

(No Model.)

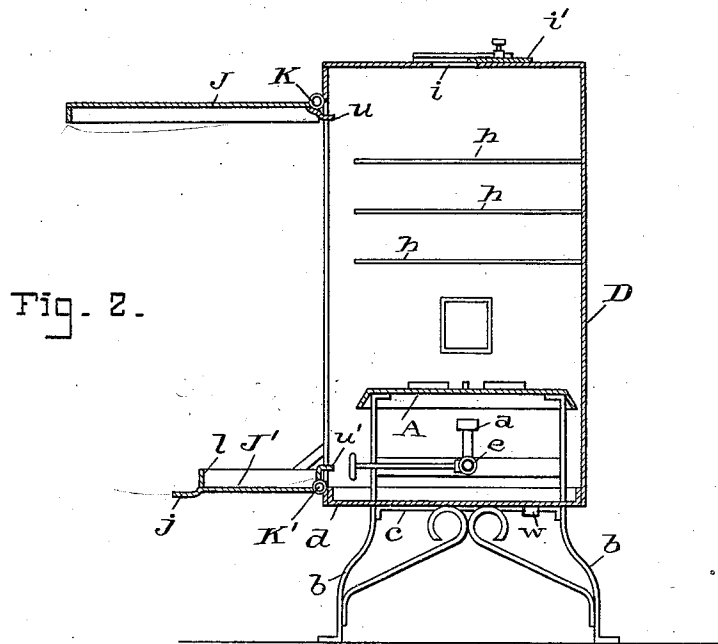
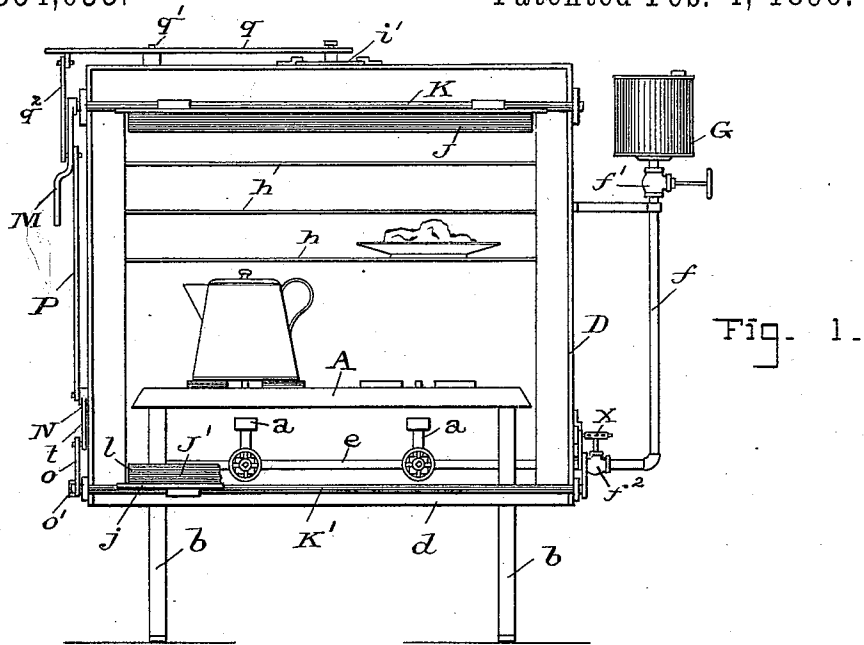
2 Sheets—Sheet 1.

J. A. RUTH.

SAFETY CASING FOR OIL OR GASOLINE STOVES.

No. 554,033.

Patented Feb. 4, 1896.



WITNESSES : -

L. J. Van Horn.
Charles B. Mann Jr.

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Fig. 3.

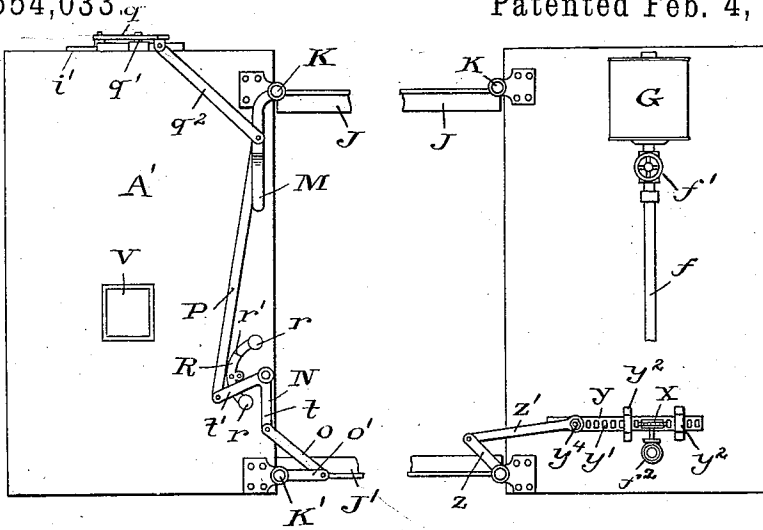


Fig. 4.

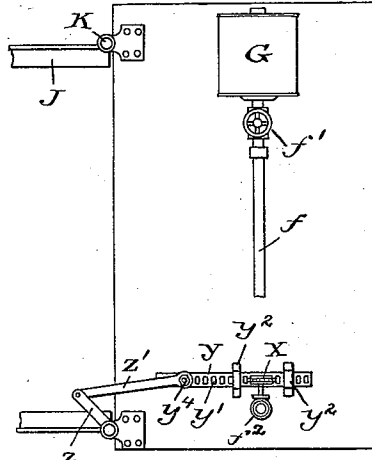


Fig. 5.

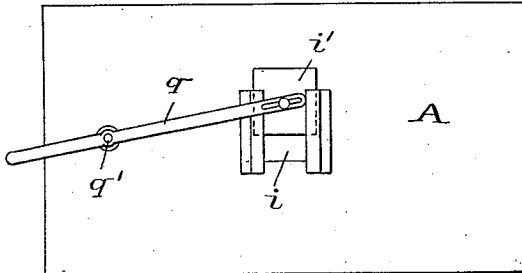


Fig. 6.

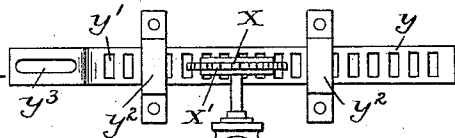


Fig. 8.

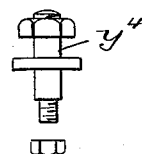
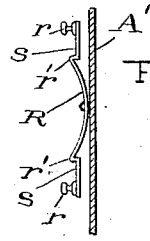


Fig. 7.

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Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN A. RUTH, OF BALTIMORE, MARYLAND.

SAFETY-CASING FOR OIL OR GASOLINE STOVES.

SPECIFICATION forming part of Letters Patent No. 554,033, dated February 4, 1896.

Application filed August 12, 1895. Serial No. 558,973. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. RUTH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Safety-Casings for Oil or Gasoline Stoves, of which the following is a specification.

This invention relates to a fireproof hood or casing to contain and inclose gasoline or oil stoves, and has for its object to provide a casing of improved construction which, in the event the stove becomes accidentally fired, may be closed and practically hermetically sealed to confine and smother the fire and prevent spreading of the inflammable oil.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the stove and case, the latter in open condition. Fig. 2 is a central vertical section of the case. Fig. 3 is a view of one end of the case, showing the mechanism for operating the doors. Fig. 4 is a view of the opposite end of the case, showing the automatic mechanism for controlling the supply of oil. Fig. 5 is a view of the top of the case. Figs. 6, 7, and 8 are views showing the construction of the mechanism which connects between one of the doors and the valve which controls the supply of oil. Fig. 9 is a detail view of the spring-catch.

Referring to the drawings, the letter A designates a gasoline-stove of ordinary construction having one or more burners *a* and supported on legs *b*. A gasoline-stove with an elevated tank is here shown for the purpose of illustrating the invention, although the invention is also applicable to oil-stoves. A cross-bar *c* connects the two legs *b* at each end of the stove. The casing D in the present instance is shown as rectangular, and must be made of suitable material which is fireproof, such as sheet metal, which I deem preferable. The bottom *d* of this case below the stove is water-tight or oil-tight. The upper portion of the stove, including the burners *a* and horizontal part of the supply-pipe *e*, are wholly inclosed by the casing. The gasoline-storage tank G, which is on the exterior, has a pipe *f* connected with the horizontal pipe *e*. Shelves *h* are in the upper part of the casing and serve to hold dishes or cooking utensils containing food to be kept warm. A vent or

opening *i* in the top of the case is provided for the escape of heat and odors, and a valve or slide *i'* is provided to automatically close the said opening in case of fire or explosion, and is operated as hereinafter described.

The case D is open at the front so as to afford access to the shelves and to the stove for cooking, doors J J' being provided to close the opening. These doors are hinged horizontally at the top and bottom of the case. The longer door, J, is the upper one and it is mounted on a shaft K at the top and is adapted to tilt down when closing, while the lower door, J', is on a shaft K', and has a flange *j* to lap upon the exterior of the upper door, J, when both are closed and secure a tight joint.

When the doors are open the lower door, J', stands horizontal on a plane below the burners *a* and serves as a support on which cooking utensils or pans may be temporarily rested. This lower door, J', has a vertical flange *l* on its inner or upper side which continues around near its four edges like the walls of a pan. When this door has a horizontal position, as in Fig. 2, its vertical continuous flange *l* enables it to serve as a watertight pan. Should fire or oil be thrown from the stove outward into this door-pan, the latter would receive it and retain it without danger. If, under these conditions, the lower door was tilted up, any fired oil or other ignited material resting upon it would be thrown back into the case and closed up therein and smothered. Each door J J' has a flange *u u'* to seal the hinge-joint when closed.

In order to close all the doors and top opening and in effect hermetically seal the casing should the stove take fire, I have provided means to simultaneously close the two doors J J' and vent-slide *i'*. The mechanism to effect this result is on one end, A', of the case and comprises a hand-lever M, one end of which is rigidly fixed to the upper shaft, K, on which the door J is mounted, so that when the lever is moved one way or the other the door will be opened or closed. A bell-crank lever N has one arm, *n*, connected with the lower shaft, K', on which the door J' is mounted through the medium of a link *o* and short arm *o'*, and when said lever is moved the door is caused to move also. The other arm, *n'*, of the bell-crank lever is jointed to one end

of a connecting-rod P, whose other end is jointed to the hand-lever M, which latter has a bent end forming a handle by which the parts just described may be operated. On top of the case is a lever q , pivoted at q' , and having one end suitably connected with the slide i . The other end of this lever is connected with the hand-lever M by means of a link q^2 . By this construction when the lever-handle M is moved up or down the doors J J' and slide i are simultaneously opened or closed, and the casing when closed is hermetically sealed and will thus smother the fire. The upper long door, J, is made heavy enough to operate the mechanism to close the parts by its own gravity.

A spring-catch to hold the parts in their opened or closed position is shown in Figs. 3 and 9 and consists of an armor-segment-shaped bar R of spring metal secured at its center adjoining the bell-crank N and provided at each end with a depressing-knob r and with a shoulder or detent r' near each knob. One arm, t' , of the bell-crank lever is adapted to engage in the space s between the knob and shoulder at one end of the spring-bar to hold the doors in open condition, and in space s' at the other end to lock the parts in closed position. By pressing on the knob r adjoining either one of the spaces $s s'$ the arm t may be released and allowed to slide over the segment-bar.

The case is provided with a mica window V, whereby the interior may be inspected in case of fire, and with an opening in its bottom closed by a screw-cap w for removal of waste.

The pipe of the gasoline-tank has a valve f' to cut off or let on the supply of fluid. This valve is operated by hand; but should a fire or explosion occur it is desirable to have a valve which will close and cut off the supply of oil automatically by the closing of the doors. By thus stopping the supply of oil at the instant of closing the doors the fire cannot long continue. I have therefore provided the supply-pipe with a valve f^2 , which has a head-piece x attached to its stem. This head-piece has cog-teeth x' . By turning this head-piece one way the valve opens and by turning it the opposite way the valve closes. A rack-bar y has teeth formed by a series of slots y' , which engage with the cog-teeth x' on the valve. This rack-bar slides in bearings or guides y^2 on the end of the case. This rack-bar y is so connected with the shaft K' of the lower door that on turning the door up to close it the rack-bar will slide and close the valve f^2 . To this end a short arm z is fixed rigidly on the door-shaft K', and a rod z' connects between said short arm and the rack-bar y . The operation will now be readily understood.

Special provision is made for adjusting the connection between the rod z' and the rack-bar, so as to insure that when the lower door is in its closed position the rack-bar shall

have slid far enough to tightly close the valve f^2 . This provision consists (see Figs. 6, 7, and 8) of a slot y^3 in the end of the rack-bar and a set-screw pivot y^4 secured in said slot. This set-screw pivot may be adjusted anywhere in the slot.

Having thus described my invention, what I claim is—

1. In combination a metal casing open at the front; a bottom to said casing which is water or oil tight; an upper and a lower door, J, J', mounted on horizontal shafts and adapted to tilt and meet at the center and together close the said open front; a stove and burners inclosed in the casing above said bottom; an actuating-lever connected with the shaft of the upper door; an arm, o' , connected with the shaft of the lower door; a bell-crank lever pivoted at the end of the case and one arm of which is connected with said actuating-lever and the other arm thereof connected with the said arm on the shaft of the lower door; and a catch device coacting with these parts to hold the doors opened or closed.

2. In a safety fireproof casing for oil or gasoline stoves, the combination of the casing open at the front; a bottom to said casing which is water or oil tight; an upper and a lower door, J, J', mounted on shafts and adapted to meet at the center and together close the open front; a stove and burners inclosed in the casing above said bottom; a hand-operated lever; connections between said hand-lever and both doors to cause the doors to open or close simultaneously; a vent-opening in the top of the case closed by a valve; and a lever having one end connected with the said hand-lever and the other end connected with the said valve, whereby upon moving the hand-lever both doors and valve will be simultaneously opened or closed.

3. In combination, a metal fireproof casing having an open front; a bottom to said casing which is water or oil tight; a lower and an upper door mounted on horizontal shafts, the said upper door being longer and heavier than the lower door and adapted to tilt down by its own gravity; a stove and burners inclosed in the casing above said bottom; mechanism connecting the two doors together to cause them to simultaneously open and close; a catch device engaging said mechanism to hold the doors opened or closed; a gasoline-tank on the exterior of the case and a pipe leading therefrom to supply gasoline to the stove within the case; a valve in said supply-pipe; and means connected with one of the doors and controlling said valve, whereby when the said connecting mechanism is released from the catch, the weight of the upper door will cause both doors and also the valve to be automatically closed simultaneously, substantially as described.

4. In combination, a gasoline-stove; a casing inclosing the said stove and having an open front; an upper and a lower door mounted on shafts and adapted to fold together at

the center and close the open front of the case; mechanism connected with the shafts of the two doors whereby said doors may be simultaneously opened and closed; a gaso-
5 line-tank on the exterior of the case and provided with a supply-pipe leading to the burners of the stove within the case; a valve in said supply-pipe having a toothed head-piece; and a rack-bar connected with the shaft of
10 the lower door and sliding in bearings and engaging the said toothed head-piece of the valve, substantially as described.

5. In combination a metal casing having an upper and a lower door mounted on shafts
15 and adapted to fold or close together at the center and close the open front of the case; a rod connecting at one end with the shaft of the upper door; a bell-crank lever one end,

t , of which is connected to the other end of said rod; a connection between the lower door 20 and the remaining arm, t' , of the bell-crank lever; and a spring catch comprising a segment-shaped bar secured at its center and provided at each end with a depressing-knob 25 and with a detent-shoulder near each knob and one arm of the bell-crank lever adapted to engage in one or the other of the spaces between said knobs and shoulders to hold the doors opened or closed, substantially as described. 30

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN A. RUTH.

Witnesses:

CHAS. B. MANN, Jr.,

L. I. VAN HORN.