

No. 741,658.

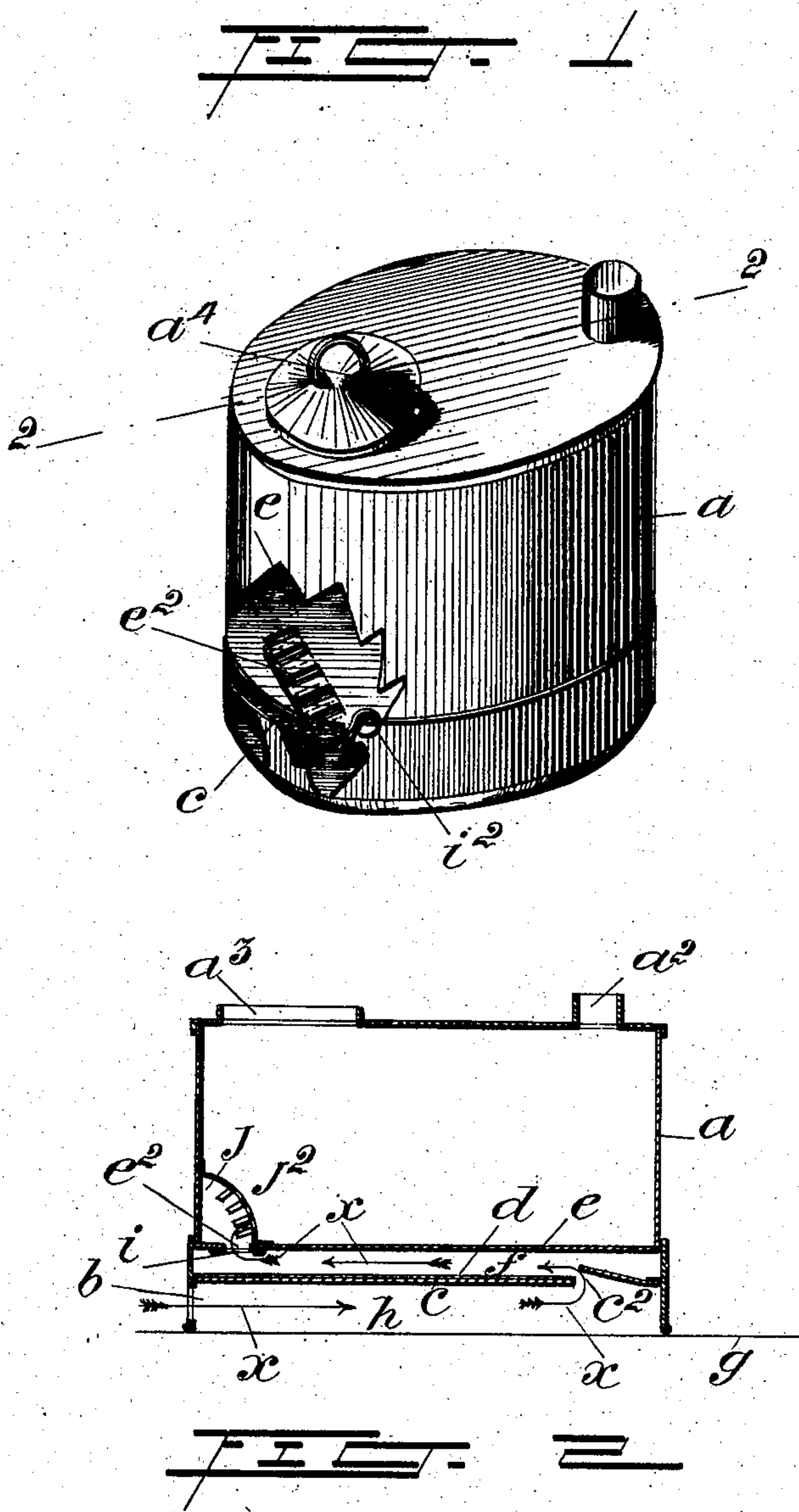
PATENTED OCT. 20, 1903.

B. D. GRANT & W. C. MIDDLEBROOK.

CAR HEATING STOVE.

APPLICATION FILED JUNE 6, 1903.

NO MODEL.



WITNESSES

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UNITED STATES PATENT OFFICE.

BENJAMIN DUNCAN GRANT AND WILLIAM CURTIS MIDDLEBROOK, OF
PRINCETON, MINNESOTA.

CAR-HEATING STOVE.

SPECIFICATION forming part of Letters Patent No. 741,658, dated October 20, 1903.

Application filed June 6, 1903. Serial No. 160,286. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN DUNCAN GRANT and WILLIAM CURTIS MIDDLEBROOK, citizens of the United States, residing at Princeton, in the county of Millelacs and State of Minnesota, have invented certain new and useful Improvements in Car-Heating Stoves, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved stove for heating cars in which potatoes or other vegetables are shipped, a further object being to provide a stove for the purpose specified which is safe, simple in construction, and comparatively inexpensive; and with these and other objects in view the invention consists in a stove for the purpose specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a perspective view of our improved car-heating stove, one end thereof being broken away; and Fig. 2, a vertical section on the line 2 2 of Fig. 1.

In the practice of our invention we provide a stove for the purpose specified comprising a casing *a*, which is preferably slightly greater in diameter in one direction than the other, but which may be circular in transverse section, if desired, and the top of which is provided with a small opening *a*², designed for the escape of the hot gases of combustion, and with a larger opening *a*³, through which fuel may be passed and which is provided with a cover *a*⁴.

At the bottom of the stove and at one side thereof is an opening *b*, above which is a horizontal bottom member *c*, over which is placed a sheet *d* of asbestos or other similar material, and in which, adjacent to the side of the stove opposite the opening *b*, is an opening *c*². Above the horizontal bottom member *c* is another horizontal bottom member, *e*, between which and the bottom member *c* is a

horizontal space or chamber *f*, and the bottom member *c*, taken in connection with the floor *g*, on which the spring is placed, forms another horizontal space or chamber, *h*. The bottom member *e*, at one side thereof and preferably adjacent to the opening *b* and opposite the opening *c*², is provided with an opening or openings *e*², having a register *i* adapted to be operated by a handle *i*², which passes through the side of the stove, and the opening or openings *e*² are inclosed by a shield *j*, connected with the bottom member *e* and with the side of the stove over the opening or openings *e*, and the shield *j* is provided with openings *j*². The openings *b*, *c*², *e*², and *j*² form air ports or passages, and the air passes therethrough in the direction indicated by the arrows *x* and enters the body of the stove, as will be readily understood.

In practice the fuel is placed in the stove through the opening *a*³ in the top thereof and is ignited in the usual or any desired manner, and the object of the asbestos plate *d* is to prevent the heat from passing to the floor or other article on which the stove may be placed.

The bottom portion of the stove is preferably made separately from the body thereof, as shown in Fig. 2; but this is immaterial, and the stove may be made in any desired manner, and if composed of separate parts they will be securely connected.

By passing the air in at one side of the bottom of the stove and entirely beneath the stove and then into the chamber or compartment *f* at the opposite side and entirely through said chamber or compartment, as indicated by the arrows *x*, the heat is further prevented from being transmitted to the floor of the car, and additional protection is thus secured, and, as will be seen from the construction shown and described, there is no outside draft and no outside openings through which the fire or hot coals can pass, and the body of the stove is smooth and continuous throughout.

The passage of air through the opening or openings *e*² may be regulated in any desired manner by any suitable device, and the other air-openings in the stove may also be provided with regulating devices, if desired.

Although we have described our improved stove as designed for heating cars, it will be apparent that the same may be used for other purposes, and various changes in and modifications of the construction herein described may be made without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A stove provided with a raised bottom whereby a space is formed between said bottom and the floor or other support on which the stove is placed, an air-opening at one side below said bottom, an opening in said bottom opposite said air-opening, another bottom placed above the first-named bottom and between which and the first-named bottom is a horizontal space, an air-opening in the last-named bottom adjacent to the side of the stove opposite the opening in the first-named bottom, a shield placed in the body of the stove and inclosing the last-named air-opening and provided with other air-openings, the top of the stove being also provided with openings, substantially as shown and described.

2. A stove having first and second bottom members between which is a horizontal space and between which and the floor or other support on which the stove is placed is another horizontal space, the side of the stove being provided with air ports or passages which communicate with the last-named horizontal space, the first bottom member being also provided with a port or passage opposite the ports or passages in the side of the stove, the second bottom member being also provided adjacent to the first-named ports or passages with other ports or passages, and a shield placed in the body of the stove and inclosing the last-named ports or passages and provided with other ports or passages, the top of the stove being also provided with openings, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 2d day of June, 1903.

BENJAMIN DUNCAN GRANT.

WILLIAM CURTIS MIDDLEBROOK.

Witnesses:

H. E. WHITE,

E. W. FARNHAM.