

Oct. 26, 1965

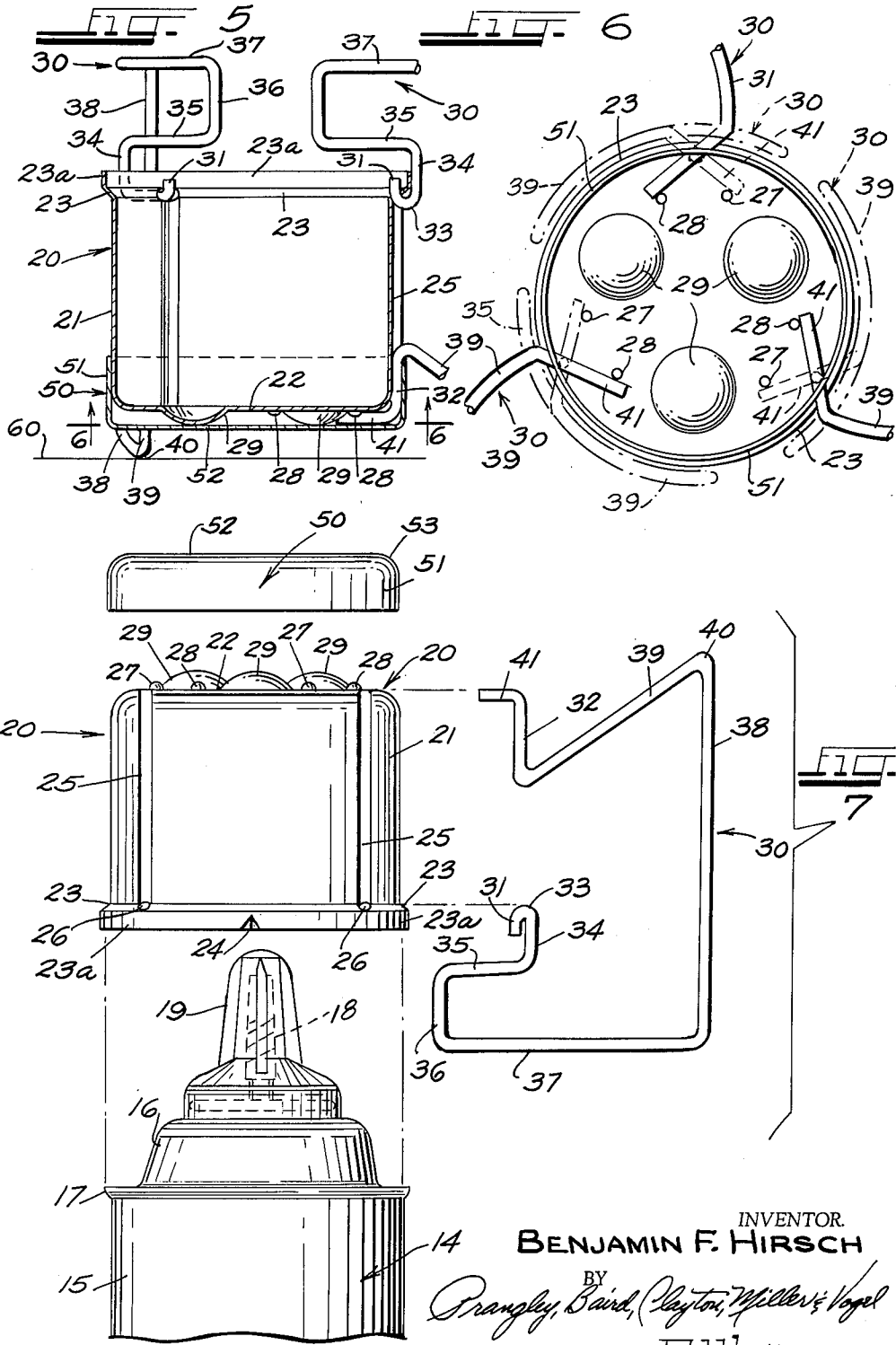
B. F. HIRSCH

3,213,849

PORTABLE STOVE

Filed May 13, 1963

2 Sheets-Sheet 2



INVENTOR
BENJAMIN F. HIRSCH
BY
Prangley, Baird, Clayton, Miller & Vogel
ATT'YS.

1

2

3,213,849

PORTABLE STOVE

Benjamin F. Hirsch, Chicago, Ill., assignor to Turtle Wax, Inc., Chicago, Ill., a corporation of Illinois
 Filed May 13, 1963, Ser. No. 279,755
 6 Claims. (Cl. 126—43)

This invention relates to portable stoves, and particularly to portable stoves of the type used with gelled hydrocarbon fuels.

The portable stoves of the present invention are particularly useful for heating utensils by burning in the stoves gelled liquid hydrocarbons such as alcohols, and particularly mixtures of methyl alcohol and ethyl alcohol having nitrocellulose incorporated therein to form a gel. There have been provided heretofore similar portable stoves but the prior portable stoves have either been flimsy in construction, difficult to store, or unsteady in use, the latter feature rendering their use even dangerous at times. Some of the prior portable stoves also serve as the container for the gelled fuel, in which case reuse of the stove was rendered difficult and in certain instances even impossible; while in other cases wherein the stove was not used as the container for the fuel, there was no convenient way of associating the portable stove with the fuel container.

It is an important object of the present invention to provide an improved portable stove, and particularly an improved portable stove for use with gelled hydrocarbon fuels.

Another object of the invention is to provide an improved portable stove of the type set forth including novel leg structure movable between an inner closed position and an outer operative position, the improved leg structure in the closed position thereof being disposed closely about the body of the stove and in the operative position thereof supporting the lower end of the stove above the subjacent support surface and supporting a cooking utensil above the open end of the stove.

In connection with the foregoing object, another object of the invention is to provide a portable stove of the type set forth having improved leg structure, wherein portions of the leg structure in the operative position thereof extend outwardly well beyond the outer wall of the stove to provide a very broad support base for the stove, and other portions of the leg structure extend inwardly over the open end of the stove to provide an equally good support structure for a utensil above the open end of the stove.

Yet another object of the invention is to provide a portable stove of the type set forth including novel leg structure movable between an inner closed position and an outer operative position, the stove being further provided with detent structure releasably holding the leg structure in either the closed position thereof or the operative position thereof.

Yet another object of the invention is to provide a portable stove of the type set forth including a generally cylindrical side wall having pivot grooves therein and novel leg structure including pivot sections positioned in the pivot grooves, and a lid holding the leg structure in operative relation in the pivot grooves to accommodate movement of the leg structure between the inner closed position thereof and the outer operative position thereof.

Yet another object of the present invention is to provide a portable stove of the type set forth for use with a generally cylindrical container having a lateral outwardly extending shoulder adjacent to one end thereof, the stove including a generally cylindrical can closed at one end and adapted to fit over the top of the container including the shoulder thereon and having gripping portions adapted

to engage the shoulder and releasably to mount the portable stove upon the container.

It is a further object of the present invention to provide a portable stove of the type set forth which can be stored upon an associated fuel container and which can serve as an over-cap for the upper end thereof, and which can be easily and quickly removed therefrom and set up as a stove for the reception of fuel therein.

In connection with the foregoing object, it is a still further object of the invention to provide a portable stove of the type set forth which can be readily associated with the top of a fuel container, the stove parts including the folding leg structure thereof fitting closely about the fuel container while the stove is positioned thereon and being readily movable into an outwardly extending operative position upon removal of the stove from the associated fuel container.

Further features of the invention pertain to the particular arrangement of the elements of the portable stove and of the can and leg structure therefor, whereby the above-outlined and additional operating features thereof are attained.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification, taken in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a portable stove made in accordance and embodying the principles of a present invention, the portable stove being shown with the parts thereof in the operative position and supporting a saucepan in position to be heated thereby;

FIGURE 2 is an enlarged view showing the portable stove of FIG. 1 with the parts thereof in the closed position and with the stove mounted upon the upper end of an aerosol type fuel container;

FIG. 3 is a top plan view of the assembly illustrated in FIG. 2;

FIG. 4 is a top plan view of the portable stove of FIG. 1 with the leg structure thereof in the operative and supporting position thereof;

FIG. 5 is a view in vertical section along the line 5—5 of FIG. 4;

FIG. 6 is a horizontal section along the line 6—6 of FIG. 5; and

FIG. 7 is an exploded view of certain parts of the present invention including a fuel container, and the can, one leg and the lid forming part of the portable stove.

There is shown in FIG. 1 of the drawings a portable stove, generally designated by the numeral 10, made in accordance with and embodying the principles of the present invention, the stove 10 including a can or receptacle for fuel designated by the numeral 20, three legs 30, and a lid 50. The legs 30 are shown in the outer or supporting position thereof, and more particularly, are illustrated as supporting a utensil in the form of a saucepan 11 over the upper open end of the can 20, the saucepan 11 including the usual handle 12 and being adapted to contain a material 13 that is to be heated by the stove 10.

The stove 10 is preferably to be associated with a container generally designated by the numeral 14 of the aerosol type and adapted to contain fuel for use in the stove 10. The container 14 includes a generally cylindrical side wall 15 closed at the bottom end and provided with a closure 16 at the upper end thereof in the form of a dome secured thereto such as by crimping to provide therebetween a shoulder 17. The domed wall 16 carries generally centrally thereof a "Clayton" valve 18 for controlling the dispensing of fuel from the container 14. The outer surface of the valve 18 is threaded for threaded

engagement with a valve cap 19 which covers the valve 18 when it is not in use.

The can 20 forming a part of the portable stove 10, and more particularly providing a receptacle for fuel to be burned therein, is preferably formed of a heat resistant metal, the preferred material of construction being aluminum, the exterior of the can 20 in certain instances being anodized and/or colored for decorative purposes. The construction of the can 20 is best seen in FIGS. 4 and 5 of the drawings wherein it will be seen that it includes a generally cylindrical side wall 21 which preferably has a diameter substantially equal to the diameter of the container wall 15 for purposes which will be explained more fully hereinafter. One end of the side wall 21 is closed by an end wall 22, whereby when the end wall 22 is positioned downwardly, the can 20 can receive fuel therein for burning. Integral with the other end of the side wall 21 is an outwardly directed lateral flange 23 which is disposed at an angle of approximately 45° with respect to the side wall 21 and extends outwardly and upwardly therefrom as viewed in FIG. 5, the inner diameter of the outer edge being slightly greater than the outer diameter of the greatest dimension of the shoulder 17 on the container 14. Integral with the outer edge of the lateral flange 23 is a generally cylindrical circumferential flange 23a which extends around the periphery thereof and is generally concentric with the side wall 21 and extends upwardly a short distance as viewed in FIG. 5, the inner diameter of the flange 23a also being slightly greater than the outer diameter of the greatest dimension of the shoulder 17 on the container 14.

The can 20 when constructed as described above can readily fit upon the upper end of the container 14, the circumferential flange 23a extending downwardly over and surrounding the shoulder 17 with the upper edge of the shoulder 17 supporting the lateral flange 23, it being understood that the vertical extent or length of the side wall 21 is greater than the distance between the shoulder 17 and the top of the valve cap 19. It will be seen therefore that the can 21 can be stored as an over-cap on the top of the container 14. In order releasably to interconnect the container 14 and the portable stove 10, a plurality of indentations or gripping portions 24 is provided around the circumferential flange 23a, three of the gripping portions 24 being illustrated and spaced equiangularly around the circumference of the flange 23a. As illustrated, the gripping portions 24 are in the form of triangular indentations which extend inwardly and lie beneath the shoulder 17, thereby to grip the shoulder 17 between the gripping portions 24 and the lateral flange 23. The relatively light gauge of the metal forming the can 20 together with the natural resilience of the metal permits the gripping portions 24 to be momentarily flexed outwardly and over the shoulder 17 to permit removal of the can 20 from the container 14; conversely, the can 20 can be mounted upon the upper end of the container 14 by simply pressing the can 20 downwardly as viewed in FIG. 2 of the drawings, thereby momentarily to force the gripping portions 24 outwardly and over the shoulder 17 after which the gripping portions 24 spring inwardly releasably to mount the can 20 upon the upper end of the container 14.

In order to use the can 20 as a burner or receptacle for fuel, it is desired that the bottom wall 22 thereof be spaced from the underlying support surface, such as the surface 60 illustrated in FIG. 5 and further that provision be made for supporting a utensil, such as the saucepan 11, over the upper end of the can 20. To this end a plurality of legs 30 has been provided, three of the legs 30 having been illustrated in the drawings; preferably the legs 30 are formed of a flexible metal, such as spring steel, and are generally circular in cross section or wire-like and bent into a generally U-shape to provide structure for attachment to the can 20, structure for supporting the legs upon the support surface 60, and structure

for supporting the saucepan 11 at a point spaced from the top of the can 20.

In order to mount the legs 30 upon the can 20, the side wall 21 is provided with three pivot grooves 25 therein spaced equiangularly around the circumference thereof and extending inwardly to provide a groove that has a diameter slightly greater than the diameter of the material from which the legs 30 are formed and a depth approximately equal to the circumference of material from which the legs 30 are formed. As may be best seen in FIG. 7 of the drawings, the pivot grooves 25 preferably extend from the end wall 21 to the lateral flange 23 and further communicate with aligned holes 26 in the lateral flange 23, the holes 26 actually being oval in shape but when viewed from the top presenting a circular cross section which is slightly greater than the cross section of the material from which the legs 30 are formed.

Each of the legs 30 is provided with a top pivot section 31 which is adapted to be disposed in one of the pivot grooves 25 to extend through the associated hole 26 for mounting the associated end of the U-shaped leg 30 on the can 20. A bottom pivot section 32 is provided adjacent to the other end of the U-shaped leg 30 and is adapted to lie in the other end of the pivot groove 25 that receives the top pivot section 31, the pivot sections 31 and 32 being in general longitudinal alignment when the leg 30 is in its operative position upon the can 20. In fact the pivot sections 31 and 32 in cooperation with the pivot groove 25 and the hole 26 form a pivotal connection between the can 20 and the leg 30, the leg pivoting about an axis disposed centrally of and running through the aligned pivot sections 31 and 32.

Each of the three legs 30 is similarly mounted upon the can 20 and are actually held in operative association with the can 20 by means of the lid 50. The lid 50 is also formed of a heat resistant material such as metal, and preferably aluminum metal, which may be anodized and/or colored for decorative purposes. A side wall 51 is provided that is cylindrical in shape and has an inner diameter substantially equal to the outer diameter of the side wall 21, one end of the lid 50 being closed by an end wall 52 which joins the side wall 51 at the curved shoulder 53. When the parts are all assembled as illustrated in FIG. 2, the lid 50 is pressed upon the closed end of the can 20 and engages the pivot sections 32 on the legs 30 to hold them in the operative position within the respective pivot grooves 25. The general resilient and spring-like construction of the legs 30 serves to urge the pivot section 31 into the associated hole 26 and to retain it therein.

In order to support the saucepan 11, for example, at the proper spaced position from the upper end of the can 20, the pivot section 31 is integrally connected to a U-bend 33 which in turn connects to a spacer section 34 that is disposed generally parallel to the top pivot section 31 spaced laterally therefrom. Formed integrally with the spacer section 34 and disposed in the plane substantially perpendicular to the longitudinal axis of the spacer section 34 is a lateral section 35, which in the operative supporting position thereof is disposed to extend radially inwardly over the open end of the can 20. Integral with the outer end of the lateral section 35 and disposed perpendicular to the plane thereof is an inner upstanding section 36 having the longitudinal axis thereof in general alignment with the pivot axis for the leg 30 and the spacer section 34. The other end of the inner upstanding section 36 is integrally connected to a top support section 37 disposed in a plane generally perpendicular to the longitudinal axis of the inner upstanding section 36 and the pivot axis of the leg 30, the support section 37 extending generally away from the upstanding section 36 and connecting at the outer end with an outer upstanding section 38 which extends therefrom in the same direction as the outstanding section 36 and with the longitudinal axis thereof in general alignment with

the longitudinal axis of the section 36 and the pivot axis of the leg 36. The other end of the outer upstanding section 38 is connected to the bottom pivot section 32 by a bottom lateral section 39 which is disposed in a plane lying at an acute angle with respect to the longitudinal axis of the section 38 and the pivot axis of the leg 30, the sections 38 and 39 joining in a rounded connection 40 which provides a bottom support for the leg 30 to rest it upon an underlying support surface such as the surface 60 in FIG. 5.

The generally vertical leg sections 31, 32, 34, 36 and 38 are formed straight with all of the longitudinal axes thereof in general parallelism. On the other hand, the laterally arranged sections including the sections 35, 37 and 39 are curved as may be best seen in FIGS. 2, 3, 4 and 6 so that these parts will snugly fit and lie against the can 20 in the folded condition of the legs 30 as is best seen in FIG. 3. More particularly, each of the sections 35, 37 and 39 is curved as viewed from the top into a circular arc, the radius of the arc being slightly greater than the external diameter of the circumferential flange 23a so that the legs 30 when folded against the can 20 form a smooth circular configuration which is readily handled, easily stored, and has a minimum of projecting parts.

The legs 30 are movable between an inner closed position best illustrated in FIGS. 2 and 3 of the drawings and an outer operative position best illustrated in FIGS. 1 and 4 to 6 of the drawings, the legs 30 in the closed position thereof being disposed closely about the can 20 as has been described above and about the associated container 14, and the legs 30 in the operative position thereof supporting the bottom of the can 20, and more specifically the lid 50, above the subjacent support surface 60 and supporting a cooking utensil such as the saucepan 11 above the open end of the can 20. More particularly, in the operative position of the legs 30, the spacer sections 34 extend upwardly above the upper edge of the flange 23a (see FIG. 5) and the lateral sections 35 and the inner portions of the top support sections 37 extend inwardly generally radially toward the center of the can 20 and overlie the open end of the can 20 as is best illustrated in FIGS. 4 and 5. As a result of this structure, the top support sections 37 of the three legs 30 cooperate to form an unusually stable sturdy support for the saucepan 11, and furthermore, the support sections 37 can accommodate a wide variety of sizes and shapes of utensils and pans, it being noted that the inner edges of the support sections 37 are spaced only a short distance apart (see FIG. 4), whereby to accommodate utensils of even very small diameter, such as about one-half the diameter of the can 20. However, it further is noted that the top support sections 37 extend outwardly a substantial distance to provide a support area having a diameter substantially twice that of the can 20 so as to provide firm and broad support for larger utensils.

The legs 30 further provide a firm support for the stove 10 upon the underlying support surface 60, the bottom supports 40 being spaced outwardly from the sides of the can 20 and lying on a circle having a diameter at least twice that of the can 20, whereby to provide a broad and stable support for the stove 10. This structure contributes markedly to safety during the use of the stove 10.

It is pointed out that the broad and stable support afforded by the support members 40 for mounting the stove in the operative position upon the support surface 60, and the corresponding broad and stable support for an associated utensil upon the support members 37, are all accomplished by utilizing a radial extent of the top support section 37 of approximately 105°, the base of support resulting therefrom, however, upon the support surface 60 having substantially twice the diameter of the can 20, and the support area on the support sections 37 extending from an area having substantially twice the di-

ameter of the can 20 down to a minimum support area having a diameter less than half that of the can 20 (see FIG. 4). It further is pointed out that of the total 105° angular extent of the top support sections 37, approximately 23° thereof is disposed inwardly from the pivot axis defined by the pivot sections 31 and 32 in the operative position of the legs 30, and the remaining approximately 82° extends outwardly with respect to the pivot axis of the pivot sections 31 and 32, the ratio therebetween being approximately 1:3.5.

Structure is provided firmly, yet releasably, to hold the legs 30 in either of the inner closed position thereof illustrated in FIG. 3, or the outer operative position thereof illustrated in FIG. 4. To this end each of the legs 30 has a latch section 41 formed integral with the outer end of the bottom pivot section 32 and having the longitudinal axis thereof disposed substantially perpendicular to the pivot axis and extending at an acute angle with respect to the lateral sections 35, 37 and 39 (see FIGS. 3 and 4). A first set of detents in the form of outwardly extending small bumps 27 is provided upon the end wall 22 and spaced equiangularly therearound and positioned with respect to the pivot axis for the legs 30 so that the latch sections 41 are disposed radially outwardly with respect thereto when the legs 30 are in the closed position thereof illustrated in FIG. 3 and by the dashed lines in FIG. 6. The detents 27 only releasably hold the legs 30 in the closed position and a firm pressure tending to pivot the legs 30 from the closed position thereof to the open position thereof will cause the rounded latch sections 41 to be cammed up and over the associated rounded detents 27. Conversely, the latch sections 41 can be moved outwardly and over the associated rounded detents 27 when the legs 30 are being moved from the open position thereof to the closed position thereof.

A similar latching structure is provided to hold the legs 30 in the open or operative position thereof illustrated in FIG. 4. More particularly, a second set of detents 28 is provided on the end wall 22, the detents 28 extending outwardly therefrom and being disposed radially equidistantly therearound (see FIGS. 3, 4 and 6) and being positioned to hold the latch sections 41 and the associated legs 30 in the open position thereof illustrated in FIG. 4 and by the solid lines in FIG. 6. More specifically, when the legs 30 are in the fully open position thereof, the latch sections 41 are disposed outwardly of the associated detents 28. The detents 28, however, releasably hold the legs in the open position and firm pressure upon the legs 30 can move the rounded latch sections 41 over the associated rounded detents 28 when moving the legs 30 from the closed position thereof to the operative position thereof, or conversely, when moving the legs 30 from the open position thereof to the closed position thereof.

Recapitulating, it will be seen that a detent structure has been provided for each of the legs, each detent structure including a pair of detents 27 and 28 which constitute respectively closed position members and operative position members. Each of the legs further has been provided with a latch in the form of the latch section 41 which is pivotal with the associated leg and is releasably movable into and out of engagement with the closed position detent member 27 and the operative position detent member 28. In the operation of the latch and detent structures, each latch 41 is moved into engagement with the closed position detent member 27 when the associated leg 30 is folded to the closed position thereof, whereby the latch 41 and the closed position detent member 27 cooperate to hold the leg 30 in the closed position thereof; and likewise, each latch 41 is moved into engagement with the open position detent member 28 when the associated leg 30 is pivoted to the operative position thereof, whereby the latch 41 and the operative position detent member 28 cooperate to hold the legs 30 in the operative position thereof.

A plurality of spacer domes 29 is also provided on the end wall 22, the domes 29 extending outwardly from the end wall 22 a distance greater than the detents 28 and a distance greater than the diameter of the latch sections 41 so as to space the end wall 52 of the lid 50 a fixed minimum distance from the end wall 22. Three of the domes 29 have been illustrated arranged equiangularly around the wall 22 and disposed between adjacent pairs of detents 27-28 (see FIGS. 4 and 6), the shape of the domes 29 being part-spherical. The spacing of the end wall 52 from the end wall 22 by the domes 29 not only ensures ample room for the operation of the latch sections 41 with respect to the detents 27 and 28, but there also is defined an insulating volume of air which further serves to protect the underlying support surface 60 (see FIG. 5) during the use of the stove 10.

It is contemplated that the stove 10 will be associated with the fuel container 14 and sold therewith as a unit with the parts assembled as illustrated in FIG. 2. More particularly, the can 20 will have the flange 23a thereof in position around the shoulder 17 with the gripping portions 24 engaged therebeneath. The legs 30 will be in a folded position and will be held in that position by the detents 27 engaging the respective latch sections 41. When it is desired to heat a utensil by means of the stove 10, the can 20 will be removed from the fuel container 14 by urging the gripping portions 14 outwardly and upwardly over the shoulder 17. The legs 30 will then be moved from the closed position thereof to the operative position thereof, the latch sections 41 being moved over the associated detents 27 and out of engagement therewith and then over and into engagement with the associated detents 28. The stove 10 is now ready to be positioned upon the support surface 60 as illustrated in FIG. 5 which will place the open end of the can 20 upwardly for the reception of fuel therein. The valve cap 19 can now be removed from the container 14 and a suitable quantity of fuel passed through the valve 18 into the can 20. The fuel is ignited and a suitable utensil, such as the saucepan 11 in FIG. 1, is positioned upon the top support sections 37.

It will be noted that the legs 30 form a broad base of support for the portable stove 10 in the operative position thereof and the top support sections likewise form a broad and firm support for the saucepan 11. After the cooking operation has been completed, the fuel may be exhausted within the stove 10 or the fuel remaining can have the flame thereof extinguished and the fuel removed therefrom. Thereafter the legs 30 are urged from the position illustrated in FIG. 4 to that illustrated in FIG. 3, i.e., from the position illustrated in solid lines in FIG. 6 to that illustrated in dashed lines therein. Such movement of the legs 30 will cause the latch sections 41 to be moved over the detents 28 and out of engagement therewith and thereafter over the associated detents 27 and into engagement therewith. After the placement of the valve cap 19 upon the container 14, the stove 10 with the legs 30 in the folded condition can now be replaced upon the top of the container 14 as an over-cap therefor, the gripping portions 24 engaging beneath the shoulder 17. The legs 30 will be out of the way and folded closely around the can 20 and the associated container 14.

In an operative example of the stove 10, the can 20 may have an internal radius of $1\frac{1}{32}$ " and an overall vertical height of $2\frac{1}{8}$ ". The internal radius of the circumferential flange 23a will be $1\frac{1}{8}$ ". The cross sectional diameter of the spring wire from which the legs 30 are formed is $\frac{3}{32}$ ", the overall height of the leg from the bottom support 40 to the top support section 37 is $3\frac{3}{8}$ " and the chordal width of the leg 30 is $2\frac{3}{8}$ ", i.e., the distance from the outer edge of the inner upstanding section 36 to the outer edge of the outer upstanding section 38. The detents 27 and 28 have a circumference of $\frac{3}{32}$ " and a height of $\frac{1}{32}$ " and the domes 29 have a diameter of $1\frac{1}{16}$ " and a height of $\frac{1}{8}$ ".

In view of the foregoing, it will be seen that there has been provided an improved portable stove which fulfills all of the objects and advantages set forth above. While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein, and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A portable stove comprising a can including a generally cylindrical side wall having one end thereof closed by an end wall to provide a receptacle for fuel, a plurality of generally U-shaped spring leg members mounted on said can and pivoted between an inner closed position and an outer operative position, said leg members in the closed position thereof being disposed closely about said can and in the operative position thereof extending outwardly from said can, a plurality of detent structures on said end wall corresponding in number to said leg members and each including a closed position member and an operative position member, and a latch on each of said leg members and pivotal therewith and releasably movable into and out of engagement with said closed position member and said operative position member, each of said latches being moved into engagement with a closed position member when the associated leg member is pivoted into the closed position thereof thereby to hold said associated leg member in the closed position thereof and each of said latches being moved into engagement with an operative position member when the associated leg member is pivoted into the operative position thereof thereby to hold said associated leg member in the operative position thereof.

2. A portable stove comprising a can including a generally cylindrical side wall having one end thereof closed by an end wall to provide a receptacle for fuel, the other end of said side wall being open and having a circumferential flange thereon and extending therearound, a plurality of longitudinally extending pivot grooves in said side wall and spaced circumferentially therearound, said circumferential flange having a plurality of holes therein respectively in alignment with said pivot grooves, and a plurality of generally U-shaped spring leg members corresponding in number to said pivot grooves, each of said leg members including a top pivot section and a bottom pivot section respectively adjacent to the free ends thereof and disposed in one of said pivot grooves, each of said top pivot sections extending through the associated hole, and a retaining member mounted on the closed end of said can and holding said bottom pivot sections in the associated pivot grooves.

3. A portable stove comprising a can including a generally cylindrical side wall having one end thereof closed by an end wall to provide a receptacle for fuel, the other end of said side wall being open and having a circumferential flange thereon and extending therearound, a plurality of longitudinally extending pivot grooves in said side wall and spaced circumferentially therearound, said circumferential flange having a plurality of holes therein respectively in alignment with said pivot grooves, and a plurality of generally U-shaped spring leg members corresponding in number to said pivot grooves, each of said leg members including a top pivot section and a bottom pivot section respectively adjacent to the free ends thereof and disposed in one of said pivot grooves, each of said top pivot sections extending through the associated hole, and a lid mounted upon the closed end of said can, said lid including a generally cylindrical side wall fitting over said can side wall and holding said bottom pivot sections in the associated pivot grooves, and a lid end wall closing one end of said lid side wall and overlying and spaced from the major portion of said can end wall to provide an insulating air space therebetween.

9

4. A portable stove set forth in claim 3, wherein said can end wall has a plurality of spacer domes thereon extending outwardly therefrom and toward said lid end wall positively to position said lid end wall from said can end wall.

5. A portable stove comprising a can including a generally cylindrical side wall having one end thereof closed by an end wall to provide a receptacle for fuel, the other end of said side wall being open and having a circumferential flange thereon and extending therearound, a plurality of longitudinally extending pivot grooves in said side wall and spaced circumferentially therearound, said circumferential flange having a plurality of holes therein respectively in alignment with said pivot grooves, and a plurality of generally U-shaped spring leg members corresponding in number to said pivot grooves, each of said leg members including a top pivot section and a bottom pivot section respectively adjacent to the free ends thereof and disposed in one of said pivot grooves, each of said top pivot sections extending through the associated hole, a lid mounted upon the closed end of said can, said lid including a generally cylindrical side wall fitting over said can side wall and holding said bottom pivot sections in the associated pivot grooves, a lid end wall closing one end of said lid side wall and overlying and spaced from the major portion of said can end wall to provide an insulating air space therebetween, a plurality of detent structures on said can end wall extending toward said lid end wall and corresponding in number to said leg members and each including a closed position member and an operative position member, and a latch section on each of said leg members and pivotal therewith and extending into the space between said end walls and releasably movable into and out of engagement with said closed position member and said operative position member, each of said latch sections being moved into engagement with an operative position member when the associated leg member is pivoted into the operative position thereof thereby to hold said associated leg member in the operative position thereof.

5
10
15
20
25
30
35
40

10

6. The combination comprising a container for fuel including a generally cylindrical side wall closed at the bottom thereof, a top closure including nozzle structure mounted on the upper end of said container side wall with an outwardly extending shoulder at the juncture thereof, a portable stove mounted upon said container and including a generally cylindrical can having a side wall closed at one end by an end wall to provide a receptacle for fuel, the diameter of said can side wall being substantially the same as that of said container side wall and the longitudinal extent of said can side wall being greater than the longitudinal distance between said shoulder and the end of said nozzle structure, an outwardly directed lateral flange on the other end of said can side wall having an outer diameter slightly greater than that of said shoulder, a circumferential flange on the outer edge of said lateral flange and having an internal diameter slightly greater than the external diameter of said shoulder and extending thereover and therebeyond, gripping portions on said circumferential flange extending inwardly with respect thereto releasably engaging beneath said shoulder, leg structure for said can, and means mounting said leg structure on said can for movement between a closed position wherein said leg structure is disposed closely about said can side wall and said container side wall and an operative position wherein said leg structure extends outwardly from said can side wall.

References Cited by the Examiner

UNITED STATES PATENTS

922,503	5/09	Perelzveich	126—38 X
1,237,453	8/17	Ball	126—43
1,277,362	9/18	Bayer	126—43
2,804,132	4/57	Mallory	126—43
2,860,820	11/58	Falligant	158—33 X

JAMES W. WESTHAVER, *Primary Examiner.*

40