No. 790,131. PATENTED MAY 16, 1905.

E. HUMPHREY.

OIL BURNER FOR LAMPS OR STOVES.

APPLICATION FILED DEC. 31, 1904.

2 SHEETS—SHEET 1.

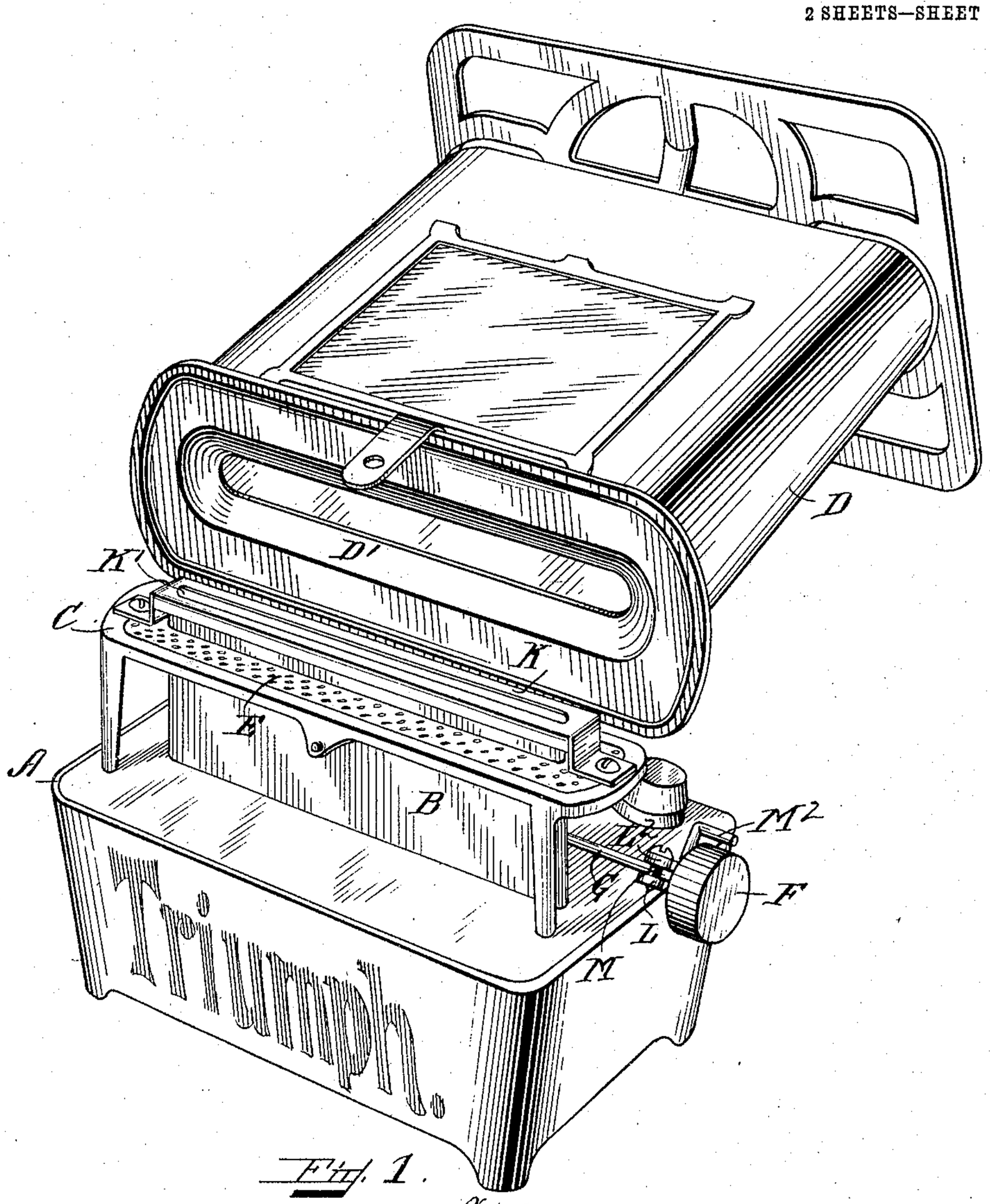

Fig. 1.

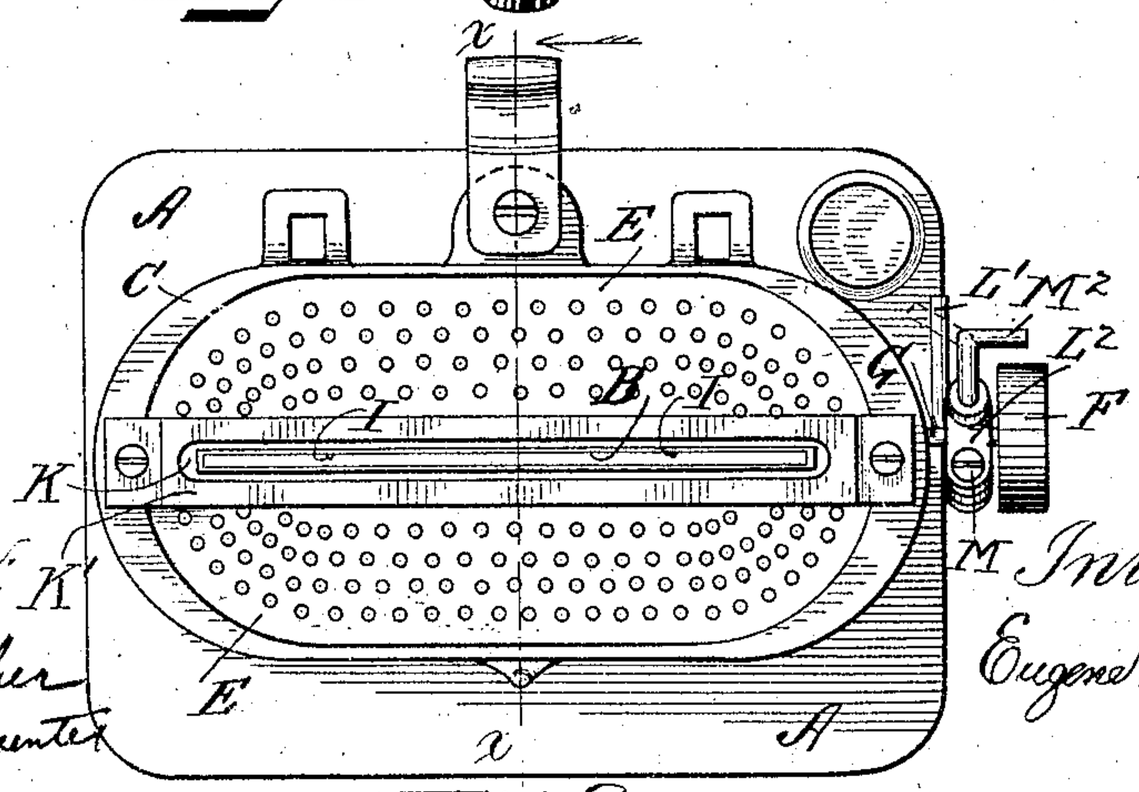

Fig. 2.

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Edward J. Parmenter

Inventor:
Eugene Humphrey

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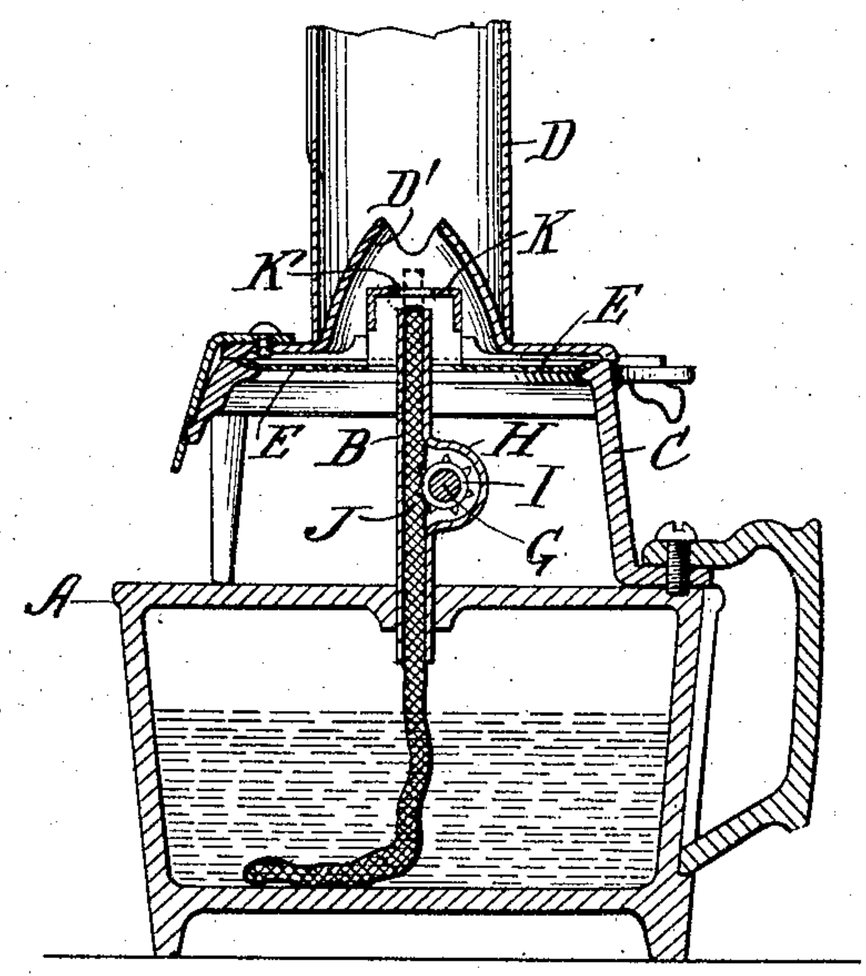

Fig. 3.

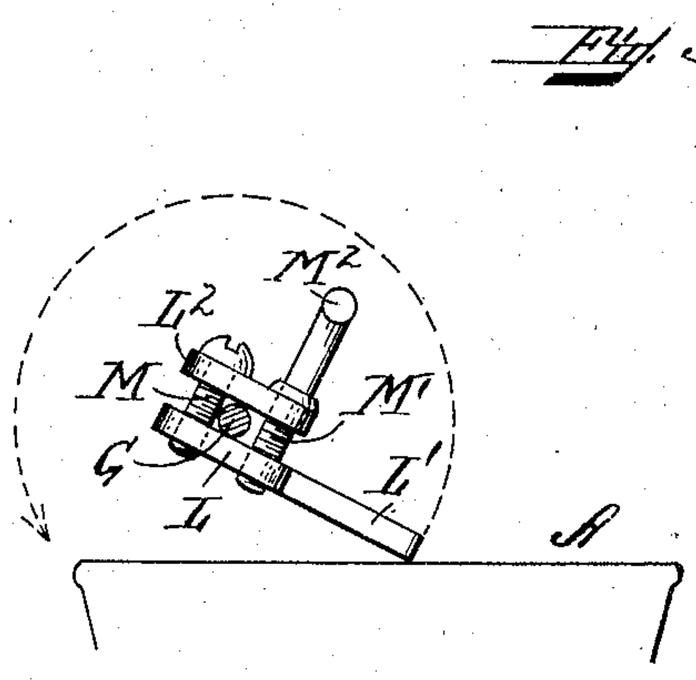

Fig. 4.

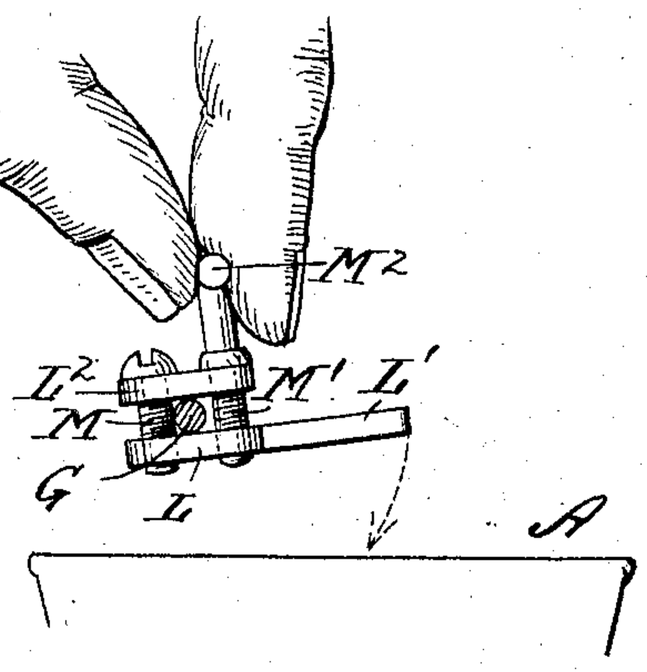

Fig. 5.

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UNITED STATES PATENT OFFICE.

EUGENE HUMPHREY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO TRIUMPH SAFETY BURNER COMPANY, OF KITTERY, MAINE, A CORPORATION OF MAINE.

OIL-BURNER FOR LAMPS OR STOVES.

SPECIFICATION forming part of Letters Patent No. 790,131, dated May 16, 1905.

Application filed December 31, 1904. Serial No. 239,111.

To all whom it may concern:

Be it known that I, EUGENE HUMPHREY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Oil-Burners for Lamps or Stoves, of which the following is a specification.

My invention relates to lamps and stoves in which wicks are employed and kerosene used for fuel; and its chief object is to improve the common oil-stove so as to secure a more reliable and stable flame therein and to provide therefor, in combination with an insulating flame-rest, a convenient adjustable stop coacting with the wick-raising devices whereby the raising of the wick may be readily gaged or limited to a height that will afford the greatest efficiency of heat without smoking; and the invention consists in the devices and combinations of means whereby I attain said purposes, which are hereinafter fully described and specifically claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of a common kind of oil-stove with my invention applied thereto. Fig. 2 is a plan with the combined deflector and chimney removed. Fig. 3 is a vertical cross-section taken as on line *x x*, Fig. 2, and viewed from the right of said line. Fig. 4 is a side elevation of the gage-stop with the spindle to which it is clamped in section and shown in contact with the top of the oil-font, as when the wick is at its highest limit. Fig. 5 is a like view with the stop raised from the oil-font, as when the wick is lowered.

Referring to the drawings, which in general illustrate a common and well-known form of oil-stove sold under various names, A is the oil font or tank, B the wick-tube which rises therefrom, and C the superincumbent stand or gallery upon the tank which supports the combined chimney and deflector D, loosely hinged thereto and detachably latched thereon. The usual perforated plate E surrounds the wick-tube and rests upon the stand and through which air passes upward into the dome or deflector D′ and through the chimney D. A wick raising and lowering device is provided, comprising the usual wheel F, attached to a spindle or stem G, supported in a side chamber H in tube B, and carrying spurs I, which engage the wick J, all in a well-known manner.

The parts thus far specifically referred to and briefly described are all old and well known and in and of themselves constitute no part of my present invention.

The new features which I have combined with the parts already described consist of an improvement which I will now explain in connection with said drawings.

A flame support or rest K is attached to the gallery C at its ends and rises about one-eighth of an inch above the top of the wick-tube, having a wick-slot K′ therein practically coincident with the opening in the tube and serving as a cut-off of the flame from the top of the tube and also constituting an effective and convenient extinguisher of the flame when the wick is turned down. In other words, the flame support or rest, although raised above the top of the wick-tube, is sufficiently near thereto so that the wick when lighted will extend above the said flame-rest, and the inwardly-projecting flanges at the top of the said flame-rest afford a narrow or contracted opening or wick-slot K′, which is but slightly wider than the thickness of the wick and which registers or coincides with the wick-tube, so as to raise the flame a suitable distance above the said wick-tube, and thus insulate much of the heat of the flame from the latter by the interposition of the top of said flame-rest between the flame and the said wick-tube. By thus raising the flame from the top of the tube to the top of the flame-rest the tube is kept comparatively cool, with the result that a more stable flame is secured, and the tendency to "creep up" and smoke is avoided. This result makes it practical to employ a gage-stop L, which, as illustrated in the drawings, consists of a clamp having an offset arm L′, a clamp-plate L^2, a connecting-screw M, and an adjusting-screw M′, having an arm M^2 to facilitate the manipulation

of the same. The gage-stop as a whole is adjustably attached to the stem G of the wick-wheel, so that it may be tightened or loosened thereon to set it so as to act against the top of the oil font or tank at the proper time to limit the height of the top of the wick J as required. While thus acting as a stop to the raising of the wick, it is at the same time free to be turned backward to extinguish the flame and will act also as a stop in the backward direction in the same manner, as indicated by Fig. 4. The heat of the flame being thus cut off from the top of the tube prevents it, as stated, from becoming hot and varying the flame and renders the latter more reliable and stable and makes it feasible to employ the gage-stop to limit the height of the wick at any practical position that may give the highest efficiency of smokeless flame. Without the insulating-plate, which thus serves as the seat of the flame in place of the top of the wick-tube, the gage-stop would be of but little practical use; but the combination of the two devices affords a complete regulation of the stove, and relief from the constant care and watchfulness always required in the use of such stoves, and avoidance of danger from fire and explosion, and of dirt, malodor, and smudging of the cooking utensils and room. The flame-rest is formed and attached to the supporting stand or gallery in such manner as to be properly inclosed by the hinged dome, with clear air-space around it, and at the proper height in the deflector to obtain the best combustion.

Of course the form and arrangement of the flame-rest and the construction and application of the gage-stop may be and must be varied to suit the various forms of stove construction, and devices for raising and lowering the wick, and which may all be done without departing from my invention.

The use of the combined flame rest and stop under the conditions stated would prevent many serious consequences which arise from the careless use of such stoves, when from impatient hurry to force the boiling or cooking the user gives the wheel a hasty turn and leaves the stove to smoke and perhaps to destruction. It also safeguards against accidental raising of the wick when working about the stove by unintentional turning of the wheel, as sometimes happens, and serves as a sure indicator that when the flame burns low more fuel is needed, not more wick, and that the stove should be filled, and this is greatly facilitated by the means described, as by giving the wick-wheel a backward turn the stop will be turned in the same direction, the wick moved down through the slot K′ in the flame-rest, and the flame thereby extinguished. Then when the tank is filled in the usual manner by turning the wick-wheel and its stop forward until the latter strikes the top of the tank the wick will be at the proper elevation to light it again and will give its highest efficiency of heat and reliably maintain the same without smoke, danger, malodor, or cause for anxious care.

To avoid confusing, the drawing the wick is not shown in Fig. 1 above the flame-rest, as it would be in practical use with the stop shown as in Fig. 4; but it is dotted to show its highest position in Fig. 3.

I claim—

1. In an oil-stove, the combination of a tank; a wick-tube leading from the tank; means for raising and lowering the wick in the tube; a gallery surrounding the top of the tube and supported independently thereof; a flame-rest supported on the gallery and having a contracted opening above the top of the wick-tube, and through which opening the lighted wick will project, so as to cut off the flame from the top of the said wick-tube; a combined chimney and deflector supported upon the gallery and arranged so that the deflector will shut down over the flame-rest and leave a clear air-space between the two; and a gage-stop which adjustably limits the height of the wick above the flame-rest; all as and for the purposes specified.

2. In an oil-stove, the combination of a flame-rest above the top of the wick-tube and having a narrow or contracted opening through which the lighted wick will project; means for raising and lowering the wick in the tube; and a gage-stop coöperating with the wick-raising device, to adjustably limit the height of the wick above the said flame-rest, substantially as and for the purposes specified.

EUGENE HUMPHREY.

Witnesses:

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FRANK M. LITTLE.