Oct. 14, 1930. J. MAYER ET AL 1,778,330

PARK STOVE

Filed Nov. 30, 1928

FIG. 1

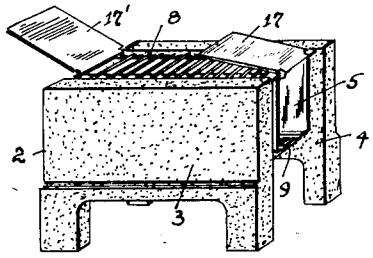



FIG. 2

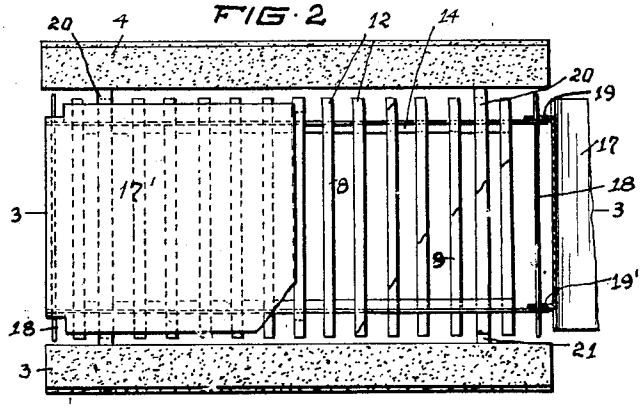



FIG. 5

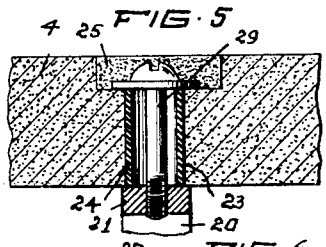



FIG. 6

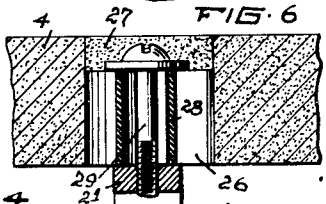



FIG. 3

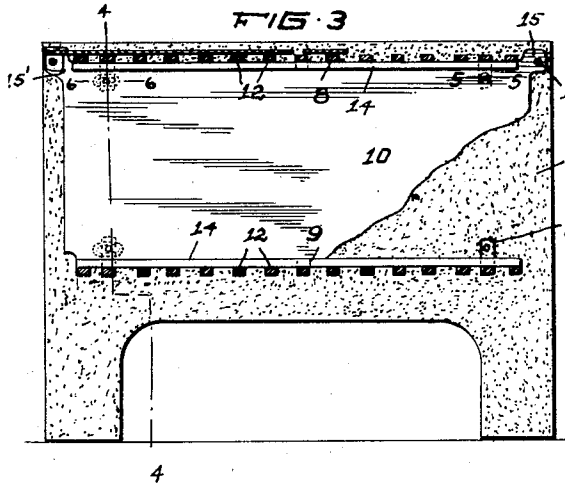



FIG. 4

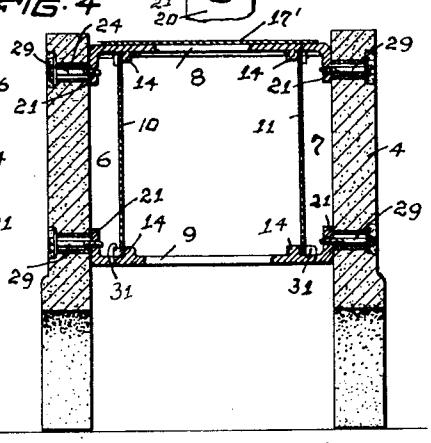



FIG. 7

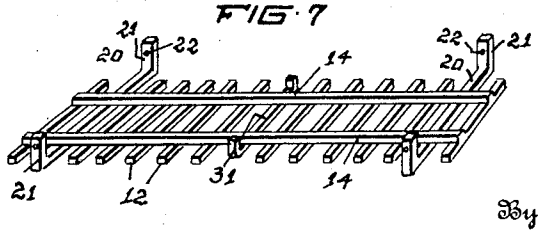
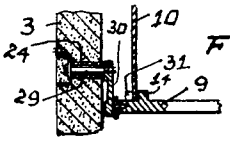



FIG. 8




Inventor

JOSEPH MAYER

KARL MAYER

By Gustav. A. Wolff

Attorney

Patented Oct. 14, 1930

1,778,330

# UNITED STATES PATENT OFFICE

JOSEPH MAYER AND KARL MAYER, OF CLEVELAND, OHIO

## PARK STOVE

Application filed November 30, 1928. Serial No. 322,718.

The present invention relates in general to open fire places, and more particularly to so-called park stoves, extensively used in community parks, camping places, beaches, etc., for cooking and frying of meals in the open. The park stove now in general use includes a cemented base portion and a grate rigidly embedded in said base portion, a construction inducing cracking and destruction of the base after relatively short use of the stoves in such a degree that these stoves do not outlive the first real fire made therein. Such cracking of the base is due to unequal heating thereof and differences in expansion of the base and the grate during heating.

The primary object of the invention is a new and simple construction of a park stove avoiding any cracking by inducing equal heating and permitting individual expanding of grate and base, with respect to each other. Such an object, according to the invention, is achieved by constructing the base in separate parts, connecting such parts by a grated fire box of substantial rigidity, and connecting means between said box and base permitting individual expansion of fire box and base without decrease of the rigidity of the whole structure. The base preferably and according to the invention open at the sides and bottom, is furthermore according to the invention, spaced apart from the fire box by air spaces, permitting free air circulation between fire box and base in order to decrease heating of said base and at the same time induce equal heating thereof by hot air circulation. These objects and other objects including special and simple construction of the individual parts of the park stove will be more apparent from the following description of the invention and the drawings forming part thereof, and as more concisely pointed out in the appended claims.

In the accompanying drawings, Fig. 1 is a perspective view of the assembled park stove according to the invention.

Fig. 2 shows a top view of the stove with parts partly broken away.

Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 2, and

Fig. 4 is a cross section on line 4—4 of Fig. 3.

Figs. 5 and 6, are enlarged sectional views of the connection between base and grate taken on line 5—5 and 6—6 respectively of Fig. 3, and

Fig. 7 is a perspective view of the grating, forming top and bottom parts of the fire box.

Fig. 8 is a sectional view of a modified form of a connection between base and grate.

The park stove as shown, embodies a concrete base 2 comprising two individual equal, but right and left handed uprights, or supporting walls 3 and 4 arranged opposite and parallel to each other, and connected with a fire box 5 supported by and between said walls. Each of said walls 3 and 4 is recessed at the bottom part thereof and forms a two-legged skirting wall so permitting substantial free contact of said base with its entirety with the open air, especially as fire box 5 supported in spaced relation from walls 3 and 4 provides at the inside of said walls air channels 6 and 7 for free circulation of air. Fire box 5 itself forms after assembling operations, a rigid unit open at both ends and consists of two gratings 8 and 9 arranged opposite each other at the top and bottom parts of said box, and these gratings are spaced from each other by means of steel plates 10 and 11 arranged between said gratings. As shown in Fig. 7 the gratings 8 and 9 are castings including a number of parallel bars 12 united by two parallel longitudinal ribs 14 and these ribs at the same time serve as spacing means for said steel plates 10 and 11 with respect to each other, see Fig. 4. As shown, gratings 8 and 9 are reversed with respect to each other so that all said ribs 14 coact in spacing said plates. The opposite upper outside edges of plates 10 and 11 extend upwardly and sidewardly to form ear portions 15, 15′ corrugated at 16 for pivotal support of cover plates 17, 17′ upon a bar 18 extending through the corrugated ear portions and said cover plates include downwardly extending ears 19, 19′ engaging the outside of the respective ear portions 15, 15′, thereby holding said plates 10 and 11 rigidly in position. To connect the gratings with

the concrete side walls each grate includes two bars 20 of greater length bent at a right angle upwardly to form short uprights 21 extending at the side of the grate showing the ribs 14, and these uprights 21 are provided with a screw-threaded hole 22 close to the ends thereof for screw-connection with walls 3 and 4. The fire box 5 being entirely made from iron and steel respectively and directly heated by the fire expands in a higher degree than the concrete walls 3 and 4 and therefore special means are provided for attaching said uprights 21 to said walls to overcome undue stresses created by differences in expanding during heating of the stove. Thus walls 3 and 4 are provided with round holes 23 of substantial size in which round metal tubes 24 of shorter length than the cross section of said walls are loosely fitted, and these holes 23 are furthermore recessed at 25 at the outer side of the walls 3 and 4 for a purpose later to be described. Walls 3 and 4 also include elongated holes or slots 26 of about the same width as round holes 23 and these holes also including a recessed portion 27, support loosely fitted therein round metal tubes 28 equal in length to said round tubes 24. Holes 23 and slots 26 are so spaced that the screw-threaded holes 22 in uprights 21 of the gratings 8 and 9 are aligned therewith, when fire box 5, including gratings 8 and 9 and steel plates 10 and 11, are assembled, and placed between and approximately flush with the upper edge of concrete walls 3 and 4 so that screws or bolts 29 extending through tubes 24 and 28 may readily be screwed into holes 22 to complete assembling of the stove. The vertical distance between holes 23 and slots 26 is preferably so chosen that fire box 5 may expand longitudinally about half of the length of slots 26 and during such expansion tubes 28 slide or roll in slots 26. The design of the stove assures equal heating of the walls 3 and 4 and the recessed bottom part thereof, and the air channels 6 and 7 between fire box 5 and said walls induce a flow of the heated air around said walls. The fire box radiates heat downwardly and from its steel plates, and prevents by such plates direct heating of the concrete walls. It is of utmost importance that walls 3 and 4 can freely move with respect to each other and that furthermore a connection of said walls with the fire box is yielding, and while the use of slots, as shown in Fig. 6, is preferred, such yielding connection may also be achieved by a link connection between one end of fire box 5 and said walls. Such a construction is shown in Fig. 8 in which bar 20 of gratings 8 and 9 is suspended from a link 30, pivotally connected with said bar and screw 29. Gratings 8 and 9 may include special means for holding plates 10 and 11 against lateral movement and preferably, see Fig. 7, middle bar 31 of the gratings is bent upwardly, so that the plates are positively prevented from shifting, and while the form of the structure shown is preferred, changes therein may be readily made without departing from the scope of the invention.

What we claim is:

1. A park stove comprising a plurality of individual supporting members arranged in spaced relationship opposite each other, a fire box interposed between said members for spacing and supporting purposes, and yielding means to connect said supporting members and said fire box to permit individual expansion of each of said supporting members and said fire box.

2. A park stove comprising a plurality of individual supporting and skirting walls, a fire box arranged between and spacing said walls, and yielding connecting means between said fire box and said walls to permit individual expansion of said fire box and each of said walls.

3. A park stove comprising a plurality of individual supporting and skirting walls made of concrete, an iron fire box including parallel side walls, said fire box being arranged between said concrete walls for spacing and supporting said walls in upright position, and yielding connections between said fire box and said concrete walls, said side walls of said fire box being spaced a substantial distance from said concrete walls and forming open air channels between said concrete walls and said fire box.

4. A park stove comprising upright standing concrete walls arranged parallel and opposite to each other and having recessed bottom portions, a fire box formed of parallel grates spaced by upright side walls, yielding means connecting said grates to said concrete walls and cover plates attached to the upper of said grates and spacing the upright side walls of said fire box.

5. A park stove comprising two upright standing concrete walls having recessed bottom portions, a fire box supported by and between said concrete walls and yielding connecting means between said fire box and said concrete walls, said fire box including parallel and in reversed relationship arranged gratings, spacing plates between said gratings and spacing means integral with said gratings to space said plates with respect to each other.

6. A park stove comprising two individual upright standing concrete walls arranged parallel to each other and having recessed bottom portions, each of said concrete walls having a series of round holes and a series of elongated horizontal slots, a fire box supported between said walls having perforated extensions aligned with said round holes and said slots in said walls, and means extending through said holes and slots into the perfora-

tions of said extensions for connecting and supporting said fire box with and by said walls.

7. A park stove comprising a plurality of individual upright standing concrete walls arranged parallel and in spaced relationship to each other and a fire box yieldingly supported by and between said walls, said fire box including parallel in inversed relationship arranged gratings, and spacing side walls between said gratings and said side walls having at their upper outer ends extensions interlocking with said gratings.

8. A park stove comprising a plurality of individual upright standing concrete walls arranged parallel and in spaced relationship to each other, a fire box open at opposite ends and yieldingly supported by and between said walls and in spaced relationship thereto, and cover members for said fire box pivotally connected to the top of said fire box close to the open ends thereof for covering the top of said fire-box or closing the open ends thereof.

9. A park stove according to claim 6, in which said holes and said slots support loosely fitted therein bearing tubes and in which the connecting means fit said bearing tubes loosely to permit slight differences of expansion between the concrete walls and the fire box without shifting of said tubes in said slots.

10. A park stove, comprising a plurality of independent supporting members arranged opposite in spaced relationship to each other, and a fire box between said members to space and support said members in upright position, said fire box having supporting connections with said supporting members in corresponding points at opposite ends and one of said connections being yielding to permit individual expansion of said supporting members and said fire box.

In testimony whereof we affix our signatures.

JOSEPH MAYER.
KARL MAYER.