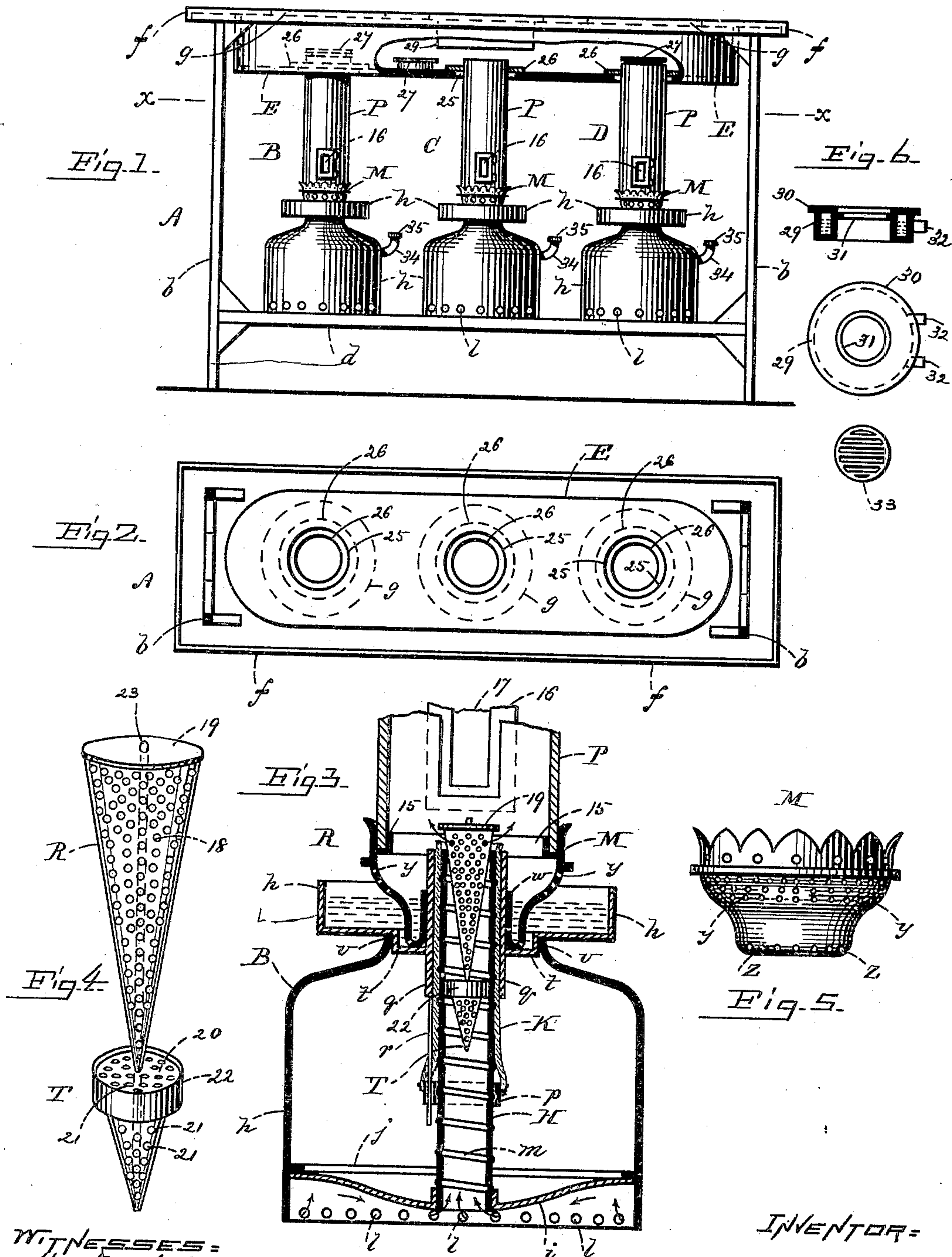


(No Model.)

A. C. WEST.
OIL STOVE.

No. 411,406.

Patented Sept. 17, 1889.



WITNESSES:
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AUGUSTINE C. WEST, OF CAMBRIDGE, ASSIGNOR TO THE SMITH & ANTHONY STOVE COMPANY, OF BOSTON, MASSACHUSETTS.

OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 411,406, dated September 17, 1889.

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To all whom it may concern:

Be it known that I, AUGUSTINE C. WEST, of Cambridge, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Oil-Stoves, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my improved stove, a portion of the hot-air chamber being broken away; Fig. 2, a horizontal section on line $x x$ in Fig. 1; Fig. 3, an enlarged vertical transverse section of one of the lamps removed; Fig. 4, an enlarged elevation of the air-distributing cones detached; Fig. 5, an elevation of the chimney-holder removed, and Fig. 6 views illustrating certain details of construction.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of oil-stoves in which portable lamps are employed; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body or frame of the stove, and B C D the lamps.

The body consists of a lamp-stand b , supported by legs d , to the top of which is a plate f , provided with circular stove holes or openings g , closed by detachable covers in the usual manner. The holes g open into a hot-air chamber E, secured to the under side of the plate f .

The lamps B C D consist of a circular body h , having a concave bottom i , an annular stiffening-flange j being secured within said body around the edge of said bottom. The body h is extended below the bottom i , and is provided with a series of air-holes l near its

lower edge. A vertical wick-tube H, open at both ends, is secured centrally in the bottom i , and is provided on its outer face with a spiral flange or thread m . A nut p , adapted to travel on the thread m , is disposed on said wick-tube. A sleeve q is fitted to slide over the tube H, and is sufficiently large to admit the wick K between it and said tube, the lower end of the wick being secured to the nut p . A vertical rod r connects the sleeve q with the nut p , so that said nut will revolve as the sleeve is turned and slide vertically on said rod. A water-cup L is depressed centrally at t , to enter the mouth v of the lamp-body h , in which it is fitted to revolve. The wick-sleeve q passes centrally through the water-cup and is secured thereto, said cup forming a rosette by which said sleeve may be rotated. A chimney-holder M is adapted to slide over the wick-sleeve q by means of a vertical sleeve w , and extend into the depression t of the water-cup. The holder is provided with air-openings y , disposed above the water-line in the cup L when in position. The bottom of the holder is perforated at z to admit water from the cup L into the body thereof. An annular groove 15, near the mouth of the holder, is fitted to receive and support the chimney P, which is provided with a door 16, having a transparent panel 17. A hollow cone R has its walls perforated with air-holes 18, its base 19 consisting of a solid plate. A smaller cone T has its base 20 secured centrally to the apex of the cone R, the walls and base of said cone T being perforated at 21, as shown in Fig. 4.

Around the base 20 of the cone T is secured a guide-ring 22, which is fitted to slide in the wick-tube H. A stiffening-rod 23 passes from the center of the base 19 of the cone R to the apex of the cone T. The cones R T are detachably disposed in the wick-tube H in an inverted position, as shown in Fig. 3. The base of the cone R, being larger in diameter than said tube, is thus disposed at a considerable distance from the mouth thereof and above the upper edge of the wick K. Openings 25 are formed in the bottom of the hot-air chamber E, through which the chimneys P project when the lamps are in position on the stand d , as shown in Fig. 1. Detachable disks 26

are disposed around the chimney-tops to close said openings. Detachable caps 27, fitted to enter the chimney-tops, serve to prevent the cold air from passing into the chamber E from the perforations y in the chimney-holders of the lamps not in use.

One of the stove-openings g is enlarged to receive a water ring or tank 29, (see Fig. 6) which rests on the stove-top by means of a flange 30. An annular flange or rabbet 31 is formed in the inner side of the ring to receive the ordinary stove-cover. Two nipples 32 open into the tanks 29, to which flexible tubing may be attached leading to a supply-tank, whereby a circulation of hot water may be maintained in said supply-tank. A barred or slotted stove-cover 33 is employed in one of the stove-openings to create a draft through the chimneys and hot-air chambers when the remaining openings are closed by cooking utensils or the solid covers.

A filling-tube 34, provided with a screw-cap 35, opens into each lamp-body.

In the use of my improvement the lamps are placed in position on the stand d with their chimneys projecting into the hot-air chamber E, as described. By revolving the cup L and thereby causing the nut p to move upward on the wick-tube H, the wick K may be adjusted at the proper height above said tube. The chimney may be removed to ignite the wick, or it may be lighted through the door 16. The base 19 of the cone R, projecting above the tube H, causes the flame to be expanded beyond the diameter of said tube, thus producing a larger heating and lighting surface and rendering the combustion much more perfect. A current of air passes through the openings l in the body and into the wick-tube H. From thence it passes into the perforated cones, by which it is broken up or restrained, so that it is delivered gradually to the flame through the cone perforations above the wick-tube, thus supplying a light, even current to the inner side flame, which is thereby rendered steady and prevented flaring or smoking. The cup L is filled with water, which passes through the perforations z into the chimney-holder M. The heat from the wick-sleeve q evaporates the water in said holder, and the steam or vapor arising is conducted to and consumed in the flame, which is found to be greatly intensified and enriched thereby. The tops of the chimneys P not in use in the hot-air chamber are closed by the caps 27, as described.

It will readily be seen that the water in the ring or tank 29 will be heated by the lamps, and being connected with an exterior water-tank by pipes secured to its nipples 32, as set forth, a continual supply of hot water may thus be obtained.

When it is not desired to employ the water-ring 29, it may readily be removed from the stove-opening, and an ordinary rabbeted filling-ring disposed therein for receiving the

stove-cover. It will also be seen that the perforations y in the chimney-holder afford a direct draft below and outside the flame.

Having thus explained my invention, what I claim is—

1. In a lamp for oil-stoves, provided with a water-cup, a hollow chimney-holder fitted to slide on the wick-sleeve and rest in the water-cup, said holder being perforated at or near its bottom and also above the water-line of said cup, substantially as and for the purpose set forth.

2. In a lamp for oil-stoves of the character described, the combination of a water-cup attached to the wick-sleeve, with a hollow chimney-holder provided with a groove for supporting the chimney, said holder being fitted to slide on said sleeve and perforated at or near its bottom to admit water from said cup, substantially as and for the purpose set forth.

3. The chimney-holder M, provided with the groove 15 and perforations y z , substantially as described.

4. In an oil-stove of the character described, a hollow cone having perforated walls and a solid base, and adapted to be detachably disposed in the wick-tube of the lamp in such manner that its base will project above the mouth of said tube and distend the flame, substantially as described.

5. In an oil-stove of the character described, a lamp-body provided with a wick-tube open at both ends, in combination with two hollow perforated cones joined together and inserted in an inverted position in said tube in such manner that the base of the larger cone projects above the top of said tube, substantially as and for the purpose specified.

6. The hollow cone R, having the perforations 18 and solid base 19, in combination with the hollow perforated cone T, secured to the apex of the cone R, and provided with the guide-ring 22, substantially as and for the purpose set forth.

7. In an oil-stove, the combination of a lamp-body having air-openings below its bottom, a spirally-threaded wick-tube secured in said bottom and open at both ends, a nut fitted to travel on said tube, a wick-sleeve, a rod secured to said sleeve and sliding in said nut, a water-cup fitted to revolve in the mouth of said body and secured to said sleeve, and a hollow chimney-holder fitted to slide on said sleeve, said holder being perforated above the water-line of the cup and at or near its bottom, substantially as and for the purpose set forth.

8. In a lamp for oil-stoves, provided with an open spiral wick-tube, the combination of a wick-nut on said tube, a wick-sleeve actuating the wick-nut, a water-cup secured to said sleeve, two connected hollow perforated cones disposed in said wick-tube, the base of the larger cone being above the mouth of said tube, and a hollow chimney-holder fitted to slide on said sleeve, said holder being perforated above and below the water-line of said

cup, substantially as and for the purpose set forth.

5 9. In an oil-stove, the combination of a frame provided with a lamp-stand, a top supported on said frame and provided with stove-openings, a hot-air chamber secured to said top and provided with openings for the lamp-chimneys, and flat rings for closing said openings around said chimneys, substantially as described.

10 10. In an oil-stove, a lamp comprising a body having air-holes below its bottom, a spiral wick-tube opening through said bottom, a wick-nut on said tube, a wick-sleeve provided
15 with a rod working vertically in said nut, a water-cup secured to said sleeve, inverted perforated cones or air-distributers inserted in said tube, the base of the larger cone being solid and extending above the mouth
20 thereof, a chimney-holder fitted to slide on said tube and perforated above and below the water-line of said cup, and a chimney provided with a door, all being arranged to operate substantially as described.

11. The hollow cones R T, connected by the 25 stiffening-rod 23, and respectively provided with the perforations 18 and 21, base-plate 19, and guide-ring 22, substantially as described.

12. In an oil-stove, the frame A, provided with the stand *d* and top *f*, having the stove- 30 openings *g*, in combination with the chamber E, secured to said top and provided with chimney-openings 25, the lamps B C D, provided with chimneys 16, and the disks 26, for closing said openings around said chimneys, 35 substantially as described.

13. In an oil-stove, the combination of a frame provided with a hot-air chamber having chimney-openings, lamps provided with chimneys projecting through said openings, 40 and caps, as 27, for closing the chimneys of lamps not in use, whereby cold air is prevented from entering said chamber, substantially as described.

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Witnesses:

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