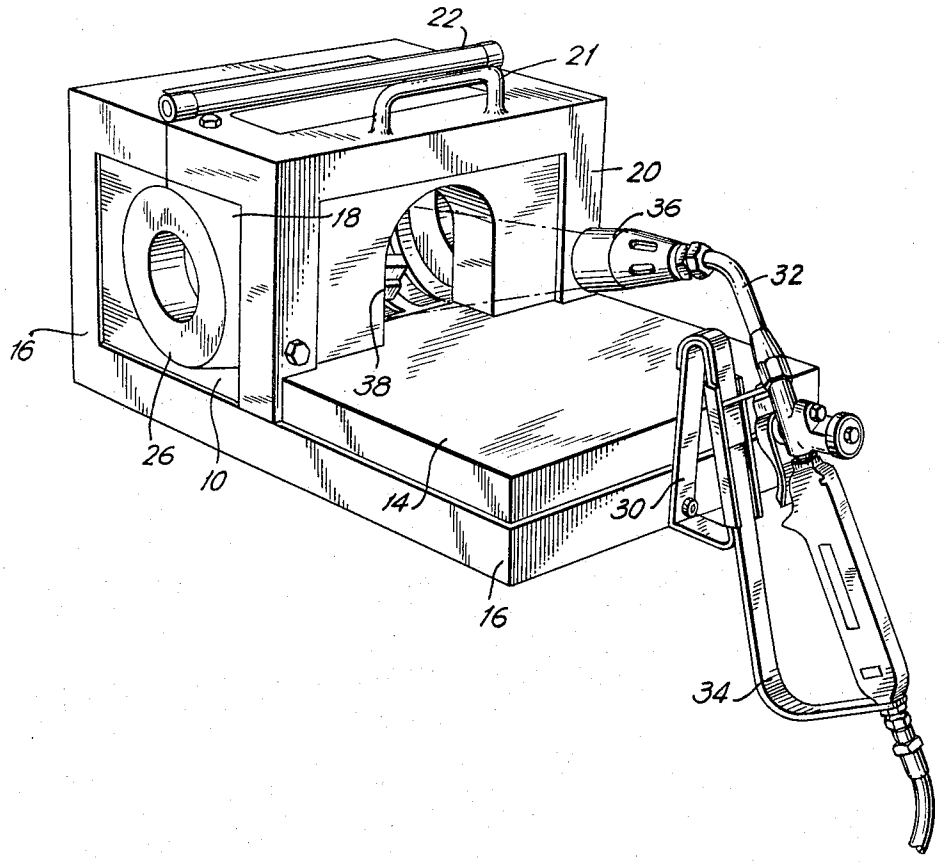
Aug. 8, 1967 J. A. NORDLING 3,334,879

COMBINATION FURNACE AND FORGE

Filed Dec. 30, 1964 2 Sheets-Sheet 1

FIG. 1



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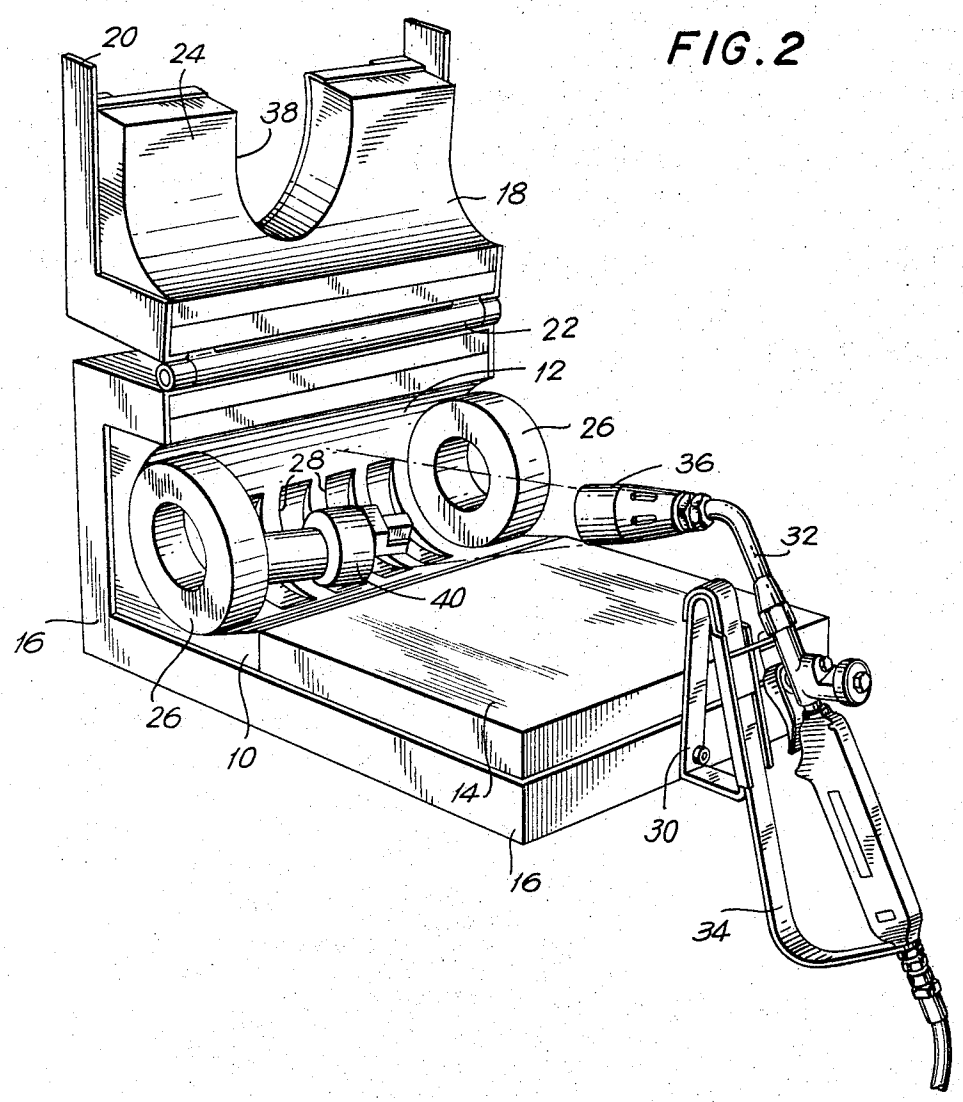
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FIG. 2



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COMBINATION FURNACE AND FORGE

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Claims priority, application Sweden, Jan. 16, 1964, 539/64
4 Claims. (Cl. 263—2)

This invention relates to furnace which has a casing of fire-proof material which defines an elongated, preferably generally cylindrical space or chamber open at both ends and which between said ends is formed with an opening for introducing a heating flame into the space. The furnace is especially intended for use in laboratories or for the hardening of tools and similar workpieces or in metal products forging operations.

One main object of the invention is to provide a furnace of the type in consideration which a simple manipulation is adjustable from a closed position to an open position and may then advantageously be used for a plurality of varying operations or adapted to dimensions varying within wide limits of the workpieces.

Further objects and advantages of the invention will become apparent from the following description, considered in connection with the accompanying drawings, which form part of this specification and of which:

FIGS. 1 and 2 are perspective views of a furnace constructed according to the invention in closed or open position, respectively.

Referring to the drawings, reference numeral **10** denotes the rear part of the furnace. This consists, or has a lining, of fire-proof material with an inner wall **12** of curved or part cylindrical shape. Adjacent the part **10** there is provided at the base thereof a table **14** of fire-proof material. The table **14** and the furnace part **10** are suitably united together by means of an edge, enclosing framing **16** consisting of metal for ensuring required mechanical strength. The front part **18** of the furnace is pivotally connected with the upper side of the rear part **10**. The front part **18** has a lining of fire-proof material and a reinforcing framing **20** of metal provided with a handle **21**. The front part is supported by the rear part by means of horizontal hinges **22**. The front part has an inner wall face **24** with rounded or substantially part-cylindrical shape. When the front part **18** is lowered, so as to close the interior of the furnace this latter forms a cylindrical or similar space or chamber open at both ends. The partition plane between the two parts of the furnace is at the top positioned in a vertical plane passing through the central axis of the space.

The end openings of the space or chamber may in known manner be screened off partially by loose insertable ring members **26** of fire-proof material. The rear wall of the space is suitably provided with recesses or grooves **28** extending peripherally in the cylindrical face.

A support **30** is fastened onto the frame **16**. Attachable to said support is a burner **32** by means of a holder member **34** in such position that the burner tube **36** is positioned straight opposite the interior of the furnace but in spaced relation thereto. The burner **32** is in connection with a container (not shown) for fuel, preferably condensed gas. When the tiltable part **18** is in its lowered position illustrated in FIG. 1, the flame from the burner tube **36** enters through a central opening **38** in said part into the furnace space or chamber.

Depending on the intended heat treatment the furnace

may be used in the position in FIG. 1, in which its interior is surrounded by the two furnace parts. When the front part **18** is in upwardly tilted position, the furnace may serve as a forge, for example for the heating of workpieces **40** for a subsequent forging operation. The recesses **28** ensure that the hot flame from the burner comes in contact with the rear side also of the workpiece. If the workpiece is long it may with its one or other end project out of the furnace through the lateral openings. The ridges between the recesses **28** of the rear part **12** provide a substantially horizontal space on which a melting pot may be provided.

While one more or less specific embodiment of the invention has been shown and described, it is to be understood that this is for purpose of illustration only and that the invention is not to be limited thereby, but its scope is to be determined by the appended claims.

What I claim is:

1. In apparatus of the character described for use as a combination furnace and forge and having a two-part elongated fireproof casing with a substantially cylindrical heating chamber disposed therein, said casing having openings at each end thereof communicating with said chamber and being divided along a vertical plane through the axis of said chamber, the combination which comprises a hinge connection interconnecting the two parts of said casing at the top thereof for pivoting the front part of said casing from a closed position adjacent the rear part of said casing to form said chamber to an open position above said rear part, a substantially horizontal extension disposed on said rear part and extending below and beyond said front part for providing a heat-resistant working surface in front of said chamber, and a front opening disposed centrally in said front part providing flame access from a spaced-apart flame source into said chamber when said front part is in closed position.

2. Apparatus as described in claim **1** in which the substantially cylindrical wall of said chamber in said rear part has spaced transverse recesses disposed therein for directing flame from said front opening around a work piece disposed in said chamber.

3. Apparatus as described in claim **1** which includes toroidal ring members disposed in the openings at each end of said chamber for partially closing said openings, said ring members being of sufficient width for interfitting engagement with said recesses in said rear part for the selective positioning of said ring members along said chamber for increasing and decreasing the length thereof.

4. Apparatus as described in claim **1** which includes a holder disposed on the front edge of said working surface for holding and directing a burner disposed therein in spaced and directed relationship to said front opening, and in which the bottom surface of said chamber is substantially horizontal for holding a melting pot disposed therein.

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