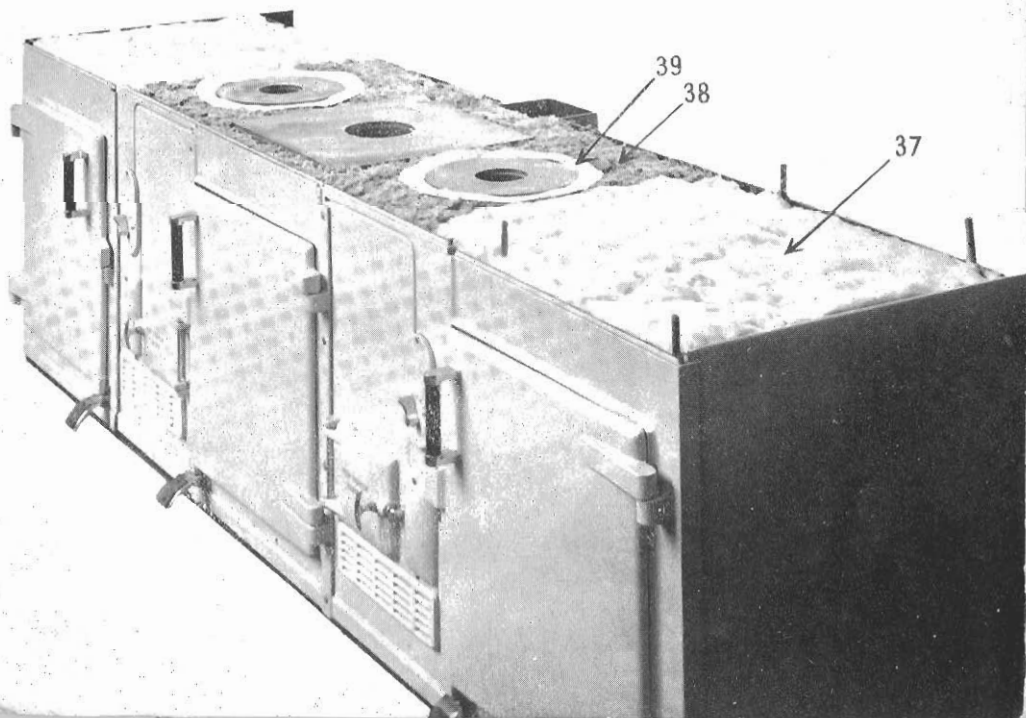


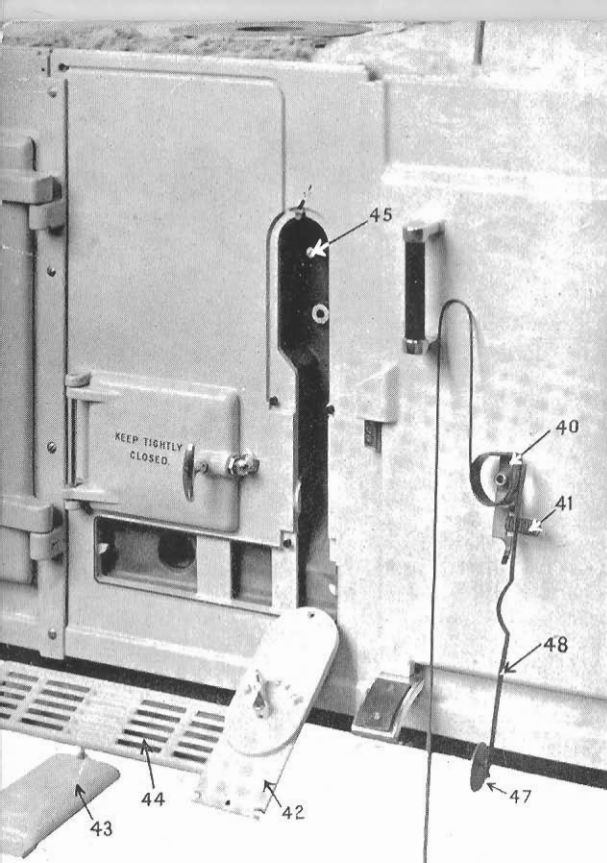
Fig. 10

A further quantity of "Stillite" must now be inserted in the Cooker and packed until it is 2" below the level of the top plate. A three inch space must also be left all round the outer barrel—this space should then be filled with Kieselguhr which should first of all be poured in, packed down firmly with a rod, and finally with a damp rag, until it is level with the "Stillite" already inserted. The remainder of the "Stillite" should then be added and packed until it is slightly above the level of the front and back plates of the cooker. This will ensure that the material is pressed firmly down when the top plate is fixed.

If Kieselguhr only is to be used, all the joints in the external casing and joints of the ashpits and oven insulating frames (15 and 12) should be covered with water glass and amosite fibre. Slag Wool (37) will have been supplied to insulate the auxiliary ovens, and this will have been packed in before the oven is fitted, but it is necessary to add additional Slag Wool until this material covers the joints between the base plates, back plates and front plates of the Cooker and auxiliary oven. Sufficient Kieselguhr must then be poured into the Cooker to fill it to the top—then take a rod about 1" diameter and insert this through the material down to the base plate and work it about so that the material settles down and finds its way under the oven and ashpits, etc. The quantity of Kieselguhr sent with the Cooker will be sufficient to provide the most efficient insulation and all the material must be packed down carefully with the rod and finally with a damp rag until it is within $\frac{1}{2}$ " of the top of the Cooker. The Kieselguhr should then be covered with a layer of amosite fibre (38) and asbestos paper washers (39) placed round the heads of the inner barrels.

Fig. 11





12

Fit the thermostats (40). The spring (41) will be packed loose, and this must be fitted into the recess provided for it in the back plate of the thermostat. Remove the cover plates (42, 43 and 44) and the thermostat fulcrum screw (45) from the front plate.

Fig. 12

13

Place thermostat in position in the front plate and insert the fulcrum screw (45). Bend the capillary tube up into a horizontal position and mark the tube at the point where it will have to enter the front plate.

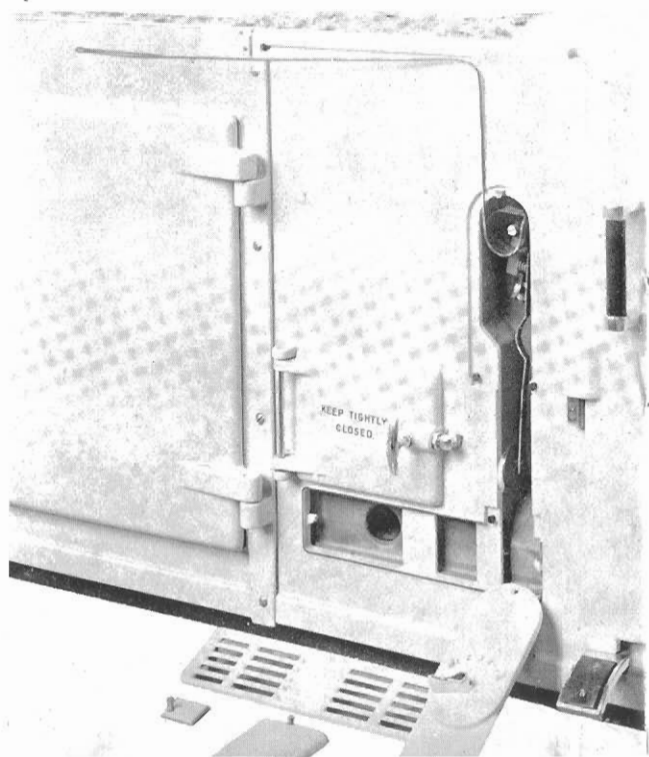
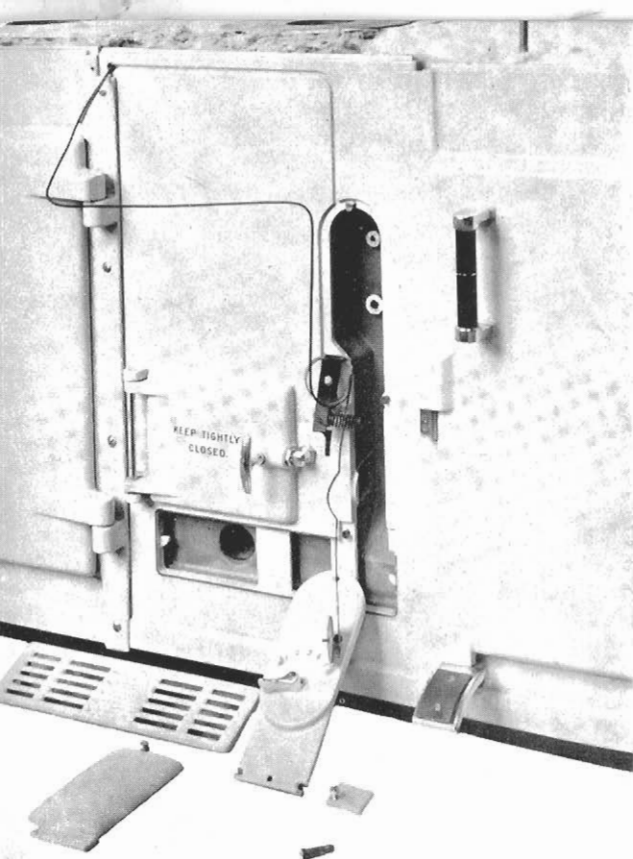


Fig. 13



14

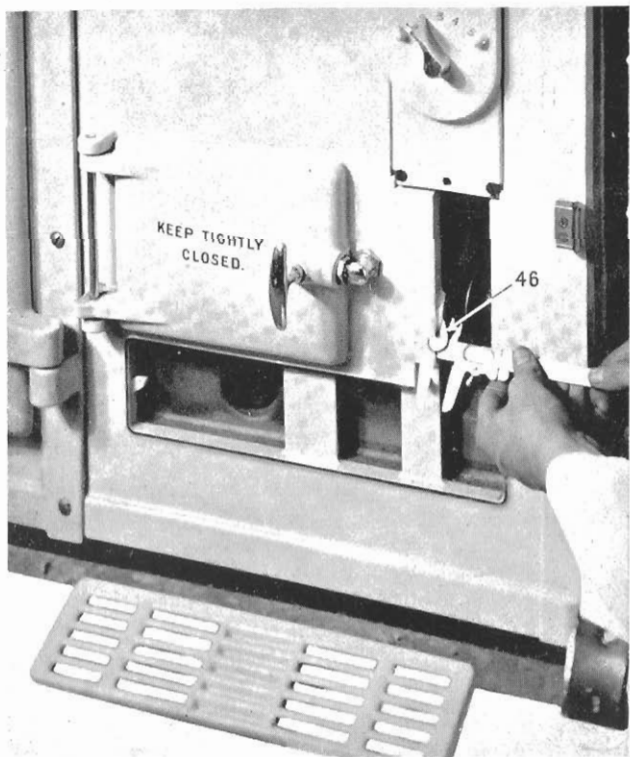
Remove the fulcrum screw and the thermostat and bend the tube back at the point marked.

Fig. 14

15

Refit the thermostat and the cover plate (42). It is essential that the cam on the control lever mounted on this cover plate should contact the leg at the bottom of the thermostat back plate. Fitting will be facilitated if the control lever is pulled out and turned anti-clockwise over the cast stop, as shown in Fig. 14. Place the control lever at "2," adjust the clearance between the circular valve plate (47) and the air inlet orifice, to the distance shown on the label fixed to the thermostat back plate. The valve plate should first be rotated until it is in the centre of the threaded spindle on which it is mounted, and the main adjustment made by bending the pendulum (48). This should always be given a double bend so that the valve plate remains vertical, and closes evenly against the air inlet orifice. Final minor adjustments can be made by rotating the disc on the spindle. Care must be taken to see that the valve plate does not foul the back of the front plate housing or the cover plate (43) when this is replaced.

Fig. 15



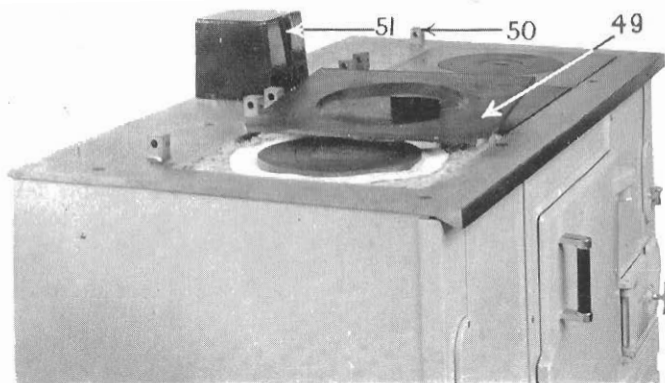


Fig. 16

16

Fit cover plates (43 and 44) and the small rectangular plates covering the holes where the thermostat tubes enter the front plates. Fix the insulating lid hinge blocks (50) to the top plate and refit this to the Cooker. Fit the hot plate surrounds (49) and the flue chamber (51). Verify that the draught stabiliser in the flue chamber door is working freely.

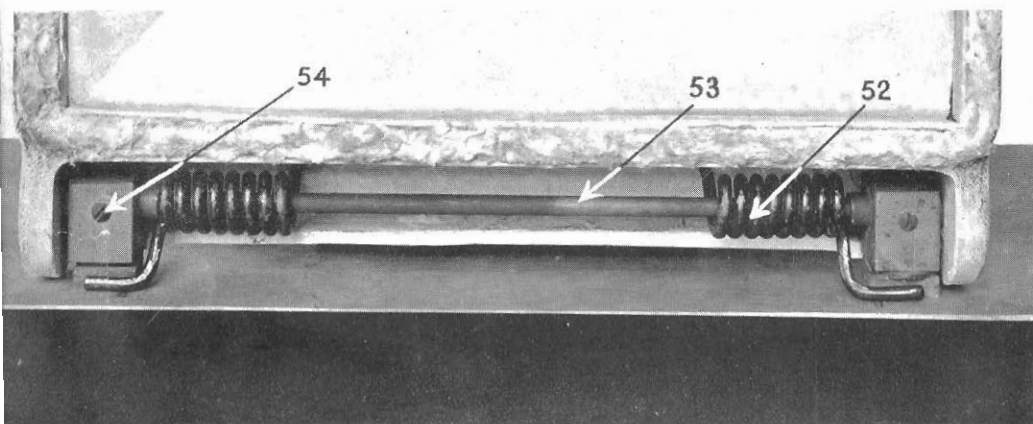


Fig. 17

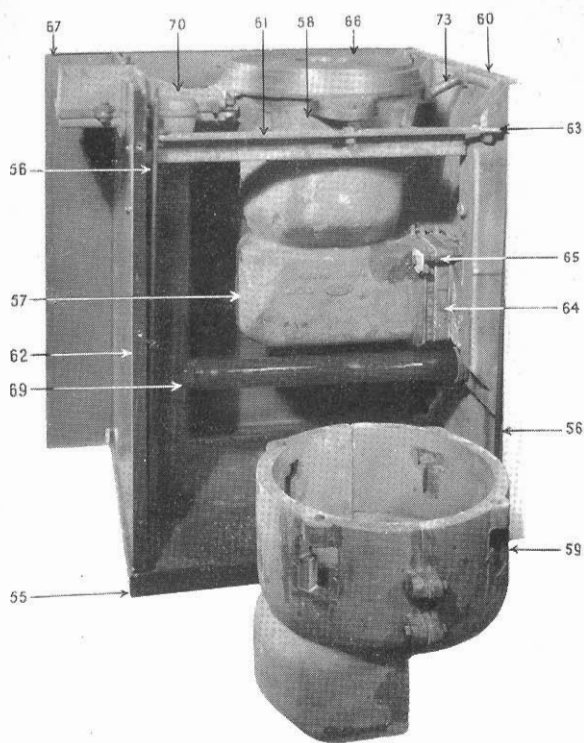
17

Fit the insulating lids with the hinge pins (53) and springs (52) as shown. Tighten grub screws (54). Verify that the lids will close down evenly on the top plate, and also stay in the open position without falling forward.

To Complete the Cooker

Fit the three plugs in the hot plates. The cleaning plug in the simmering plate is normally 33 mm. thick overall. If a baking oven is attached to the Cooker, this should be reduced to 28 mm. If the Cooker has been ordered with a baking oven, this reduction will have been made at Works. Fit the grates and grate carriers in the ashpits. In Cookers which have to burn fuels containing upwards of 15% ash, special grates having a larger clearance between the bars should be ordered. Verify that the ashpit doors make a perfect air-tight fit with the front plate, and that the oven doors open and shut correctly.

Complete the flue connection between the flue chamber and the main flue. If piping is to be used, this must be 5" heavy gauge asbestos cement material. Iron pipe must not be used.



INSTRUCTIONS FOR FITTING THE J 10 BOILING UNIT AND THE J 20 SIMMERING OVEN

Fig. 18

18

Place the base plate (55) on the floor and screw in the four corner stay rods (56). Assemble the fire unit, which consists of ashpit (57), the inner barrel supporting ring (58), and the cast iron skirt (59), but if a J20 simmering oven is being fitted, the cast iron skirt is omitted. Four $\frac{1}{2}$ " $\times$ $2\frac{3}{8}$ " bolts and washers are used for bolting the three component parts together, and $\frac{1}{2}$ " $\times$ $1\frac{1}{2}$ " bolts when the ashpit only has to be fastened to the inner barrel supporting ring. The two halves of the skirt (59) are screwed with four $\frac{3}{8}$ " $\times$ 2" bolts and nuts. Place the front plate (60) in position, support the fire unit on temporary blocks in position on the base plate, fix the supporting angles (61) to the fire unit, place the back plate (62) in position, and secure the supporting angles (61) loosely with $\frac{1}{2}$ " nuts and bolts to the front and back plates after inserting the asbestos washers (63). Slide the ashpit tunnel (64) into position and secure loosely with $\frac{5}{16}$ " $\times$ $6\frac{3}{8}$ " bolts (65), asbestos and steel washers. Remove temporary support from beneath the fire unit. Place the inner barrel (66), side plates (67) and top plate (68—Fig. 20) in position and adjust the fire unit until it is level and flush with the top plate. Remove top plate and tighten all nuts and bolts, fit the hot air duct (69), bolt the flue manifold (70) to the fire unit with two $\frac{3}{8}$ " $\times$ $1\frac{1}{2}$ " bolts, nuts and washers, making the joint with the special asbestos gasket. Fit the thermostat protector tube (73).

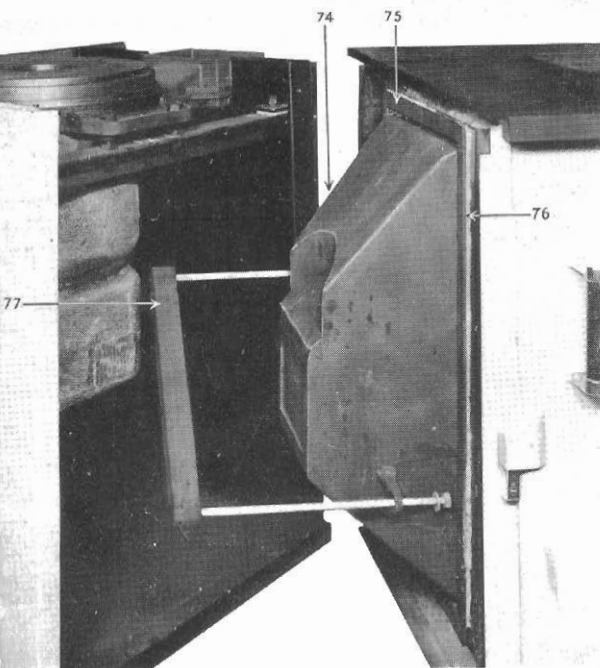


Fig. 19

19

If a J20 simmering oven is to be fitted, attach the heater casting (74) to the oven with the frame (75) and the asbestos washer (76). Slide the oven into position, and secure the heater casting to the ashpit with the strap (77).

20

Make good all internal joints with asbestos string and water glass. Pack the cooker and simmering oven with insulation material (see Figs. 2 and 11). Fit top plate (68) and secure with special corner stay nuts. Fix the thermostat (see Figs. 12 and 15). Fix the flue chamber (78) and insulating lid (79—see Fig. 17). Place grate in position and connect up the flue. If flue pipe is to be employed, $3\frac{1}{2}$ " i.d. heavy gauge asbestos cement material should be used.

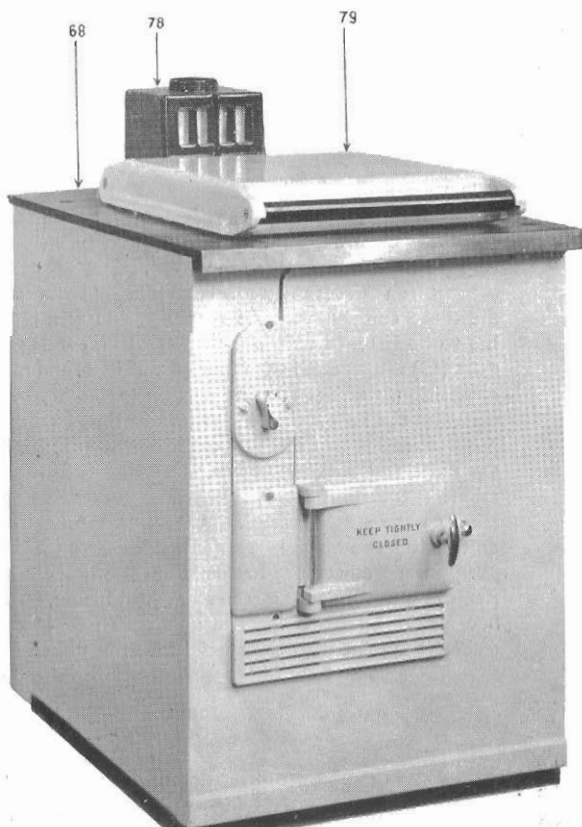


Fig. 20