Jan. 9, 1951 W. M. LOVATT ET AL 2,537,145

SUPPORT FOR CERAMIC WARE DURING FIRING

Filed March 16, 1949

FIG. 1.

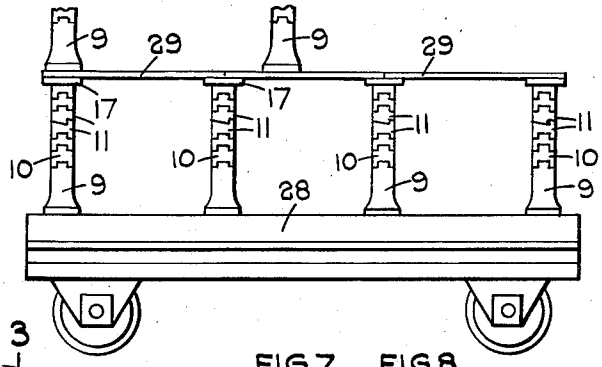


FIG. 2.

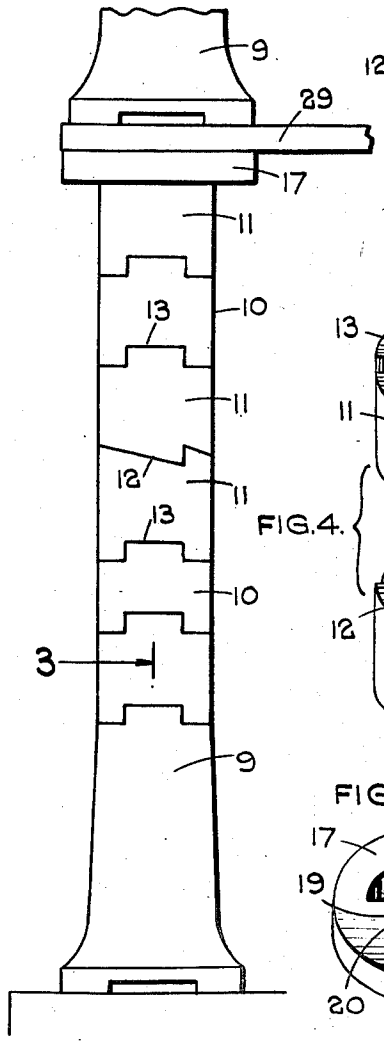


FIG. 7.

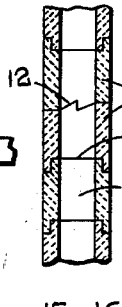


FIG. 8.



FIG. 3.

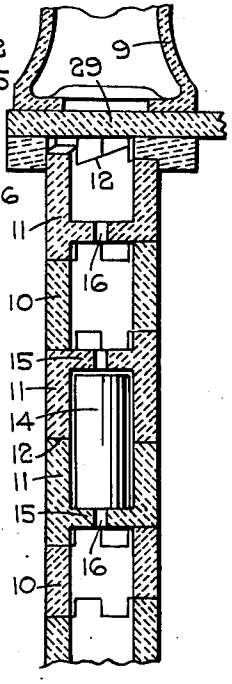


FIG. 4.

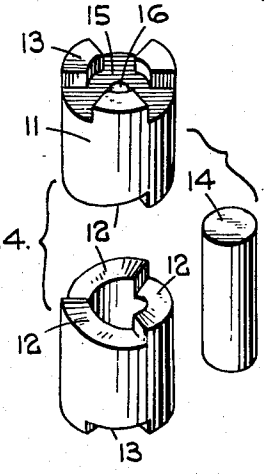


FIG. 5.

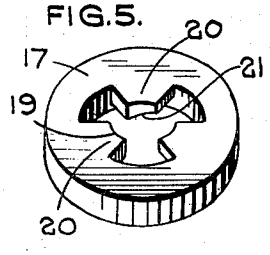
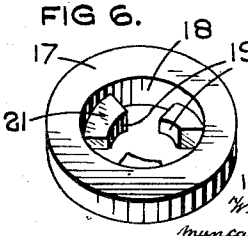


FIG 6.



INVENTORS
William Muncaster Lovatt.
James William Alexander Lovatt.
BY Richardson, Davis and Gordon
AGENTS

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UNITED STATES PATENT OFFICE

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SUPPORT FOR CERAMIC WARE DURING FIRING

William Muncaster Lovatt and James William Alexander Lovatt, Hanley, Stoke-on-Trent, England

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1 Claim. (Cl. 25—153)

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For supporting ceramic ware during firing, it is usual to provide one or more shelves above a supporting base, which in the case of a tunnel oven is formed by the top of a truck, and each of these shelves usually consists of a plurality of horizontal, square or rectangular plates of refractory material, the plates being assembled together edge to edge and supported on posts, the articles to be fired being placed some on the base and the others on the shelf or shelves.

The vertical spacing of the shelves varies in accordance with the dimensions of the goods, and for this reason posts have been made of various lengths, and it has also been proposed to make the posts in sectional lengths having various types of interengaging projections and recesses at their ends so that they can be assembled one above another without becoming unstable.

Further, it is known to use three posts for each plate so as to eliminate the possibility of rocking, and in such an arrangement two of the posts are situated at the corners of a plate, and a third post is situated at the middle of the opposite edge of the plate. Certain advantages can however be obtained by using four posts situated one at each corner, but if four posts are used, as they cannot be made commercially to fine dimensional limits, there is considerable likelihood that the structure will be unstable owing to rocking of the plates forming the shelves. Also, even when the plates are supported on three posts only although rocking is eliminated the plate is not necessarily supported in a position which is horizontal.

The object of the present invention is to overcome these difficulties.

According to the present invention a post for use in a structure of the kind described is made in a plurality of sectional lengths, and the adjacent ends of two sections are provided with axially-extending helical portions which interengage, so that by turning one section about its axis relatively to the other an adjustment in the effective height of the post is obtained.

Means may be provided for centering one section relatively to the other, and such means may take the form of a central pin or tube inserted in an axial opening in the lower section and projecting into an axial opening in the section above.

A further object of the present invention is to enable one post to be used for assisting in the support of two or more horizontal adjacent plates which form the shelves, and according to this part of the present invention we provide a disc or plate of larger diameter or area than the

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diameter or cross-sectional area of the post, and this disc or plate has means whereby it may be centred relatively to the post and is adapted to be mounted on the top of the post, or at other position on the post. Such disc or plate may be provided with helical portions at one side for engaging helical portions on the top of the post if it is desired to make the effective length of the post adjustable.

The invention is illustrated in the accompanying drawings, wherein:

Figure 1 shows a truck having a number of posts to which the invention has been applied;

Figure 2 is a view in side elevation showing a part of one of the posts;

Figure 3 is a section on the line 3—3 of Figure 2;

Figure 4 is a perspective view showing two of the blocks and the centering pin;

Figure 5 is a perspective view showing the shelf-supporting member;

Figure 6 is a perspective view showing the underside of the member shown in Figure 5;

Figure 7 is a sectional view in side elevation showing a modification; and

Figure 8 is a view in side elevation showing a further modification.

Figure 1 is shown to a smaller scale than the remaining figures; and Figures 7 and 8 are shown to a smaller scale than Figures 2 to 6.

In the construction shown in Figures 1 to 6 the base section 9 and the sectional lengths 10 of the post are each of the known cylindrical tubular construction having castellated ends, and the post includes the special sections 11 which are of cylindrical tubular form, and at one end each is provided with a group of (say three) axially-projecting helical surfaces 12. The opposite ends 13 of these post sections may be castellated by providing them with a number of (say three), projections equally spaced. In order that two such post sections 11 may be centred relatively to each other, the lower post section may be provided with a separately-constructed pin 14 which is placed within the post section and projects above it into the interior of the post section above, and for supporting this pin one end of each post section may be provided with a transverse web 15 through which extends an opening 16.

If the disc or plate of larger area than the cross-sectional area of the post is provided, this may consist of a flat circular disc 17 having a circular recess 18 at its underside approximately equal in diameter to the exterior diameter of the

post sections 10 and 11, and projecting into this recess the disc or plate is provided with internal lugs 19, the upper sides 20 of which are flush with the top of the disc or plate, and the undersides 21 of which are of helical form for cooperating with the helical projections 12 formed at one end of the post section 11 below. In such an arrangement the depth of the inwardly-projecting lugs may be approximately half of the thickness of the disc or plate.

In the construction shown in Figure 7 the special sections 22 having the axially-projecting helical surfaces 12 have their opposite ends provided with a recess 23 of a diameter such that the outer boundary of the recess is situated at about half-way between the inner and outer walls of the tube. Such post sections are used in conjunction with further sections 24 each of which has one end formed in a complementary manner, i. e. the section of the wall is of stepped form instead of castellated form.

In the construction shown in Figure 8 sectional lengths 25 of post constructed in accordance with this invention having the helical projections 12 are used in conjunction with further sectional lengths 26 of post of cylindrical form having at one end a tapering projection 27 at the centre adapted to centre itself in an adjacent prop length.

As will be seen from Figure 1, the posts are mounted on a truck 28 for use in a tunnel oven. The posts can however be used in conjunction with a stationary support. The lowest section of each post is provided with an enlarged base which is centred by suitable means on the truck,

and each of the posts is provided with one of the discs 17, this disc being used for supporting the shelves 29. The posts may be extended upwardly to any desired height and further discs 17 may be used where required for supporting additional shelves, such as 29.

What we claim then is:

A support for ceramic ware during firing comprising posts made in a plurality of sectional lengths assembled one above another, the adjacent ends of two sections each being provided with three axially-extending helical portions which interengage, so that by turning one of these sections about its axis relative to the other an adjustment in the effective height of the post is obtained, and a disc of larger diameter than the post mounted upon the top of each post, three axially-extending helical portions on the underside of the disc and three axially-extending helical portions on the top of each post interengaging with said helical portions on the disc so that by turning the disc about its axis relative to the post a further adjustment in the effective height of the post is obtained.

WILLIAM MUNCASTER LOVATT.
JAMES WILLIAM ALEXANDER LOVATT.

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