

Jan. 18, 1949.

G. KLEIN

2,459,658

DETACHABLE HANDLE

Filed Nov. 13, 1947

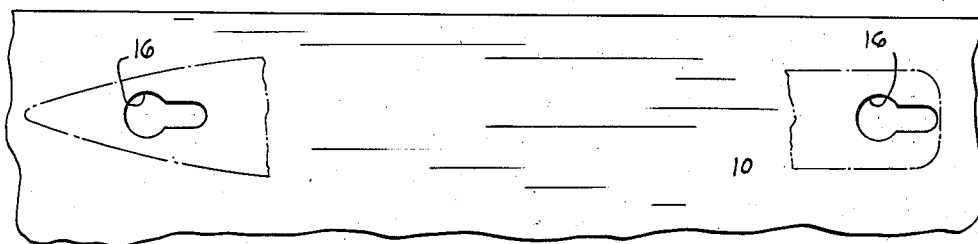


Fig. 1

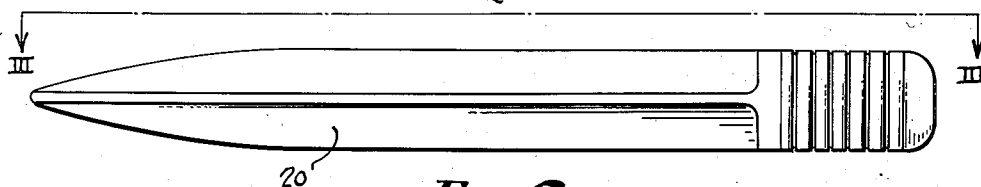


Fig. 2

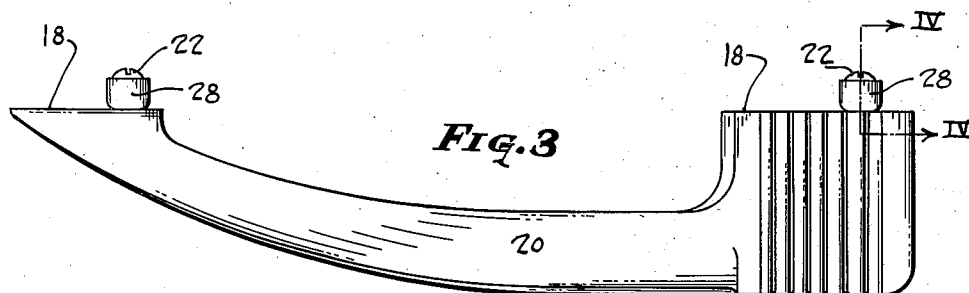


Fig. 3

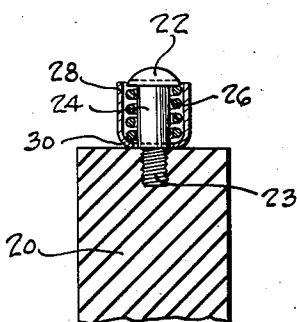


Fig. 4

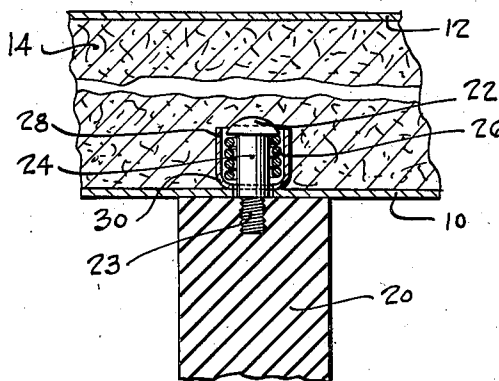


Fig. 5

INVENTOR.

GUSTAV KLEIN

BY

Louis Neeko

ATTORNEY.

UNITED STATES PATENT OFFICE

2,459,658

DETACHABLE HANDLE

Gustav Klein, Melrose Park, Pa., assignor to
Caloric Stove Corporation, Philadelphia, Pa.,
a corporation of Pennsylvania

Application November 13, 1947, Serial No. 785,675

3 Claims. (Cl. 16-114)

1

My invention relates to a handle construction and it relates more particularly to a handle construction especially adapted for use on doors of heated compartments such as the doors of ovens, broilers and the like, as well as for use on the doors of other apparatus to facilitate shipment.

The doors of heated compartments are insulated so as to conserve heat and to insure against injury from accidental contact with the exterior surfaces of such doors. If the handle of a door of this type is attached by means of a bolt or the like which passes completely through the insulated door, so that its inner end is in the heated compartment, such bolt will conduct heat to the handle, which can become uncomfortably hot, or, perhaps, hot enough to cause injury upon contact. Also, the handles of stoves and the like are frequently made of synthetic material and the heat conducted to such handles by the fastening bolts, when the inner ends of such bolts are in the heated compartments, sooner or later deteriorates the material of the handle, and particularly relatively thin portions thereof such as screw threads, and causes the handle to break or fall off. If the handle is attached by a bolt or the like which engages the exterior wall only of the door, the inner portion of such bolt will be wholly enclosed by the insulation and by the inner wall of the door and will therefore be inaccessible for servicing without completely dismantling the door.

It is therefore the object of the invention to produce an improved construction wherein the handle is detachably secured, and contacts only the relatively cool, exterior wall of the door of a heated compartment and wherein the handle and the means for attaching it are wholly detachable, from such wall as a unit.

A further object is to produce an improved detachable handle construction in which the handle can be removed by a simple movement of the handle relative to the door and in which the handle can be secured to the door by a similar movement in the opposite direction.

When stoves or other apparatus are shipped with the handle attached, the handle projects beyond the plane of the door and thus occupies valuable shipping space and is also in danger of being broken or damaged. By my arrangement, the stove or the like may be shipped with the handle detached and, when it reaches its destination, the handle can be instantly applied with no skill and no trouble.

In the drawings:

Fig. 1 is a front elevational view of a portion of a door with the handle detached.

2

Fig. 2 is a front elevational view of the detachable handle.

Fig. 3 is a top plan view looking in the direction of line 3-3 on Fig. 2.

Fig. 4 is an enlarged section on line 4-4 on Fig. 3.

Fig. 5 is similar to Fig. 4 except that it shows the handle attached to the outer wall of an insulated door.

In Fig. 5, there is shown a portion of a door of an oven or other heated compartment. This door includes an outer wall 10, an inner wall 12 and intermediate insulation 14, the inner and outer walls being suitably secured together to form a panel, in any well known manner, not shown.

In carrying out my invention, I provide the outer door 10 with keyhole shaped openings 16, and I provide the inner face 18 of the handle 20 with means for firmly, but detachably, engaging said openings and said outer wall.

The means for engaging the outer wall of the stove may take the form of screws 22 having threaded portions 23 for engaging tapped holes in the handle and having enlarged shanks 24 which, when the screws are driven home and tightened, abut the inner side 18 of the handle. Surrounding the shanks of the screws are springs 26 which are enclosed in cups 28, with the springs confined between the heads of the screws and the end walls of the cups and with shanks of the screws projecting through openings in the end walls of the cups 28, and clearly shown in Figs. 4 and 5.

To secure the handle to the door, the fastening means are inserted through the large round portions of the openings 16 and the handle is moved from left to right in Fig. 1. Since the shanks of the screws are small enough to pass through the reduced, elongated portions of the openings 16 and the spring enclosing cups are too large to pass through these reduced portions, the outer wall 10 of the door is forced between the inner face 18 of the handle and the end walls of the cups 26. This compresses the springs, as shown in Fig. 5 and thus holds the handle tightly against the door. In order to facilitate wedging of the outer wall between the handle and the end walls of the cups 26, the end walls of the cups are curved or bevelled as at 30. Because the shanks 24 of the screws abut the inner side of the handle, the springs will be partly, but not wholly compressed when the screws are tightened. The partial compression of the springs provides a certain amount of tension and, when the outer wall 10 is wedged between the end walls of the cups 28 and the

3

abutting side of the handle, sufficient tension is provided rigidly to hold the handle in position.

By the construction described, the handle is secured to the outer wall only of an insulated wall, the handle is readily detached and secured without any special skill or effort, and the fastening means, being carried by the handle, is removed with it.

As will be seen from Figs. 4 and 5, the rims of the open ends of the cups 28 are about flush with the largest portions of the heads of the screws and that there is very little clearance between the inner walls of the rims and the adjacent peripheries of the heads of the screws. By this means, tilting of the cups 28 or the springs 26 is limited and satisfactory alignment of the cups and the springs is assured.

What I claim is:

1. Means for detachably securing a handle to a panel, said means including an elongated fastening element having a head, a shank, and an end portion adapted to engage a side of said handle, a guide member including a cylindrical side wall and an apertured end wall said guide member being carried by said element with said shank extending longitudinally within said cylindrical side wall passing through the opening in said end wall, and a coil spring confined between said end wall and the head of said fastening element and urging said guide member away from said head, there being an opening in said panel through which said fastening element and said guide member may be freely inserted, said panel also having a slot adjacent to, and communicating with, said opening, the width of said slot being such that only said shank can pass through it, so that, when said fastening element and said guide member are passed through the opening in said panel and the handle is moved in the direc-

4

tion of said slot, said shank will pass through said slot, said panel will be interposed between the end wall of the guide member and the abutting side of the handle, and the spring will be compressed, the open end of said cylindrical wall being located near said head and having an internal diameter only very slightly greater than the diameter of the adjacent portion of said head to limit axial tilting of said guide relative to said shank.

2. The structure recited in claim 1 in which the end portion of the fastening element is reduced and engages an opening in the side of the handle and in which the shank of the fastening element is too large to enter said opening and abuts the side of the handle when the fastening element is secured to said handle.

3. The structure recited in claim 1 in which said handle is elongated, in which two fastening elements, and their adjuncts are carried by spaced portions of said handle, and in which said panel is provided with correspondingly spaced openings and slots, with the slots disposed on corresponding sides of said openings.

GUSTAV KLEIN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,553,875	Parker	Sept. 15, 1925

FOREIGN PATENTS

Number	Country	Date
7,552	Great Britain	Mar. 29, 1902
7,747	Great Britain	Mar. 28, 1911