

No. 618,355.

Patented Jan. 24, 1899.

H. T. JENKINS.

AUTOMATIC LAMP FLAME EXTINGUISHER.

(Application filed Feb. 28, 1898.)

(No Model.)

Fig. 1.

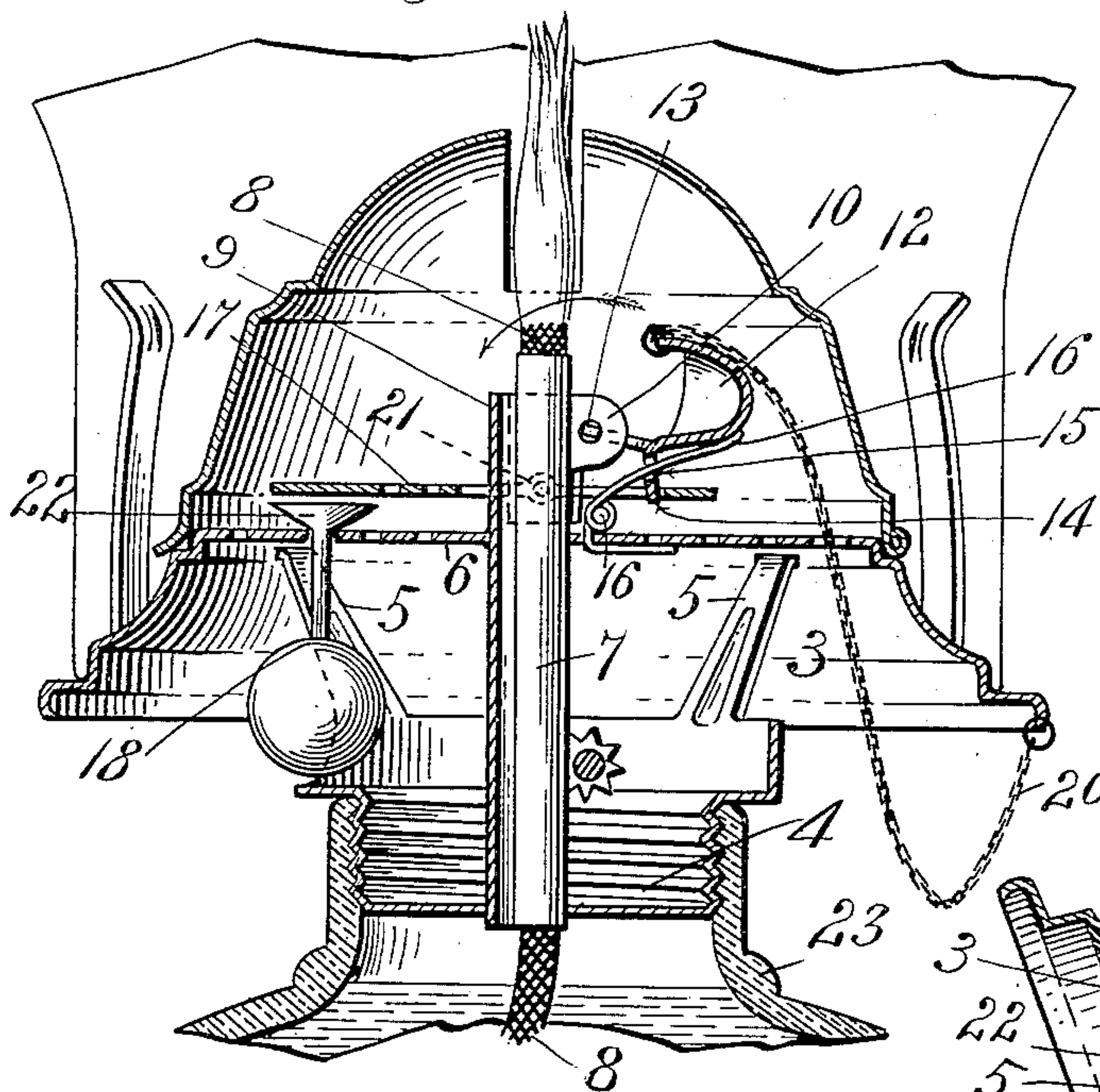


Fig. 4.

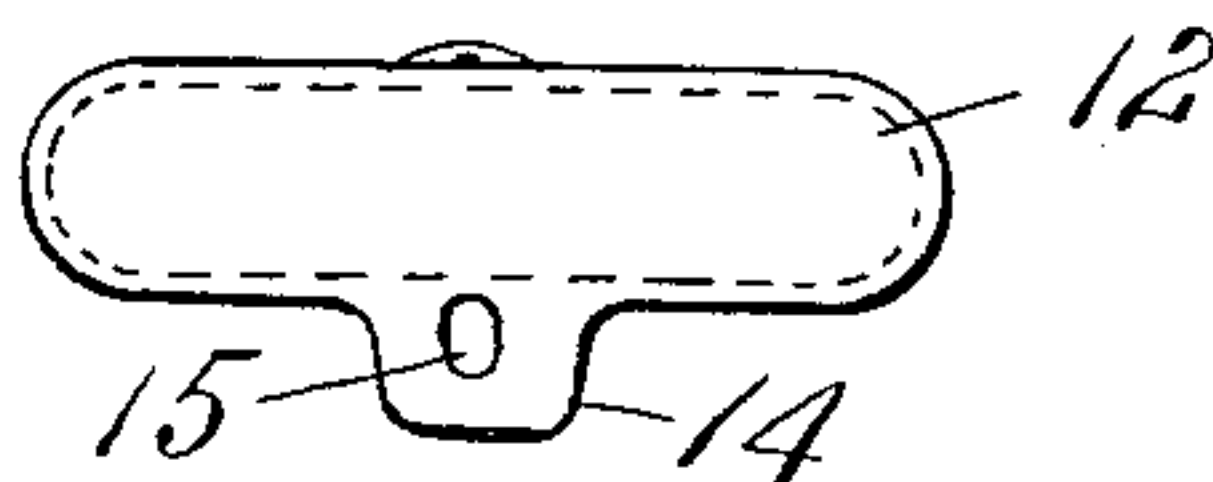


Fig. 5.

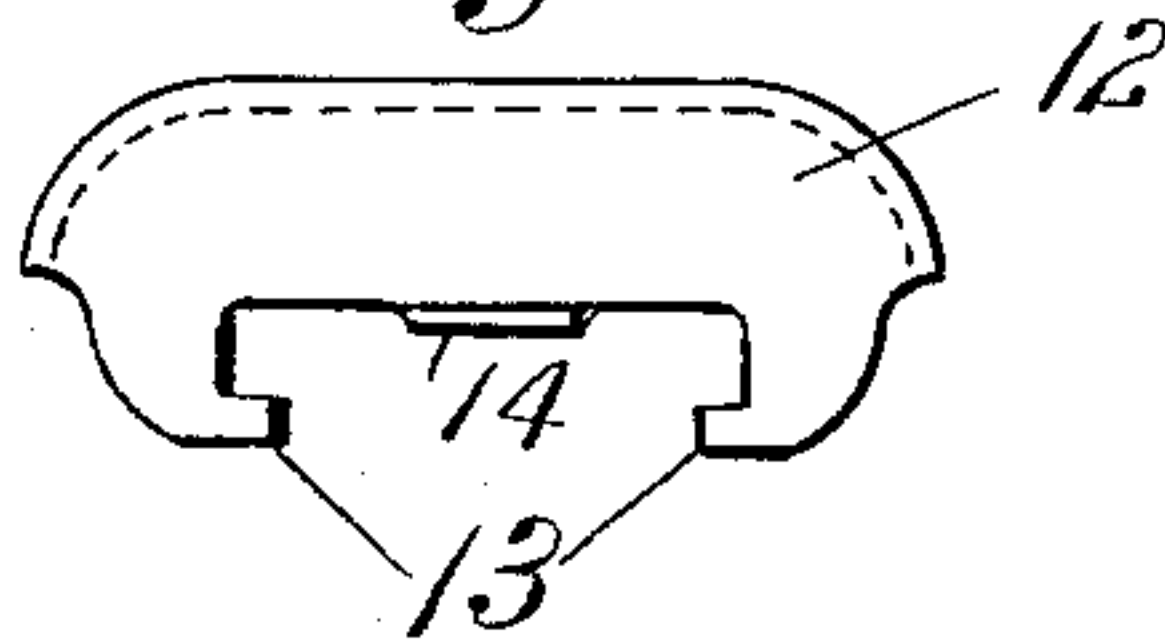


Fig. 3.

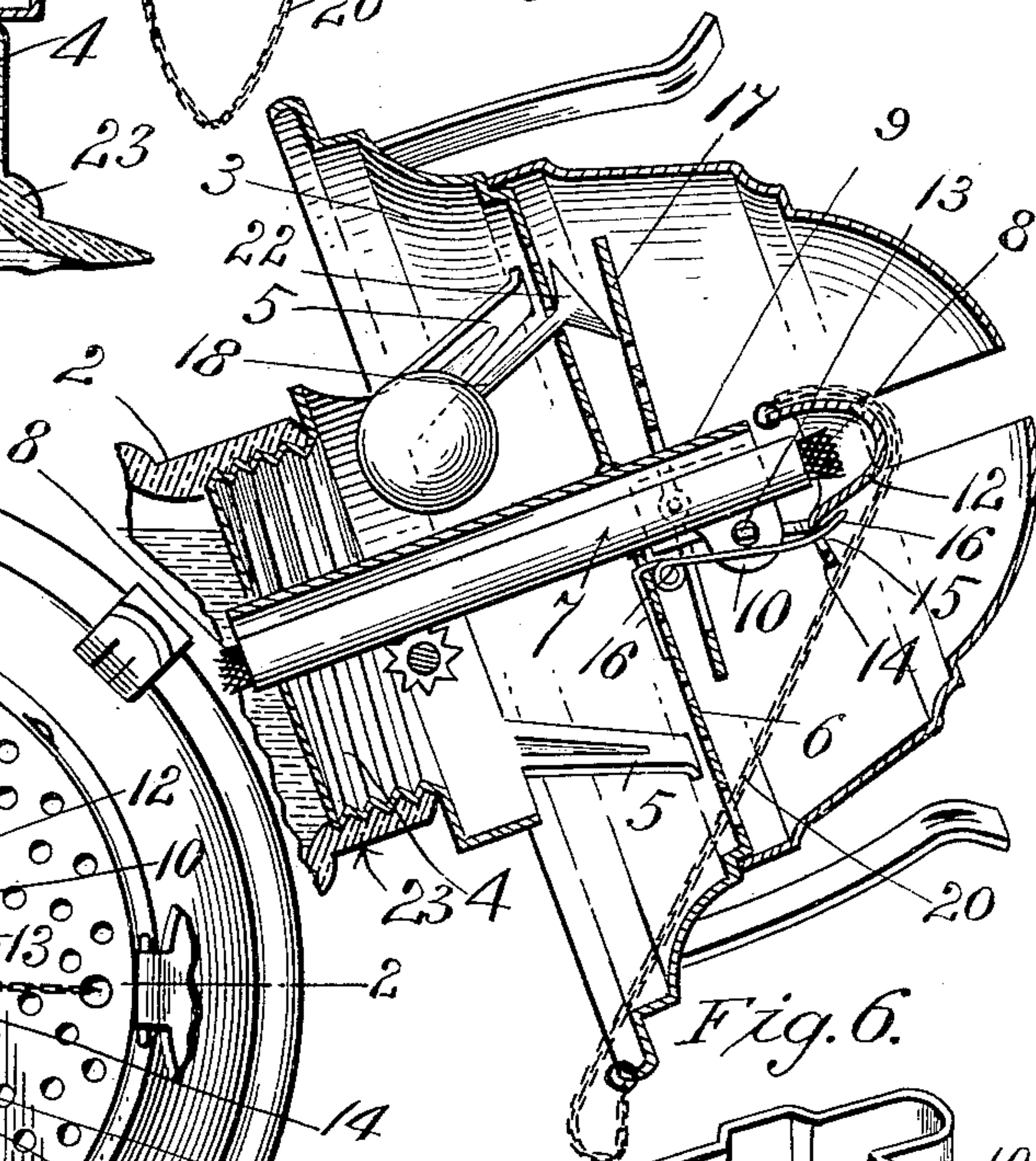


Fig. 2.

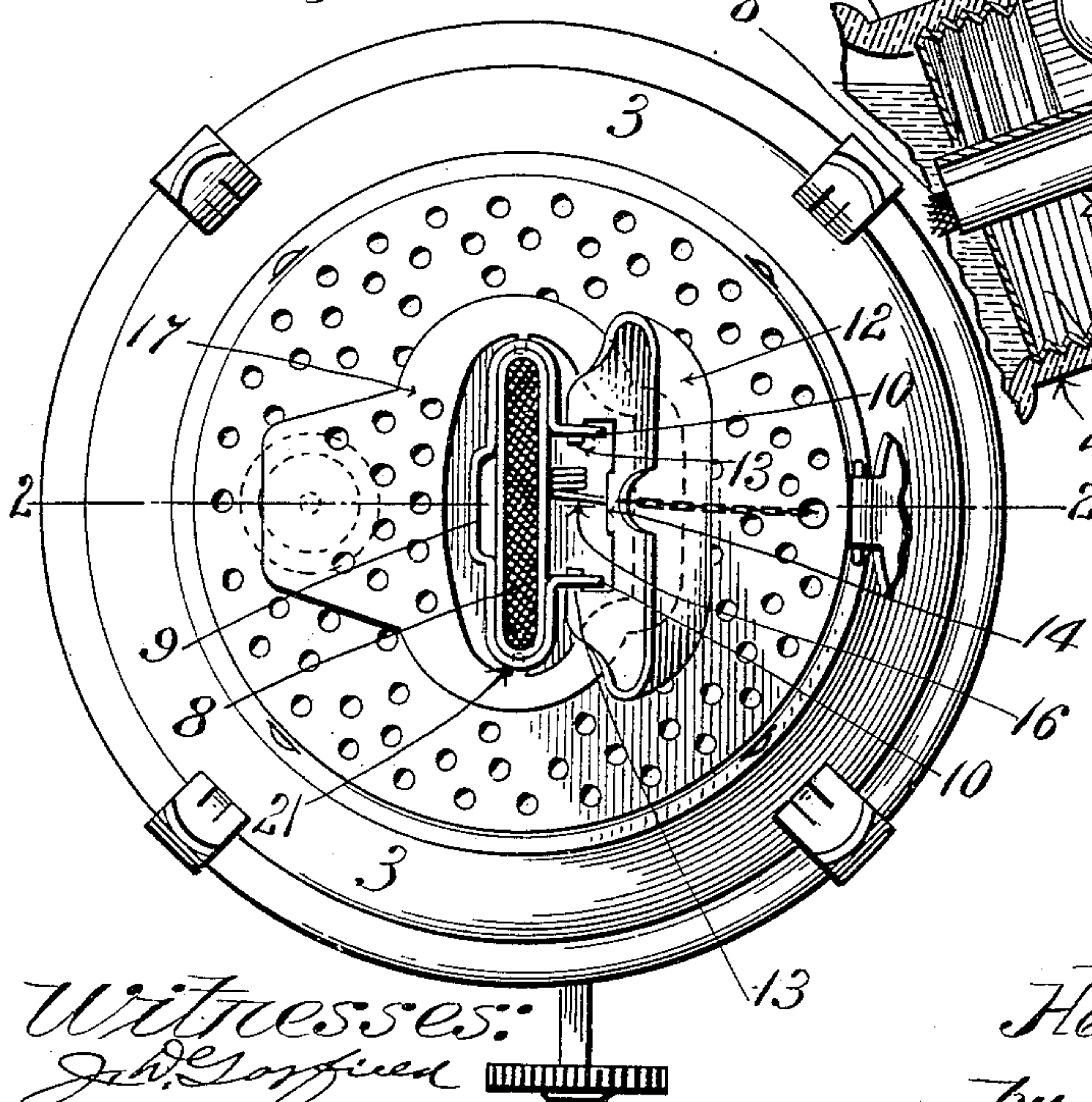
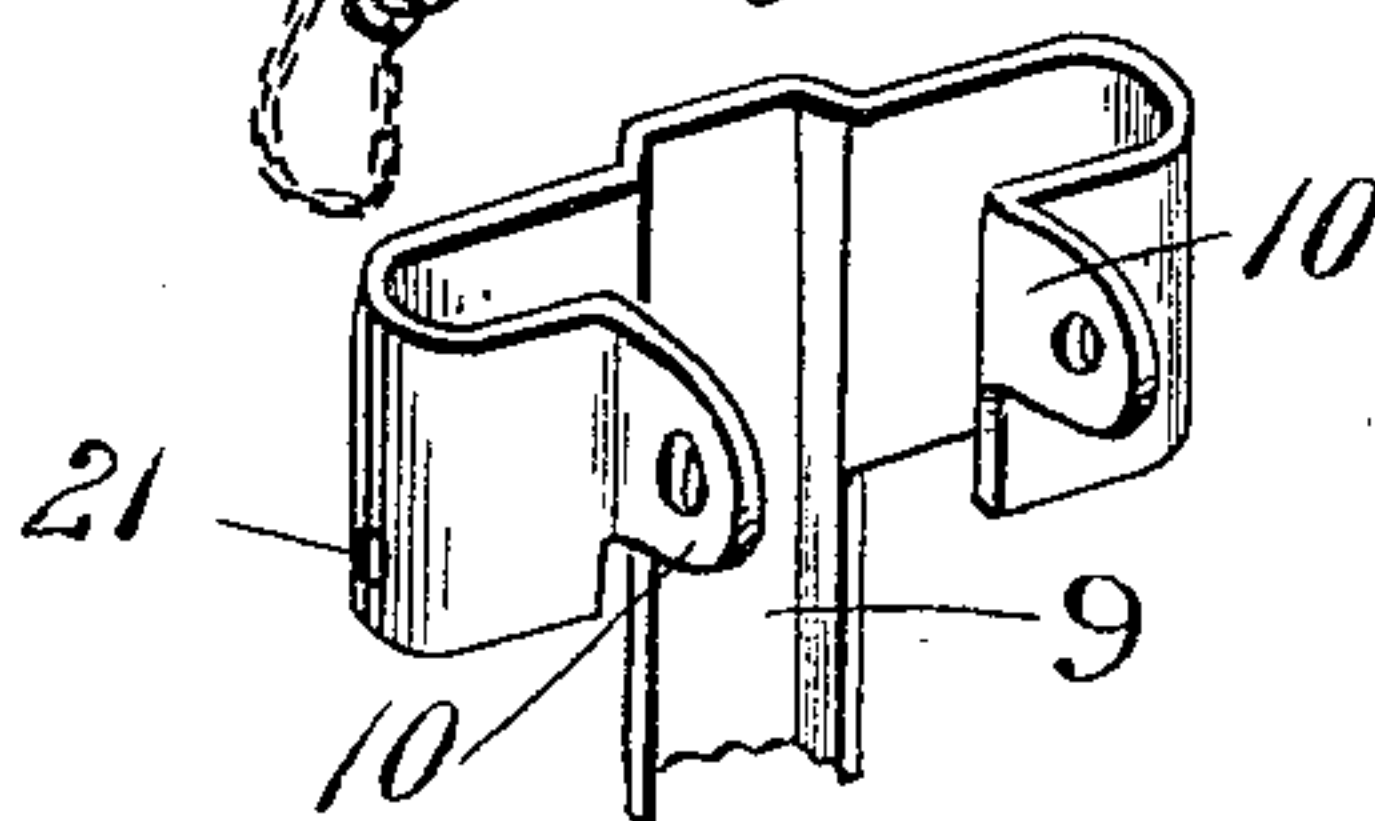


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC LAMP-FLAME EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 618,355, dated January 24, 1899.

Application filed February 28, 1898. Serial No. 671,932. (No model.)

To all whom it may concern:

Be it known that I, HERBERT T. JENKINS, a citizen of the United States of America, residing at Portsmouth, in the county of Rockingham and State of New Hampshire, have
5 invented new and useful Improvements in Automatic Lamp-Flame Extinguishers, of which the following is a specification.

This invention relates to lamps for burning hydrocarbons and similar inflammable substances, the object being to provide automatically-acting devices for lamps of this class for extinguishing the flame thereof when the lamp shall be suddenly thrown laterally
10 from a perpendicular position and to effectually extinguish said flame before said inflammable substance or the oil can be spilled and ignited; and the invention consists in the peculiar construction and arrangement of said
15 flame-extinguishing devices and their adaptation to a lamp, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a sectional view on line 2 2, Fig. 2, of a lamp-burner and of the neck of a lamp, said burner having my improved flame-extinguishing devices applied thereto. Fig. 2 is a plan view of the burner with the
20 cap thereof removed. Fig. 3 is a similar view to Fig. 1, illustrating the positions of the flame-extinguishing devices when the lamp and burner are tipped or thrown over laterally. Fig. 4 is a top plan view of the extinguishing-cap, and Fig. 5 is a side elevation of said cap, both of the last-named figures showing the cap as it appears when swung to a position over the wick-tube of the lamp. Fig. 6 is a perspective view of the air-tube of
25 the burner.

In the drawings, 23 indicates the upper part of a lamp-fountain, and 3 the lamp-burner, having a screw-threaded neck 4 for connection with said lamp part in the usual manner. Said burner is of the usual metallic construction, the arms 5, rising from said screw-threaded neck 4, supporting the perforated base-plate 6 and the depending circular border thereof. The wick-tube 7 extends vertically through and is firmly attached to said
30 perforated base-plate 6, and the usual air-

tube 9 is applied and firmly attached to said wick-tube in the ordinary way. In this instance, however, said air-tube 9 has thereon two ears 10 10, which serve the below-named
35 purpose as well as though they were directly fixed on the said wick-tube.

A flame-extinguishing cap 12 of oblong form or such form as best adapts it to the form of the wick-tube and of sufficient depth
40 to receive therein the upper ends of the wick-tube 7 and the wick 8, as shown in Fig. 3, is hinged to said wick-tube indirectly by the engagements of the points 13 of said cap, which enter the perforations in said ears 10, as
45 shown, whereby said cap may swing from the position shown in Fig. 1 to that shown in Fig. 3, and vice versa. Said cap 12 is also illustrated in Fig. 2 turned off from the wick and the wick-tube. Said cap also has a laterally-
50 extending arm 14 thereon, through which is a perforation 15, which receives the free end of a spring 16, which is secured on said perforated base-plate 6, as shown. Said spring 16 acts to swing the extinguisher-cap over onto the
55 ends of the wick-tube and wick, as shown in Fig. 3, to extinguish the flame of the burner. Through the opposite curved borders of the upper portion of said air-tube 9 are perforations 21. (See Fig. 6.) A flat lever 17, hav-
60 ing journals thereon entering said perforations 21, is thereby connected indirectly with the wick-tube 7, whereby it is free for swinging movements opposite the upper surface of said perforated base-plate 6. The said jour-
65 nals on the flat levers 17 are nearer one end thereof than the other, to the end that one arm shall overbalance the other and the short one be normally swung farther upward from the top of said perforated base-plate 6
70 than the opposite arm to serve the following purpose, viz: The said shorter arm of the flat lever 17 has an opening therein beneath said extinguisher-cap 12, as shown, and when the burner is upright, as shown in Fig. 1, said
75 lever 17 is in such position that the arm 14 on the cap 12 will strike the end of said lever thereunder when the cap is swung from the position shown in Fig. 3 to that of Fig. 1, depressing said engaged end of the lever and
80 finally entering said opening therein, and upon then permitting the spring 16 to act

upon said extinguishing-cap said cap-arm 14 is brought against a border of said opening, and the latter constitutes a stop to hold said cap 12 in an open position, as shown in Fig. 1, until said lever 17 shall be caused to swing by the upsetting of the lamp or burner, as below described, whereby said lever becomes disengaged from the said arm 14 of said cap. For swinging said extinguishing-cap to the open position of Fig. 1 after it shall have extinguished the flame a light chain 20 is preferably used and connected, as shown, whereby it may be conveniently reached beneath the burner. It is obvious that the lamp-flame may be conveniently extinguished while the lamp is in an upright position by swinging the lower end of the below-described pendulum-lever to one side by hand. The actuating element of the device, which effects the release of said extinguishing-cap 12 from its engagement with the lever 17, consists of a gravity-actuated pendulum-lever 18, which comprises a rod having a weight fixed on its lower end, as shown, and having a head 22 attached to its upper end. The upper side of said head is substantially flat and its plane is at right angles to the axis of said rod. The under side of said head is of conical form, and said rod is attached to the apex of said conical under side. The said pendulum-lever 18 entire is suspended for free swing movements on said base-plate 6, as shown, the portion of the said apex of the head thereof which surrounds said rod at its juncture therewith constituting such a comparatively slight point of contact between said head and base-plate as conduces to permit said free swinging movements when the lamp is inclined from a perpendicular position. Thus it is seen that any point on the periphery of said head may constitute the extremity of one arm of the resistance element of the lever, and a weight, preferably of

spherical form, fixed on the opposite or lower end of said rod constitutes the power of the lever for swinging said lever 17 to disconnect it from said flame-extinguishing cap for the purpose set forth.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lamp-burner having a wick-tube and a base-plate in which said tube is fixed, a gravity-actuated lever fulcrumed on said plate for free laterally-swinging movements and having a head above said plate whose upper face extends at right angles to the arm of said lever and constitutes the resistance element thereof combined with an extinguisher-cap hung on a part attached to said wick-tube, a spring acting to swing said cap over the end of said tube, and a lever also pivoted on said part attached to said tube and engaging said cap and holding the same open, and extending over said lever-head for engagement with the same, consequent upon a swinging movement of said lever when the lamp shall be tipped to one side of a perpendicular position, substantially as described.

2. In combination with the base-plate and wick-tube of a lamp, the extinguisher-cap 12 hung on a part attached to said wick-tube and having the arm 14, the spring 16 engaging said cap, the lever 17, having arms of unequal length also pivotally supported on said part attached to said wick-tube for temporary engagement by the shorter arm thereof with said cap-arm, and having its longer arm extending over said base-plate, and the lever 18 fulcrumed on said base-plate and having a head for temporary engagement with said lever 17, substantially as described.

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