March 10, 1931. H. S. LEE 1,796,033

CAMP STOVE

Original Filed Sept. 26, 1928 2 Sheets-Sheet 1

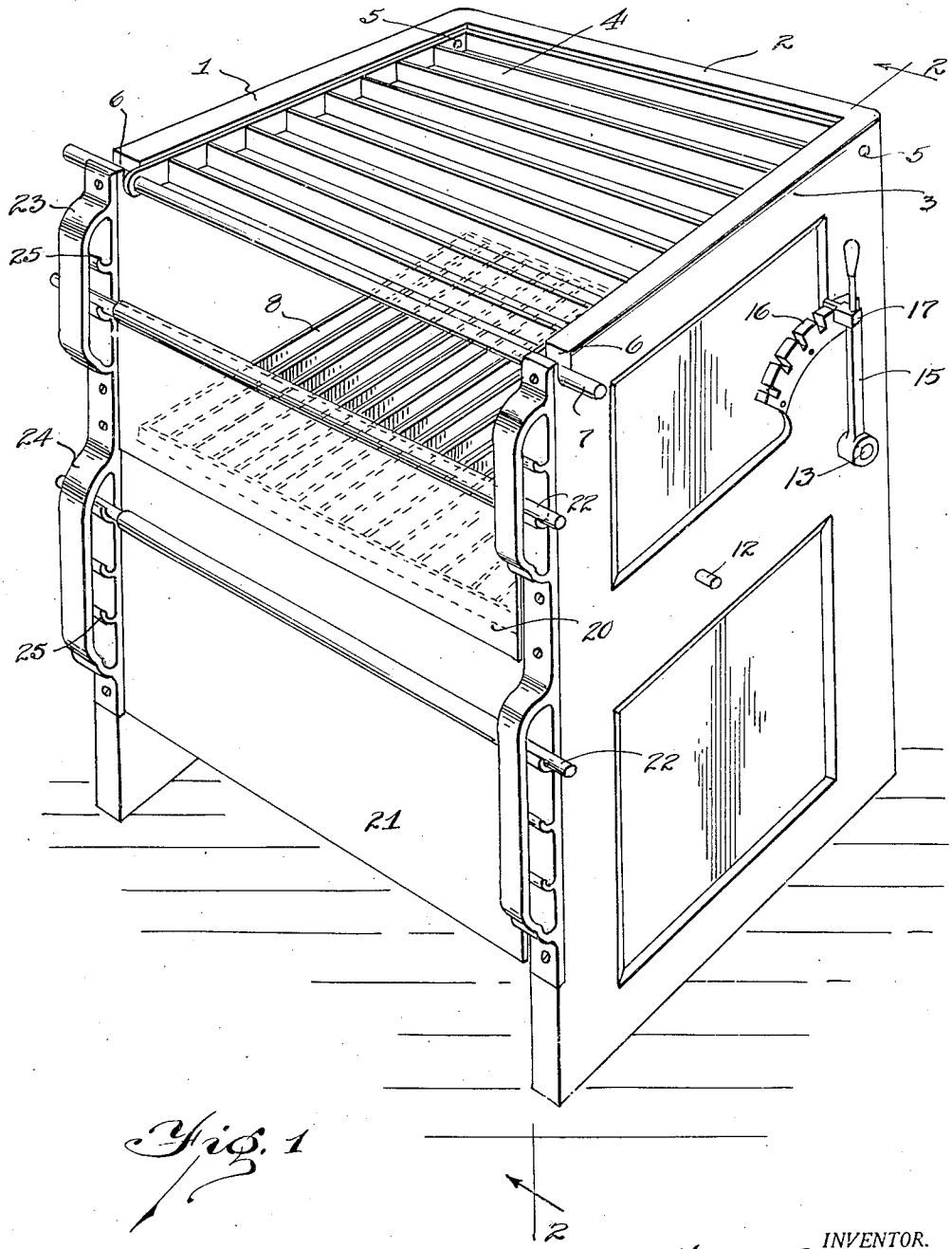


Fig. 1

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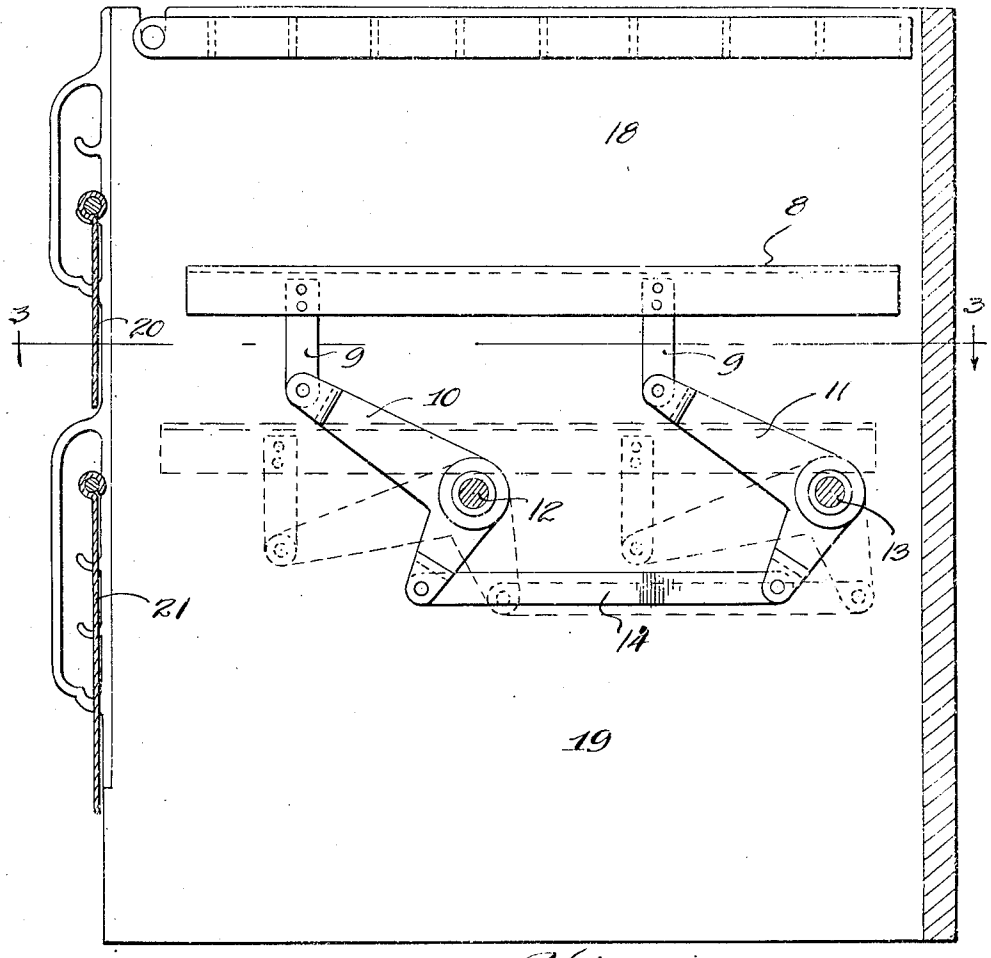


Fig. 2

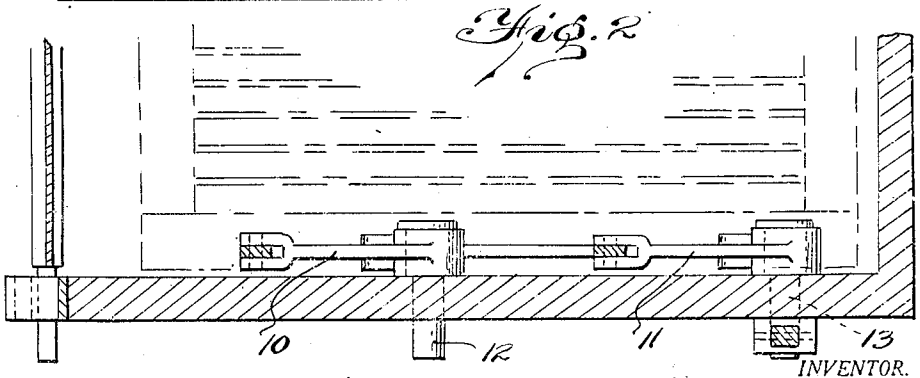


Fig. 3

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UNITED STATES PATENT OFFICE

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CAMP STOVE

Application filed September 26, 1928, Serial No. 308,414. Renewed January 24, 1931.

This invention relates to a camp stove and has to do particularly with camp stoves of the portable coke and charcoal type having a fuel grate and a cooking grate.

Heretofore camp stoves of both the portable and permanent types, in using fuel such as charcoal have usually been provided with fixed fuel and cooking grates. Some of the collapsible types of camp stoves have included adjustable cooking grates, but such stoves have usually been of the type utilizing liquid fuel and the adjustments have been of such a nature that they can only be made before the stove has been put into operation.

The present invention relates specifically to a camp stove which is portable and preferably of the non-collapsible type, but embodying features which are adaptable to various camp stoves. One of such important features is a means operable during the operation of the stove for moving the fuel grate relative to the cooking grate. Other features of the stove, and adapted to both the portable and stationary type, include a pivoted cooking grate to permit the convenient and correct application of fuel to the fuel grate, and vertically adjustable damper shields for both the combustion chamber and the air chamber.

In the drawings:

Fig. 1 is a perspective view of a portable camp stove embodying the features of the present invention.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1, and showing the damper shields in two different positions of adjustment and the preferred manner of raising and lowering the fuel grate.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

The novel camp stove of the present invention relates particularly to that type of camp stove using charcoal or coke as a fuel. It will be understood, however, that while stoves embodying the present invention are particularly adapted for use with coke or charcoal, various kinds of fuel may be conveniently and efficiently used.

In illustrating the present invention, I have shown the same embodied in a camp stove of the portable type, but it will be readily understood that the camp stove may be of the permanent stationary type having walls formed of concrete or brick, or having sides cast solid and fastened to concrete or brick.

The camp stove shown consists of three main walls 1, 2 and 3, which may all be cast together as a unit, or which may be formed separately of cast iron, steel or any other suitable material, and secured together. A grate for such stove is designated 4, and is preferably hinged as at 5 adjacent the back wall 2.

This grate 4 is termed the cooking grate and may take any desired form. The front ends of the two side walls 1 and 3 are preferably notched as at 6 for receiving the ends of the bar 7. It will thus be obvious that the grate 4 may be easily raised about the pivots 5 to permit the placing of the fuel on the fuel grate.

The fuel grate is designated 8 and preferably consists of a series of spaced bars which are suitably secured together to form a unitary movable grate. Suitable arms 9 project downwardly from each end of the grate 8 to form connecting pivots for receiving one end of a pair of bell cranks 10 and 11. These bell cranks 10 and 11 are pivoted as at 12 and 13 on suitable stub shafts, which extend through the side walls of the stove. The other arms of the bell cranks are connected to a strap 14 and the bell crank 11 is connected in a suitable manner to an actuating lever 15, whereby said bell cranks 10 and 11 may be oscillated in unison by movement of said lever 15.

A suitable rack 16 is preferably positioned on one of the side walls of the stove and a member 17 is adapted to adjustably engage the notches in the rack 16, whereby the lever 15, and consequently the grate 8, may be adjustably positioned at any selected point.

The grate 8 is of the type adapted to receive coke or charcoal, or even coal or wood, and such grate 8 divides the enclosure defined by the stove walls into an upper combustion chamber 18 and a lower air chamber 19. In order to accurately regulate the supply of air to said chambers, I have provided

two separate damper shields 20 and 21, for the combustion and air chamber respectively. Each shield is preferably supported by a rod 22, and at the front of each wall 1 and 3 I have provided suitable members 23 and 24 provided with suitable hook members 25 for receiving and pivotally supporting the rods 22 and the shields 20 and 21.

These shields 20 and 21 are preferably of predetermined width corresponding to the height of the combustion and air chambers, whereby the shields may be positioned approximately in the center of the respective chambers, or may be so positioned as to allow air to enter into the top or into the bottom of either or both chambers.

It will thus be seen that I have provided a portable camp stove so designed that the fuel may be quickly, evenly and accurately placed over the fuel grate, and which is so constructed that such fuel grate may be moved toward or from the cooking grate at any time during the operation of the stove. In this manner a correct fire may be obtained at all times, corresponding to the article or object to be subjected to heat. If a charcoal or coke fire is used it will be obvious that a minimum amount of fuel will be required and that such glowing bed of fuel may be raised or lowered, as the case requires. It will also be obvious that this mechanism for raising the fuel grate may be applied similarly to the cooking grate, to raise or lower the same.

It will furthermore be obvious that by providing damper shields for the front of the combustion and air chambers that I have made it possible to accurately control the introduction of air into the fuel bed at all times, as the matter of adjustably supporting the damper shields permits of a large number of relative arrangements.

What I claim is:

1. A camp stove, comprising side walls and a rear wall, a cooking grate forming the top of said stove and hinged at one end to permit raising thereof, a fuel grate positioned below the cooking grate, permanently positioned movable means for supporting said fuel grate and means positioned exteriorly of one wall of said stove and directly connected to said movable means, whereby operation of said means will raise or lower said fuel grate relative to the cooking grate.

2. A camp stove, comprising side walls, a fuel grate positioned between said walls and defining a combustion chamber and an air chamber, and damper shields pivotally and adjustably supported at the front of said stove and at the front of said combustion chamber and air chamber.

3. A camp stove, comprising side walls, a fuel grate positioned between said walls and defining a combustion chamber and an air chamber, and two damper shields adjustably supported at the front of said stove and at the front of said combustion chamber and air chamber.

4. A camp stove, comprising side walls, a vertically adjustable fuel grate positioned between said walls and defining a combustion chamber and an air chamber, and damper shields pivotally and adjustably supported for vertical adjustment at the front of said stove and at the front of said combustion chamber and air chamber.

5. A camp stove, comprising side walls, a vertically adjustable fuel grate positioned between said walls and defining a combustion chamber and an air chamber, and damper shields pivotally and adjustably supported for vertical adjustment at the front of said stove and at the front of said combustion chamber and air chamber, the shield for said combustion chamber being of less height than the air chamber shield.

6. A camp stove comprising side walls and a rear wall, a cooking grate forming the top of said stove, a fuel grate disposed below the cooking grate and positioned to divide the stove into a combustion chamber above the fuel grate and air chamber below the same, movable means carried by some of the walls for supporting the fuel grate, and a controlling element also carried by one of said walls and disposed exteriorly thereof, said controlling element being connected with the movable means to actuate the same whereby to effect vertical adjustment of the fuel grate toward and away from the cooking grate, and a vertically adjustable shield at the front of the stove.

In testimony whereof I have affixed my signature.

HARRY S. LEE.