Aug. 16, 1966 A. C. SCAVULLO 3,266,482

ROOM SERVICE HEATER

Filed March 17, 1964 2 Sheets-Sheet 1

Fig. 1

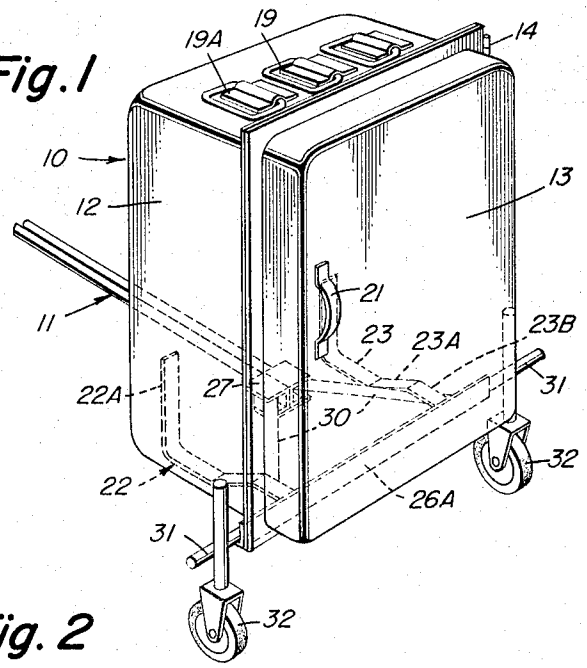
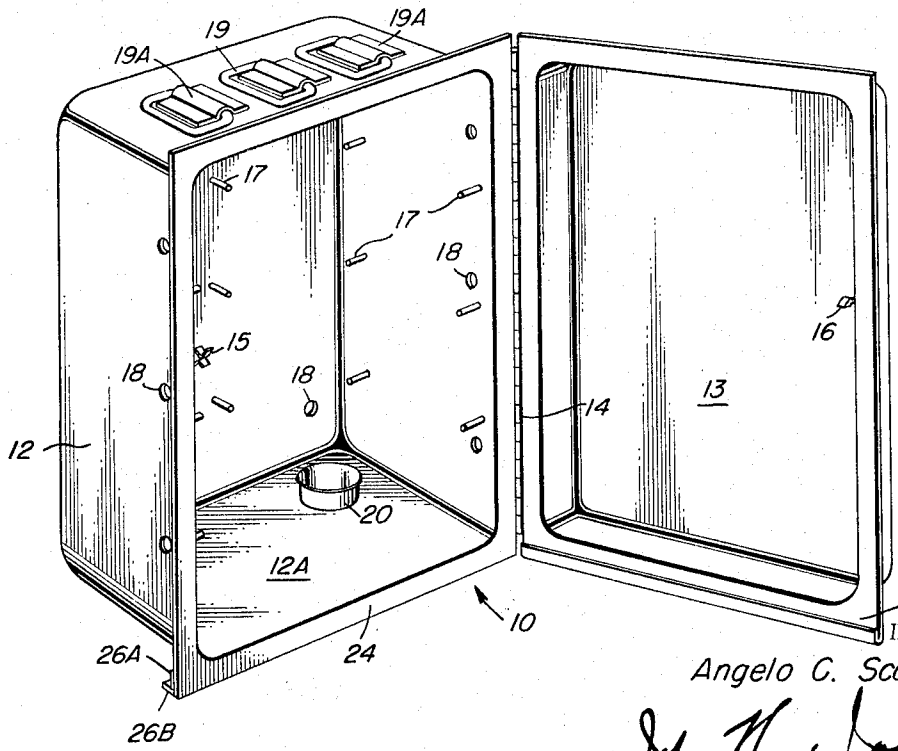



Fig. 2




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Aug. 16, 1966 A. C. SCAVULLO 3,266,482

ROOM SERVICE HEATER

Filed March 17, 1964 2 Sheets-Sheet 2

Fig. 3

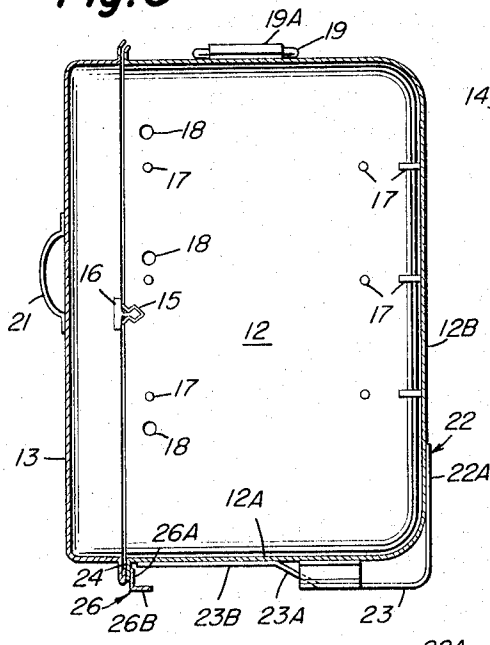



Fig. 4

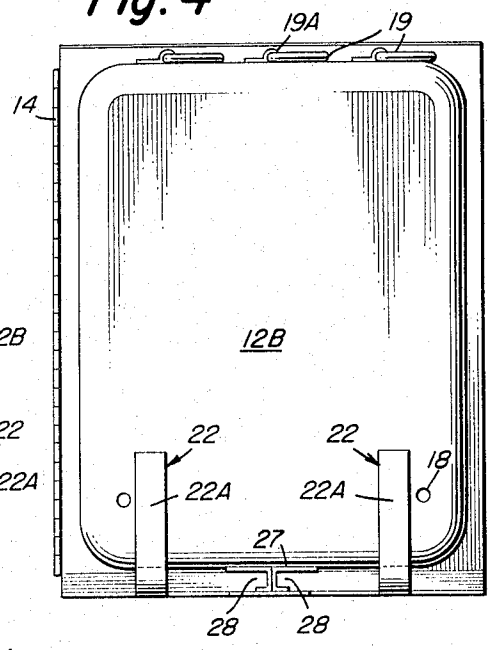



Fig. 5

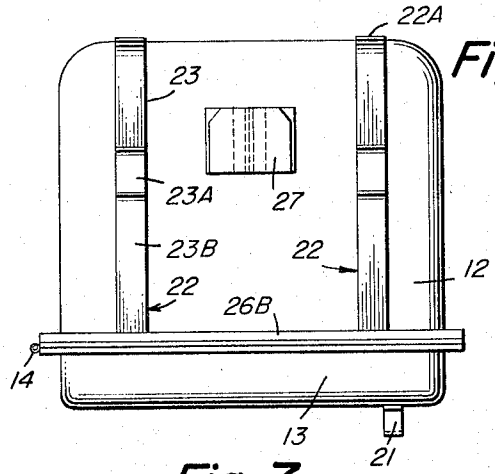



Fig. 6

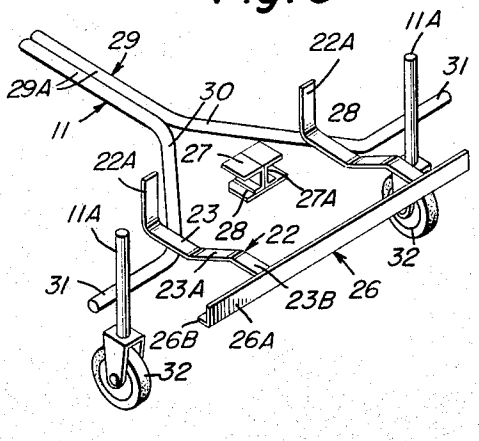
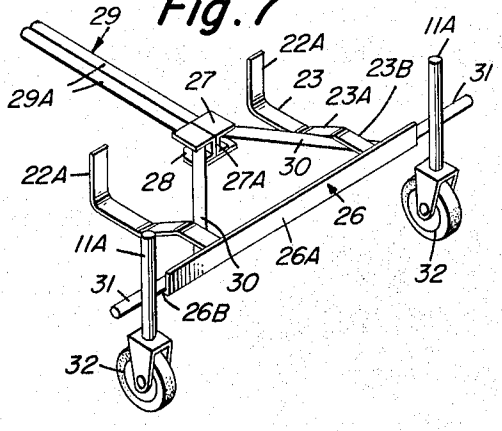



Fig. 7




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United States Patent Office 3,266,482 Patented August 16, 1966



3,266,482

# ROOM SERVICE HEATER

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7 Claims. (Cl. 126—275)

My invention, relating generally to hotel, rest-home, hospital and like equipment, is particularly concerned with portable room service equipment, especially a room service heater and a transporting table or cart therefor.

An object of my invention is to provide, in combination, a room service heater removably secured, in direct and simple manner, to a related portable and anti-friction transporting table in such locking engagement therewith as to effectively avoid any substantial possibility of relative motion between the parts of the assembly during transport, all with characteristic simplicity, in the substantial absence of movable parts, and at minimum cost, both in production and maintenance, consistent with requisite durability.

A further object of my invention is to provide a portable room service heater the essential parts of which are themselves largely of one-piece construction, and which heater, light in weight and simple, sturdy and rugged in construction and readily cleanable, locks readily, directly and removably and in the substantial absence of relative motion, to a related transporting portable serving table.

Other objects and advantages of my invention will in part be obvious and in part more fully pointed out during the course of the following description, particularly as considered in the light of the accompanying drawings.

Accordingly my invention may be considered as residing in the various features of construction, the combination of elements, the arrangement of parts, and in the relation and combination of each of the same to and with one or more of the others, the scope of the application of which invention is more fully recited in the claims which follow this disclosure.

In the several views of the drawings, wherein I have disclosed that embodiment of my invention which I prefer at present,

FIG. 1 discloses, in exploded elevation, the combination of room service heater and transporting serving table according to my invention, the heater being shown in skelton form to better illustrate certain features of my invention;

FIG. 2 is a perspective view of the room service heater of my invention with open door, displaying its interior and with trays removed for simplicity of disclosure;

FIGS. 3, 4 and 5 comprise, respectively, a sectional view taken on line 3—3 of FIG. 2, a rear elevation view, and a bottom plan view of my heater;

FIG. 6 is a perspective view fragmentary and skeltonized, disclosing that portion of the portable table of my invention which particularly cooperates with undertable storage of my room service heater in removably locking engagement with the underframe of the table, the server being disclosed as being in the process of being placed upon or removed from the table; while

FIG. 7 is a fragmentary perspective view, generally similar to FIG. 6, but disclosing the locking and positioning elements of the room service heater fully engaging and interlocking with the related portion of the underframe of the transporting table.

Throughout the several views of the drawings like reference characters denote like structural parts.

As conducive to a more ready understanding of my invention, it may here be noted that although portable room service heaters have long been known in the art, and while a variety of transporting tables, carts, wagons



and dollys have been employed in handling such heaters, nevertheless certain important and fundamental defects, characteristic of such equipment, have effectively resisted complete acceptance of such equipment. Illustratively, while servers with hand lifts have been employed, the waiter or other user also separately carries a collapsible table or trestle. Here the burden is placed upon him to carry the complete assembly, being denied the relief attending anti-friction transport. Recalling that, as relates to room service in hotel, restaurant, hospital or office building, by way of typical illustration, transport from kitchen to service area quite likely will be over substantial reach. And further, the particular waiter on room service call will in all likelihood have many such services in the course of a relative small interval of time. It is at once apparent, therefore, that formidable practical obstacles interpose.

While it has also been proposed to trundle the room service heater from kitchen to service area on a portable cart or table, hitherto these two units, heater and table, have been entirely separate and apart from each other. Sudden stops and jolts quite likely will occasion relative motion between the two units, even to the extent of upsetting the heater. Or tilting of the heater may occur, attended by upset.

Quite likely efforts have hitherto been made to tie together table and heater. So far as can be ascertained, however, no room service facilities have been proposed where the room service is removably and directly locked to a related transporting and anti-frictional table, and capable of resisting, when in assembly, relative movement between the component units.

An important object of my invention, therefore, is to overcome the disadvantages and defects heretofore existing in the art, and in so doing, provide both the combination of a new portable room service heater and a related anti-frictional transporting table to which the heater is removably and directly locked against detrimental relative motion therebetween during transport, and the portable food service heater itself, responding fully to the several demands hereinbefore recited.

And now, having reference to the heater combination of my invention attention is directed to the several views of the drawings. My room service heater in its entirety is indicated generally at **10**, while the related transporting table is indicated generally at **11**. Heater **10** comprises a main compartment **12** and a door **13**. Both the main compartment and the door or cover are preferably constructed of stainless steel. Where desired, however, aluminum may be employed. I prefer stainless steel, however, both for sanitary reasons and for durability and appearance. Aluminum heaters are especially light in weight and are preferred where weight is the dominant factor.

Door **13** is suitably hinged to body **12** at **14**, a stainless steel piano hinge preferably being employed for this purpose, spot-welded in place. I provide a removable spring latch **15** on a selected one of main compartment **12** and door **13**, here shown as mounted on compartment **12**. Complemental locking dog **16** is provided on the other of the two parts of heater **10**, here illustrated as mounted on door **13**. It may be noted that elongated stainless steel pins **17** (FIGS. 2 and 3) are provided on the sides and back of compartment **12** for carrying shelves (not shown) which are mounted in the heater **10**. Where desired, other suitable material may be employed for pins **17**. I prefer to weld pins **17** interiorly of body **12**. To prevent food content of heater **10** from sweating or steaming I provide air vent holes **18**, typically ten in number, along the sides and back of compartment **12**.

Heater **10** may be carried by a selected number of carrying handles **19** disclosed exteriorly of the top of compartment **12**. Neither the number nor type of handle, nor the material from which they are constructed, are critical. Typically, and as shown, I provide three such handles. These are of such construction that, while securely attaching to the top side of compartment **12**, nevertheless they are easy to grip and move freely in related open faced retainers **19***a* made fast to the top of compartment **12** as by welding.

Requisite heat may be provided during transport in a number of suitable ways. Illustratively, it is feasible to provide the shelves of compartment **12** with a container (not disclosed) for hot pellets, disposed fast to the underside of one or more such shelves. Preferably, however, I provide a fuel receptacle **20** spot-welded or otherwise conveniently secured to interior floor **12A** of compartment **12** for the reception of a source of fuel, such as a can of solid alcohol. Door **13** is provided (FIG. 3) with handle **21**.

Having reference now more particularly to FIGS. 3, 4 and 5 of the drawings, I provide paired ski-slides **22, 22** made fast to main compartment **12**, along the back **12B** thereof (FIG. 3). More specifically, vertical extensions **22A** of ski-slides **22, 22** extend upwardly along the lower outer face of back of main compartment (the extensions **22A** assuming normal orientation of the heater) and are secured to such back **12B** in desired convenient manner, as by spot-welding. At the back compartment **12** vertical arms **22A** of the ski-slides project downwardly for a suitable distance below bottom **12A** of compartment **12**, conveniently about one inch, and are then inturned, on a radius of sufficient magnitude effectively to avoid sharp corners, to project forwardly, along the longitudinal depth of compartment **12** (i.e. from back to front). The major extent of ski-slides **22, 22** is in a generally horizontal direction, assuming normal orientation of the heater as employed in service. This is indicated generally at **23** (FIGS. 3, 6 and 7). At a convenient point along the longitudinal extent **23**, the ski-slides are bowed upwardly as indicated at **23A** (FIG. 3) to provide a locking detent. The forward ends **23B** of the ski-slides (FIGS. 3 and 5), ends which closely underlie and contact the exterior bottom of the main compartment **12** near the front thereof, may either be secured in desired suitable manner to the bottom of the heater or may be free thereof, serving as a support therefor.

Main compartment **12** preferably is deep drawn in manner to provide exterior flange **24** (FIGS. 2 and 3) which, with normal orientation of heater **10**, extends in a vertical plane outwardly from the well portion of main compartment **12** (see FIG. 2), and serves as a bearing face or surface against which abuts complemental flange **25** on door **13**.

I provide an elongated angle member **26** (see FIGS. 3, 5, 6 and 7) which extends across the open-mouthed front of main compartment **12**, at the underside thereof and immediately rearwardly of bottom rim or flange **24**. Vertical portion **26A** of this angle member is secured to the back-side of flange **24** in desired suitable manner as by spot-welding, while the bottom or horizontal portion **26B** of angle **26** extends rearwardly along and in spaced relation to the bottom of main compartment **12**. The spacing of leg portion **26B** from the bottom of compartment **12** preferably is the same as that of the spaced portion of the longitudinal extent **23** of ski-slides **22, 22** (see FIG. 3).

I provide a second locking device **27** at the center rear of the exterior bottom of main compartment **12**, as best shown in FIGS. 4 and 5. This locking device, which I term an I-beam member (since in section, it has generally the shape of an I-beam) typically may be built up of fabricated construction, it being sufficient that desired dual, outwardly-faced and opposed openings **28, 28** be provided (FIGS. 4 and 6), extending from opposite



sides of the central web of I-beam **27**, the purpose of which will shortly be developed. Locking device **27** is made fast to the underside of compartment **12** in desired suitable manner as by spot-welding.

The related table, cart or wagon **11** which I employ in combination with heater **10** may assume a variety of different shapes and forms, subject only to certain structural details of the underframe thereof, shortly to be described. Such table, illustratively, may have collapsible wing portions. Typically, the carriage of the table comprises a horizontal tubular frame, extending longitudinally and in spaced relation to its related table top. The horizontal tubular underframe, indicated generally at **29** in FIG. 6, is bifurcated at each end thereof, thereby providing outwardly flaring arms **30, 30** (FIGS. 6 and 7). Bifurcated arms **30, 30** each terminates at its outer extremity in a laterally and outwardly extending bearing arm **31, 31**. Each such bearing arm is made fast, in desired and conventional manner, to conventional table legs **11A**, themselves preferably being of tubular construction. From inspection of FIGS. 6 and 7, it will be seen that underframe **29** preferably comprises, along the major part of its extent, paired and like tubular elements **29A, 29A** disposed side by side and preferably secured together in desired suitable manner as by spot-welding. Elements **29A, 29A** may, however, be comprised of a single piece of metal where desired. Legs **11A, 11A** of cart **11** terminate in suitable anti-friction caster rollers **32, 32**.

In the mounting of heater **10** on table **11**, with shelves properly positioned on pins **17** within heater **10**, and removably locked in conventional manner against forward displacement, I ignite the fuel in receptable **20** and close door **13**, latching it shut by means of latch **15** and dog **16**. The heater is lifted from the kitchen table, or other station at which the heater is serviced by way of handles **19** and is carried to the associated transporting table **11**, positioned nearby. With heater carried vertically and back **12B** of compartment **12** disposed towards and outwardly from the related end of underframe **29** of table **12**, the rear horizontal portions **23, 23** of the ski-slides **22, 22** are rested atop the outwardly flaring arms **30, 30** of underframe **29, 29** with heater **10** approximately centered, by eye, with the longitudinal center of the underframe **29** of table **11**. This positions the I-beam locking device **27** in such manner that, upon further bodily and sliding movement of heater **10** towards the underframe **29** of table **11**, the openings **28, 28** of locking device **27**, contoured to engage thereabout, lockingly abut the related arms **30, 30** near the head or yoke portion thereof, where these arms come together. Such further movement of heater **10** relative to transporting table **11** also causes those portions of the longitudinal extent **23** of ski-slides **22, 22** which are spaced from the bottom of heater **10**, to ride inwardly of (in a longitudinal direction) and beyond the flared arms **30, 30** of underframe **29**. Therefore, as a second phase of installing the heater **10** on table **11**, these arms **30, 30** are engaged by the slanted or bowed portions **23A, 23A** of the ski-slides. This action causes the heater **10** to move bodily downwardly (in a vertical direction) onto the underframe **29** of table **11**. Further movement of heater **10** causes the forward ends **23B, 23B** of ski-slides **22, 22** to ride over and rest upon the arms **30, 30**. The relative motion between heater and table is continued until angle **26** on the bottom front of the compartment **12** of heater **10** abuts bearing arms **31, 31** of underframe **29**, with downwardly suspended vertical portion **26A** of angle **26** engaging the front portions of arms **31, 31**, and horizontal portion **26B** of angle **26** underlying and locking against arms **31, 31** (see FIG. 7).

Heater **10** is now effectively yet removably locked against motion relative to the underframe **29** of the table **11**, and this, in both horizontal and vertical planes. The I-beam member **27** and abutting arms **30, 30** resist

forward motion of the heater, inwardly of table **11**. This resistance against forward motion of the heater, is further implemented by angle **26** abutting against bearing arms **31, 31**. The locking detents **23A, 23A** incorporated in the ski-slides **22, 22**, abutting the same arms **30, 30**, resist rearward motion of the heater, in a direction away from the underframe **29**. Lateral or sidewise motion of the heater **10** relative to underframe **29** is effectively combatted through the central web or leg **27A** of I-beam **27** abutting a related arm **30, 30** of underframe **29**, this action being contributed by a particular detent portion **23A** of the paired ski-slides contacting its related arm **30** of the underframe **29**. Illustratively, should heater **10** tend to move to the right in FIG. 7, it is the right-hand side of web **27A** which abuts the left face of the right-hand arm **30**, while it is the left-hand locking device **23A** which abuts the left side of the left-hand one of the flaring arms **30, 30**. The action is just the opposite should the heater tend to move to the left relative to underframe **29**.

With any tendency toward rearward movement of the heater, away from undercarriage **29**, as had upon sudden stop or jolt of table **11**, the slanting locking detents **23A, 23A** are sufficient to resist this rearward movement of the heater. The detents **23A, 23A** also contribute to the ease of dismantling the heater from the underframe.

Downward vertical movement of the heater relative to table **11** is effectively resisted through the combined action of both the top horizontal legs of the I-beam locking member **27** and the horizontal portion **26B** of locking angle **25** locking, against flared arms **30, 30** on the one hand, and against bearing arms **31, 31**, on the other.

To remove the heater from the table, either at the room service area or at the kitchen, is a matter of but a moment, and involves an action just the reverse of that which has been described. To this end, heater **10** is pulled bodily forward (to the right in FIGS. 1, 6 and 7) and away from underframe **29** of table **11**. This disengages both the I-beam locking member **27** from arms **30, 30**, and locking angle **26** from the arms **31, 31**. The bowed locking detents **23A, 23A** included in the ski-slides **22, 22** ride upwardly over the related arms **30, 30**. Continued movement of heater **10** completely disengages the latter from underframe **29**.

Thus it will be seen that I provide in my invention a new room service heater-transporting table combination wherein the objects and advantages hereinbefore set forth are fully realized. The heater can be readily transported with but little effort and in anti-friction manner from one point to another. Moreover, the heater can, with equal readiness, be locked removably fast to the related transporting table so as to effectively resist relative movement therebetween during transport, both in generally horizontal and general vertical planes, all in simple and direct manner. When desired, the heater can be disengaged from the table with like facility. As well, the heater which I have disclosed embodies novel locking features contributing to the ready assembly, locking and disassembly of the heater to its related table. The heater and the related parts of its transporting table are simple, rugged, of long useful life, and easy to retain in a condition of requisite sterility. All the foregoing as well as many other highly practical advantages attend the practice of my invention.

It is apparent from a consideration of the foregoing that, once my invention is disclosed, many embodiments thereof will readily occur to those skilled in the art, along with many modifications of the disclosed embodiment, all falling within the scope and spirit of my invention. Accordingly, I intend the foregoing disclosure to be considered simply by way of illustration, and not as comprising limitations, the scope of my invention being more fully set forth in the following claims.



Having described my invention, I claim:

**1.** For hotel room service and the like, and in combination, a transporting cart with included underframe, formed essentially of elongated elements; and a related room service heater, said heater having at least one ski-slide extending along the bottom of said heater from front to back and being intermediately and downwardly bowed along a portion of its length and being fast at one end thereof to the bottom of said heater and serving through such bow and upon slight tilting of said heater relative to said table, to ride upwardly and over the underframe of said cart and to then lock the heater removably fast to the underframe of said cart.

**2.** For hotel room service and the like, and in combination, a transporting and serving cart with included underframe, formed essentially of elongated elements; and a related room service heater having paired ski-slides disposed in spaced relation to each other and made fast at one end of the underside of said heater, the said ski-slides each being intermediately and downwardly bowed along a portion of its length, said ski-slides extending longitudinally along the length of said heater from front to back and serving, upon slight tilting of the heater relative to said cart, to ride upwardly upon the downwardly bowed portion of said ski-slides and over the underframe of said cart in the manner of an open hinge, and upon further movement of the ski-slides relative to the cart to drop and engage said underframe and lock the heater removably fast to the cart.

**3.** For hotel room service and the like, and in combination, a transporting and serving cart with included underframe, formed essentially of related elongated elements and a horizontal member; and a related room service heater, said heater including an angle-iron locking element at one end of the underside thereof and paired ski-slides substantially perpendicular to said element and extending along the bottom of said heater from front to back, with each said ski-slide being intermediately bowed along its length and fast to the underside of said heater at that end of said heater remote from said angle-iron, and capable, when the heater is slightly tilted, to slide upwardly upon said ski-slides and over the related elongated elements of the cart and then drop an extent sufficient for the angle-iron to engage in an open-face manner with said horizontal member of the underframe of the cart and for the intermediate bows of the ski-slides to slip over and lock behind the related elongated elements of said underframe and thereby to removably lock the heater against movement relative to the related cart.

**4.** In combination and for room service, a transporting cart having an underframe comprising an elongated longitudinal member terminating at at least one end thereof in outwardly and laterally flaring arms, themselves each terminating in a laterally and outwardly extending terminal arm, and a room service heater for transport on said cart, which heater has on the underside thereof, an open face locking element for removably engaging said flaring arms near their junction with the longitudinal member of said underframe, said heater also having on the underside thereof, paired and spaced, longitudinally extending ski-slides, each with included intermediate bow, cooperable with and overriding the flared arms of the underframe of the cart, to lock behind the inner faces of said flaring arms, and said heater also having an angle member, serving as a stop, depending from the front of said heater and abutting, with the heater positioned on said cart, against the outwardly facing surface of said terminal arms.

**5.** A portable room service heater for use with a transporting cart, said heater including, as part thereof, a plurality of spaced ski-slides made fast to the bottom of the heater and, in usual orientation of the heater, bowed downwardly therefrom and across the bottom thereof, for a part of the horizontal extent of the ski-slides in

spaced relation to the bottom of the heater and for a part of the extent of such ski-slides in close proximity to the bottom of the heater, and the ski-slides, with included intermediate bow, participating in locking the heater directly and removably fast to said transporting cart, against relative motion therebetween.

6. A portable room service heater for use with a transporting cart, comprising a main compartment; paired and spaced ski-slides with included bow projecting longitudinally across the bottom of the main compartment, from back to front and spaced, over only a part of their extent from the bottom of said main compartment; and guide means also disposed at the underside of said main compartment for assisting in mounting and centering on said transporting cart and thereupon participating in removably locking the heater to the related cart.

7. A portable room service heater for use with a transporting cart, comprising a main compartment with hinged door; pair and spaced ski-slides with included bow projecting longitudinally across the bottom of the main compartment, from back to front and spaced, over only a part of their extent, from the bottom of said main compartment; guide means also disposed at the underside of



said main compartment for assisting in mounting and centering on a related transporting cart and thereupon participating in removably locking the heater to said related car; and an angle member depending downwardly across the front of said heater at the bottom thereof for engaging a portion of said cart and participating and assisting in removably locking the heater to said cart.

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