No. 700,275. Patented May 20, 1902.

H. T. WILSON.

CRUDE OIL BURNER.

(Application filed Apr. 22, 1901.)

(No Model.)

Fig. 1.

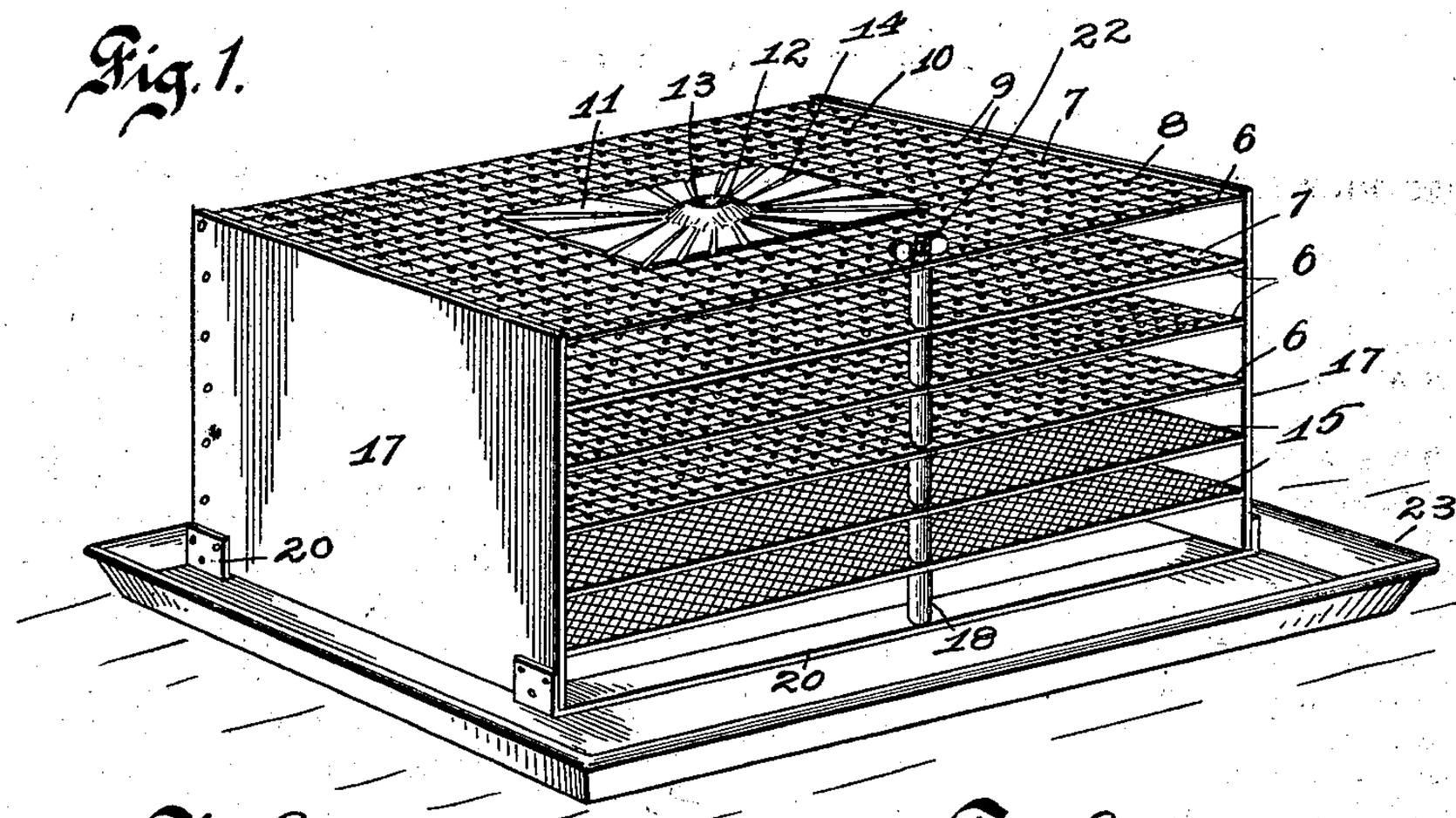


Fig. 2.

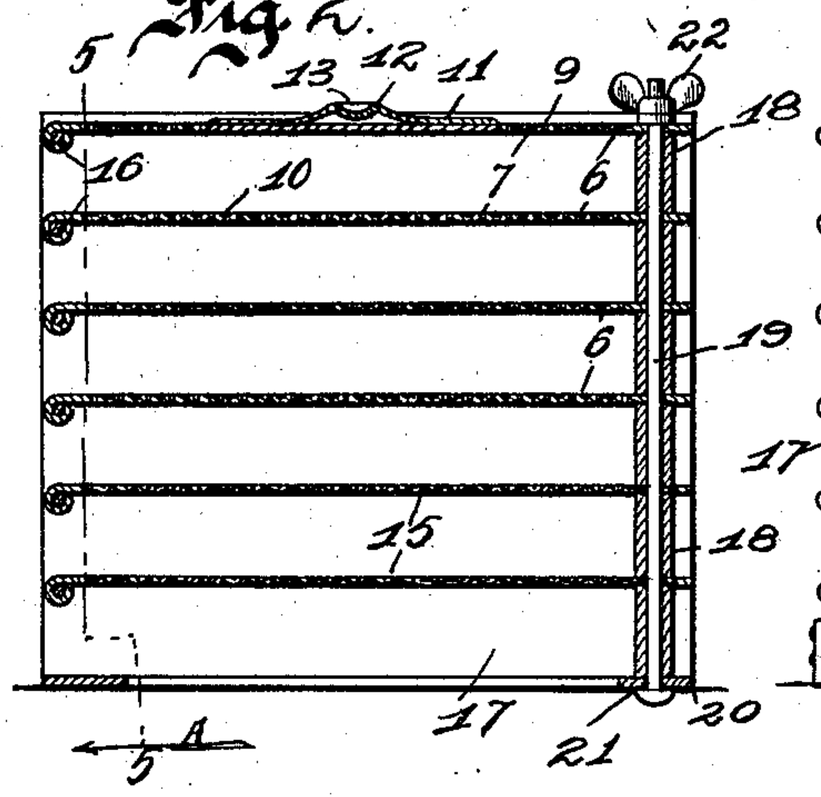


Fig. 3.

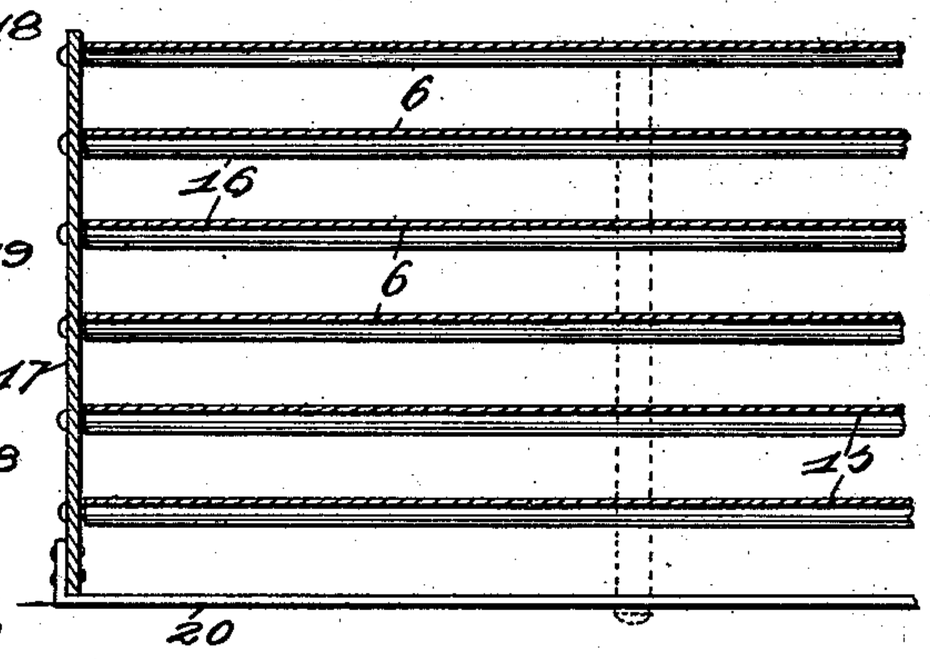
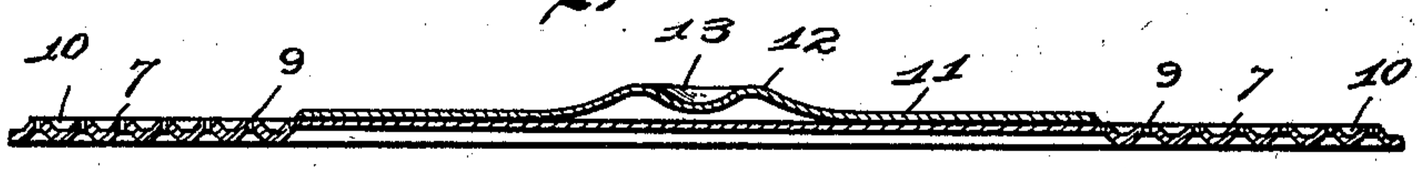


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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CRUDE-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 700,275, dated May 20, 1902.

Application filed April 22, 1901. Serial No. 56,935. (No model.)

To all whom it may concern:

Be it known that I, HOMER T. WILSON, of the city of Fort Worth, Tarrant county, State of Texas, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to crude-oil burners; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

The object of my invention is to provide an improved crude-oil burner especially adapted for use in ordinary cook-stoves, fireplaces, &c., without necessitating any substantial change in the construction of the stove or fireplace.

In the drawings, Figure 1 is an enlarged perspective view of the improved burner detached. Fig. 2 is a central vertical section through the burner, taken midway of the length thereof. Fig. 3 is a section on the line 5 5 of Fig. 2 looking in the direction indicated by the arrow A. Fig. 4 is a vertical section through the upper shelf of the burner.

My improved burner consists of a series of superposed shelves 6, separated a distance so that there will be considerable intervening air-space between each shelf. These shelves are preferably composed of sheet metal, with a line of transverse parallel corrugations 7 stamped or otherwise formed in them, and also provided with an additional longitudinal line of similar corrugations 8, crossing said first-mentioned corrugations, and provided with a series of apertures 9, formed centrally in the highest projecting portions of said corrugations, whereby there will be a multitude of rectangular troughs or depressions 10 in the upper side of said shelves, in which the oil may be deposited and burned. (See Fig. 4.) A receiving and distributing pan 11 is preferably placed centrally upon the upper shelf and is provided with a central elevation 12, in which is a depression 13, and a series of troughs 14 is formed radially in said pan and extend in all directions from the said elevation 12 to the edge of the pan. In some cases I may, as shown in Fig. 1, displace a number of the lower corrugated shelves and substitute a like number of shelves made of common reticulated material 15. All the shelves are preferably provided with common hinges 16 at one edge, secured to opposite end pieces 17, and their edges opposite the hinges are supported upon short detachable sleeves 18, which are loosely strung upon a vertical rod 19.

The method of assembling the shelves and sleeves is as follows: The end pieces 17 are connected at the bottom by two parallel bars 20, and the rod 19 is first placed in the position shown by being passed through an aperture 21, formed in the adjacent bar 20, and then the lowermost sleeve 18 of the series is placed upon said rod, and then the lowermost shelf is placed in position, said rod passing through an aperture in said shelf, and then another sleeve is placed in position upon said shelf and rod, and then the next shelf is placed in position, and so on, and finally the upper end of the rod is provided with a suitable fastening device, such as a thumb-nut 22, which is screwed down firmly, thereby securing all of the shelves in position against displacement during use, and the burner is ready for use.

The burner is preferably set in a drip-pan 23 of a size sufficient to project a distance all around the burner, and this pan is to be filled with a supply of sand or similar material. The pan 23, containing the burner, is when the latter is to be used in an ordinary cook-stove placed within the fire-box of the stove directly upon the usual grate-shelves next adjacent to the front of the stove. Oil is supplied to the burner from a tank, which, of course, may be of any approved style and size and placed a suitable distance from the stove, so that the oil may gravitate to the burner. The pipe which supplies oil directly to the distributing-pan projects upon the interior of the stove and terminates at a point directly above the central depression 13 of the said distributing-pan.

The operation is as follows: A supply of oil being placed within the tank and the faucet opened, said oil will gravitate from the inner terminal of said pipe directly into the depression 13 of the distributing-pan 11, whence it will overflow onto the upper surface of said pan and enter the radial troughs 14 and be thereby distributed in all direc-

tions, and then said oil will run off of said pan onto the upper shelf 6 and fill and overflow the nearest troughs 10 of the said shelf, and a portion of said oil will find its way downwardly through the apertures 9 of said shelf and fall upon the next lower shelf, and so on throughout the series of shelves. Should any of the oil find its way through the lowermost shelf, it will drop upon the body of sand (not shown) contained within the pan 23. After the oil has thus been delivered to the burner the same may be lighted by applying a match to the vapor which arises from the distributed oil, and the flame will pass upwardly and rearwardly, thereby heating all of the shelves and causing the oil to be vaporized more rapidly, and then the flame will be drawn rearwardly through the draft-passage of the stove, and the products of combustion will pass out of the stove in the usual manner.

Entrance of air to the burner is regulated by the usual stove-damper, and it will be seen that the air enters by way of said damper, and a portion of it passes between the shelves 6 and an additional portion passes above the burner and unites thereat with the flame from the burner, producing good combustion.

I claim—

1. The improved oil-burner, comprising a series of superposed shelves having an air-space between them, each shelf having oil-passages formed in it, whereby oil will be distributed, and suitable supports for holding said shelves in position, said shelves all being hinged at one edge, and means for securing the opposite edges of said shelves, substantially as specified.

2. The improved oil-burner, comprising a series of superposed shelves having an air-space between them, each shelf having oil-passages formed in it, whereby oil will be distributed, suitable supports for holding said shelves in position, said shelves being hinged at one edge, a rod, and a series of sleeves for securing the opposite edges of said shelves, substantially as specified.

3. The improved oil-burner, comprising a series of superposed shelves having an air-space between them, each shelf having oil-passages formed in it, whereby oil will be distributed, suitable supports for holding said shelves in position, said shelves all being hinged at one edge, means for securing the opposite edges of said shelves, and a distributing-pan mounted upon the upper shelf, substantially as specified.

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

HOMER T. WILSON.

Witnesses:

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