

No. 837,621.

PATENTED DEC. 4, 1906.

G. GRIFFITHS.
SMUDGE AND HEAT DRUM.

APPLICATION FILED NOV. 9, 1904. RENEWED MAY 3, 1906.

Fig. 1.

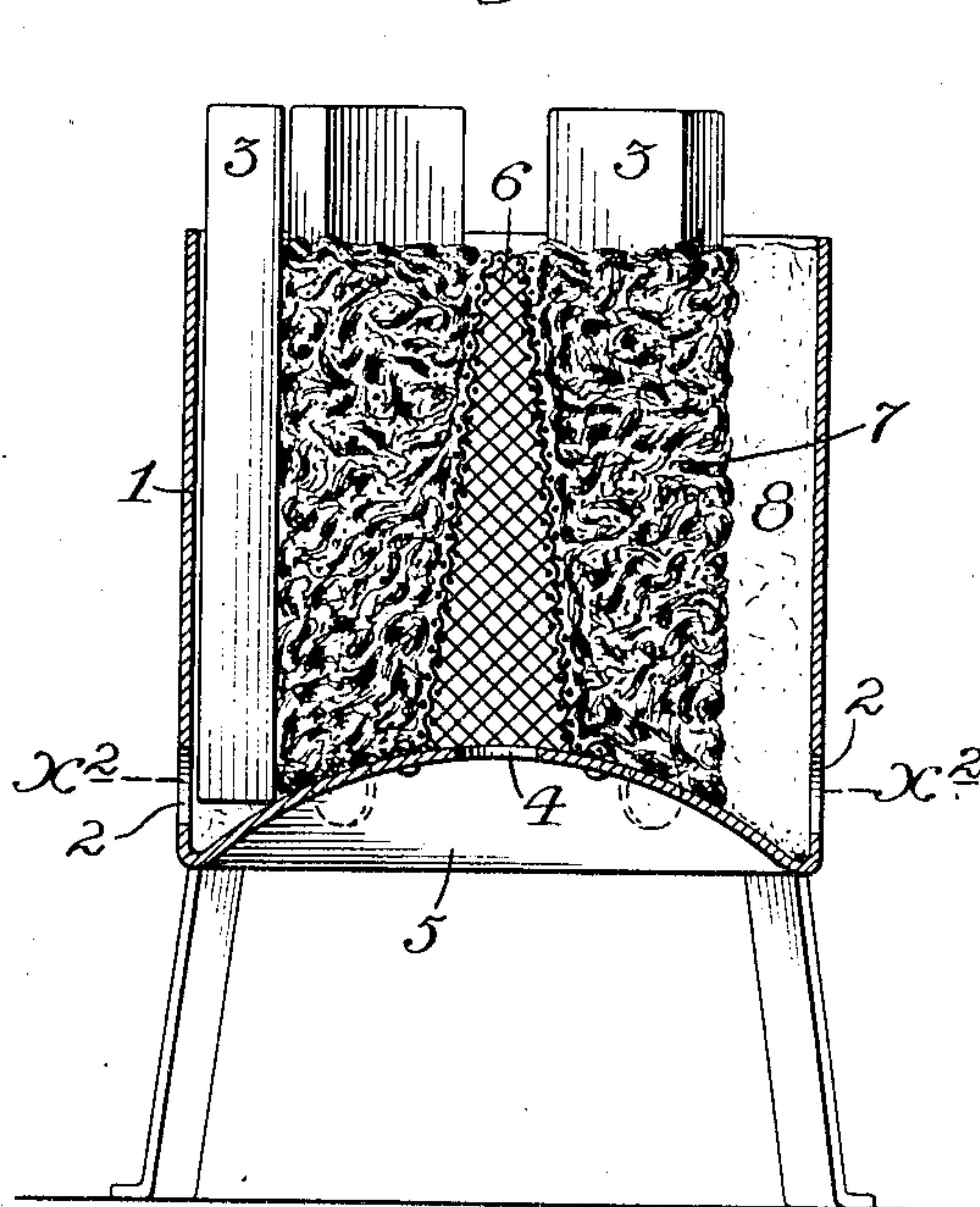


Fig. 3.

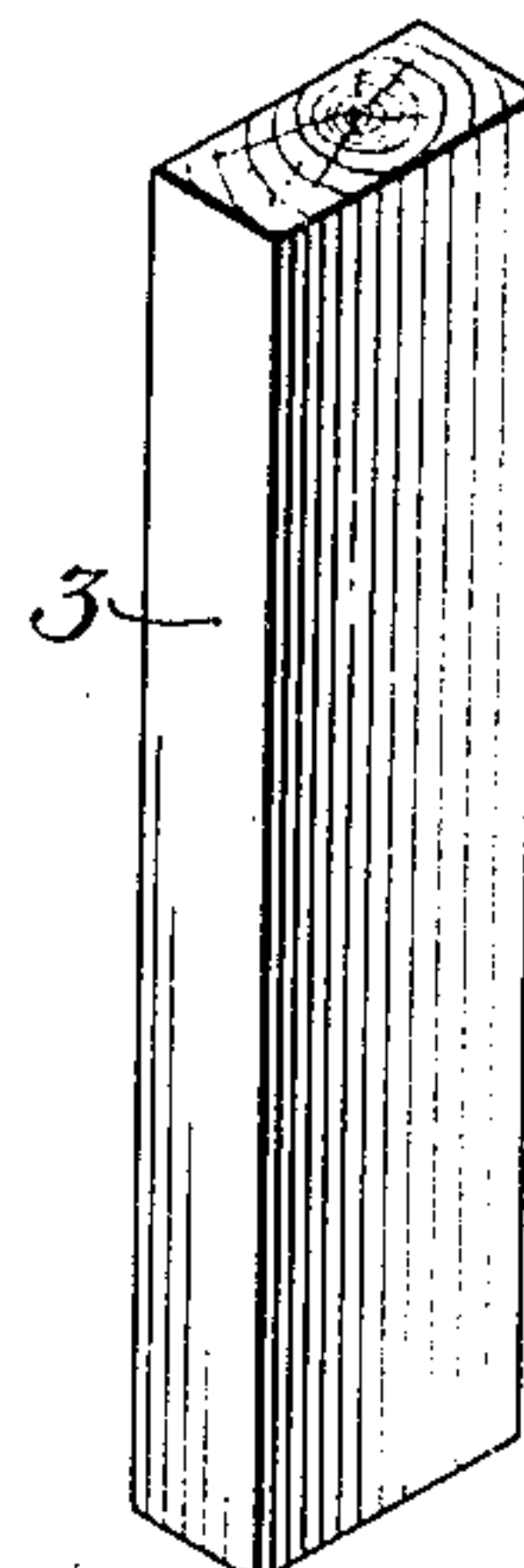
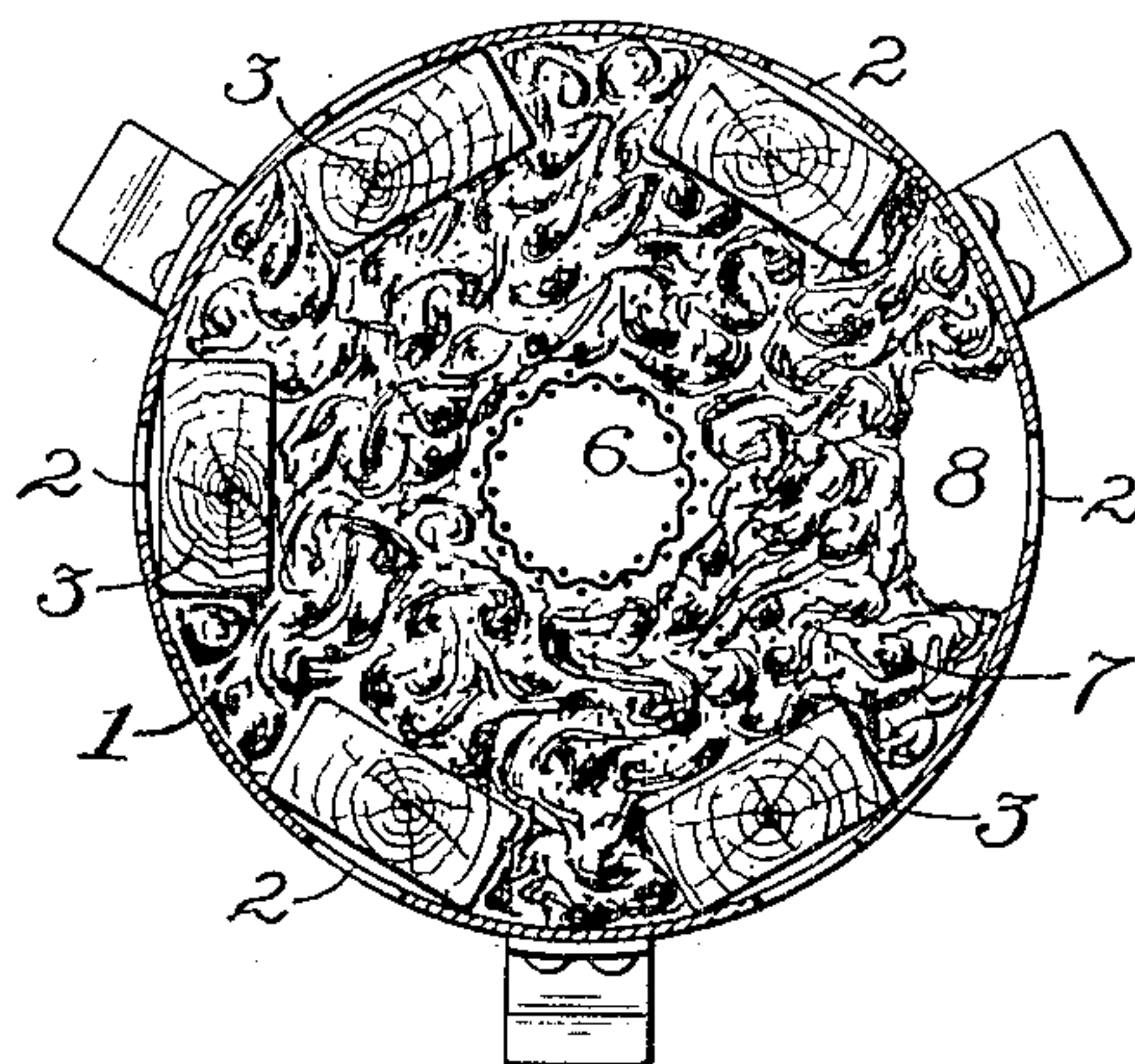


Fig. 2.



Witnesses:-
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UNITED STATES PATENT OFFICE.

GEORGE GRIFFITHS, OF LOS ANGELES, CALIFORNIA.

SMUDGE AND HEAT DRUM.

No. 837,821.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed November 9, 1904. Renewed May 3, 1906. Serial No. 314,954.

To all whom it may concern:

Be it known that I, GEORGE GRIFFITHS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Smudge and Heat Drum, of which the following is a specification.

The primary object of this invention is to provide an appliance for the convenient and effective combustion of suitable fuel for the production of smudge and heat in the protection of orchards and the like. I have found that a suitable fuel for this purpose may be made by applying crude oil or similar fluid combustible to shavings, sawdust, and similar solid combustible in a state of division, the product so formed having the required smudge and heat producing properties and at the same time being so cheap as to make it eminently suitable for the purpose. In burning this product, however, it is obviously not desirable to simply start it on the ground, as great waste would result not only from scattering the material, but from imperfect combustion thereof.

An important object of this invention is to provide a drum or receptacle in which fuel of the above character can be conveniently and effectively consumed with a minimum of waste.

Another object of the invention is to provide convenient means for starting the combustion of the fuel.

Another object of the invention is to provide means for controlling the rate or rapidity of the combustion according to the special requirements.

The invention comprises a drum adapted to receive the fuel and having draft-openings in its lower portion and plugs or blocks placed in the drum while the fuel is being packed therein, so that on removal thereof draft-passages will be left between the fuel and the sides of the drum.

The invention further comprises a drum with provision for central draft, as herein-after described.

The accompanying drawings illustrate the invention.

Figure 1 is a vertical section of the drum, showing some of the removable blocks in place, one of said blocks being removed. Fig. 2 is a horizontal section on the line $x^2 x^2$ in Fig. 1. Fig. 3 is a perspective of one of the removable blocks.

The device comprises a drum or receptacle 1, which may be of sheet metal and may be of a general cylindrical shape closed at the bottom and open at the top with perforations 2 near the bottom of its side wall.

A plurality of removable plugs or blocks 3 are provided for insertion in the drum, said blocks being placed against the wall thereof in such manner as to substantially close the respective openings 2 and to extend upwardly therefrom. Said blocks or plugs may consist of strips of wood of rectangular shape sawed off to suitable length, being preferably long enough to extend from the bottom of the receptacle to somewhat above the top thereof to enable their upper ends to be readily grasped in removing them from the drum.

4 designates a central draft-passage in the bottom 5 of the drum, and 6 designates a foraminous tubular or conical thimble extending from the bottom 5 upwardly to about the top of the drum. Said thimble may be formed of wire-netting or other suitable perforate material. The bottom 5 of the drum may be upwardly dished or concave for the sake of strength and to facilitate perfect combustion.

9 designates legs to support the drum at a suitable distance from the ground, thereby not only preventing undue cooling of the drum, with consequent imperfect combustion, but allowing free access of air to the interior or central draft-passage.

In using the appliance the plugs or blocks 3 will be put in place, as above described, and the fuel (indicated at 7) will be deposited and packed as closely as may be desired in the central cone or tube 6 to any desired height—say to about the top of the drum. On then withdrawing the blocks or plugs passages (indicated at 8) will be left between the fuel and the wall of the drum.

In using fuel of above-described character it will be desirable to use paper or other comparatively inflammable material for starting, and this igniting material may be placed within the passage 8. On lighting this material or generally on igniting the fuel in any manner at the passages 8 a steady and continuous combustion will ensue and will continue until the fuel is substantially consumed. The passages 8 and the passage formed by the tube 6 serve to continuously supply the requisite air and draft to the fuel and prevent the dying out of the combustion,

which is liable to occur with the fuel packed in the drum without provision for continuous and distributed draft. The openings 2 in the side wall of the drum are near the bottom, 5 but sufficiently above the same to leave a cup-like space at the bottom of the drum to receive and retain the oil as it runs down from the combustible and also to retain the ashes from the combustible, said ashes facilitating the combustion of the residual oil in 10 the last part of the combustion.

The apparatus above described is adapted for use under all ordinary conditions of practice, but has special advantages when on ac- 15 count of a sudden fall of temperature a large amount of heat and smudge is to be generated very rapidly in order to protect an orchard. Under these conditions the thorough draft produced by the passages through 20 the combustible induces a rapid combustion with the evolution of great heat. On the other hand, when the fall of temperature is not so great the fire may be banked or held back by suitably packing the combustible, so 25 as to retain the heat for a greater length of time and give a more moderate heating effect.

What I claim is—

1. An open-topped smudge and heat drum 30 having perforations in its side wall, near to but above the bottom of the drum, and having an opening in its bottom, and a forami-

nous tubular thimble extending upwardly from the bottom opening.

2. An open-topped smudge and heat drum 35 having perforations in its side wall, near to but above the bottom thereof, and having an opening in its bottom, a foraminous tubular thimble extending upwardly from the bot- 40 tom opening, and means for supporting the bottom of the drum above the ground to permit access of air to the bottom opening.

3. An open-topped smudge and heat drum having perforations in its side wall, near to 45 but above the bottom of the drum, and having an opening in its bottom, a foraminous tubular thimble extending upwardly from the bottom opening, and removable plugs within the drum extending upwardly from 50 the perforations in the side wall thereof.

4. A smudge and heat drum having an up- 55 wardly-dished bottom with an opening therein, a foraminous thimble extending upwardly from said opening, said drum being provided with openings in the lower portion 55 of its wall and removable plugs extending upwardly from said opening.

In testimony whereof I have hereunto set my hand, at Los Angeles, California, this 2d day of November, 1904.

GEORGE GRIFFITHS.

In presence of—

ARTHUR P. KNIGHT,
JULIA TOWNSEND.