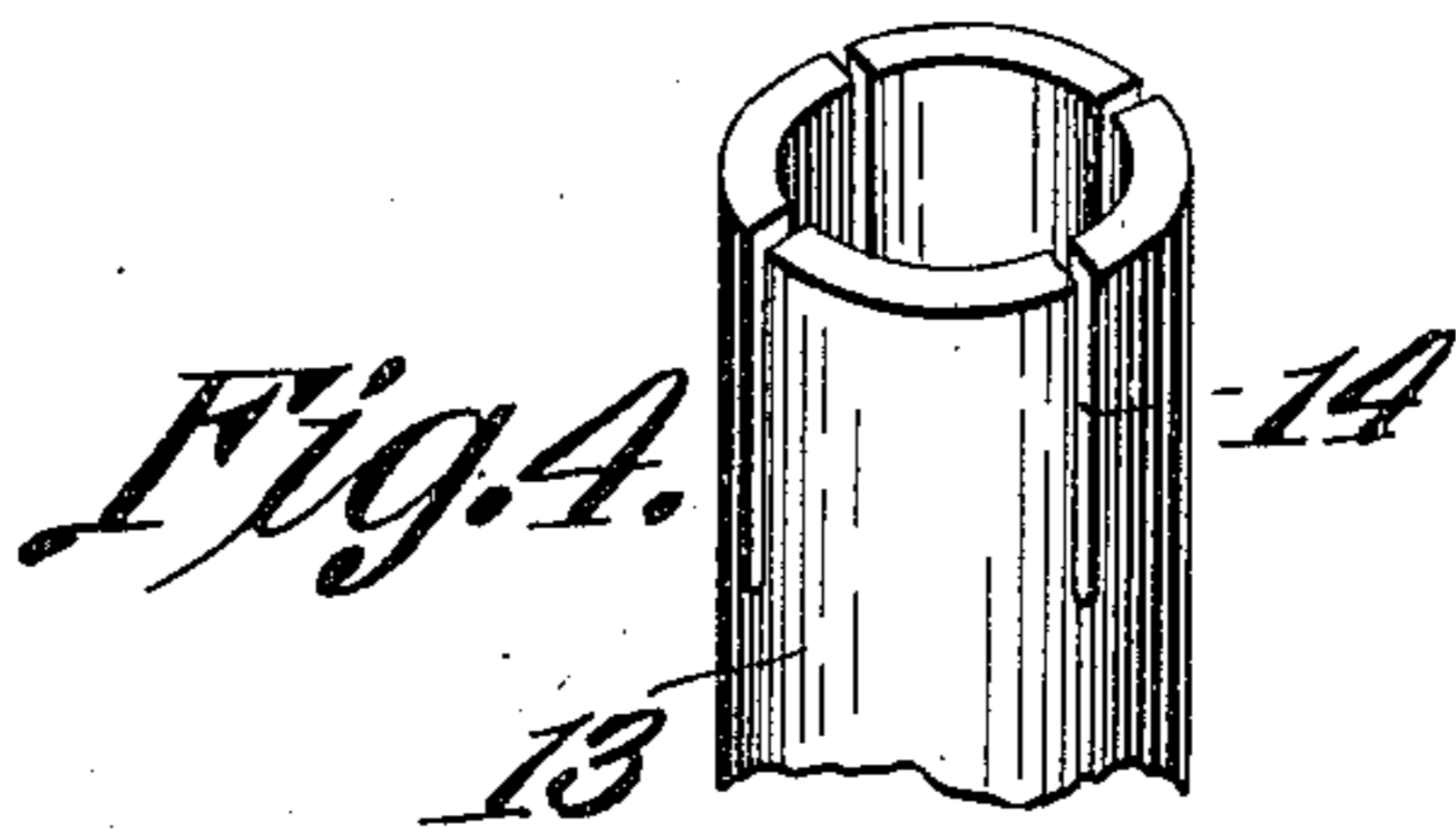
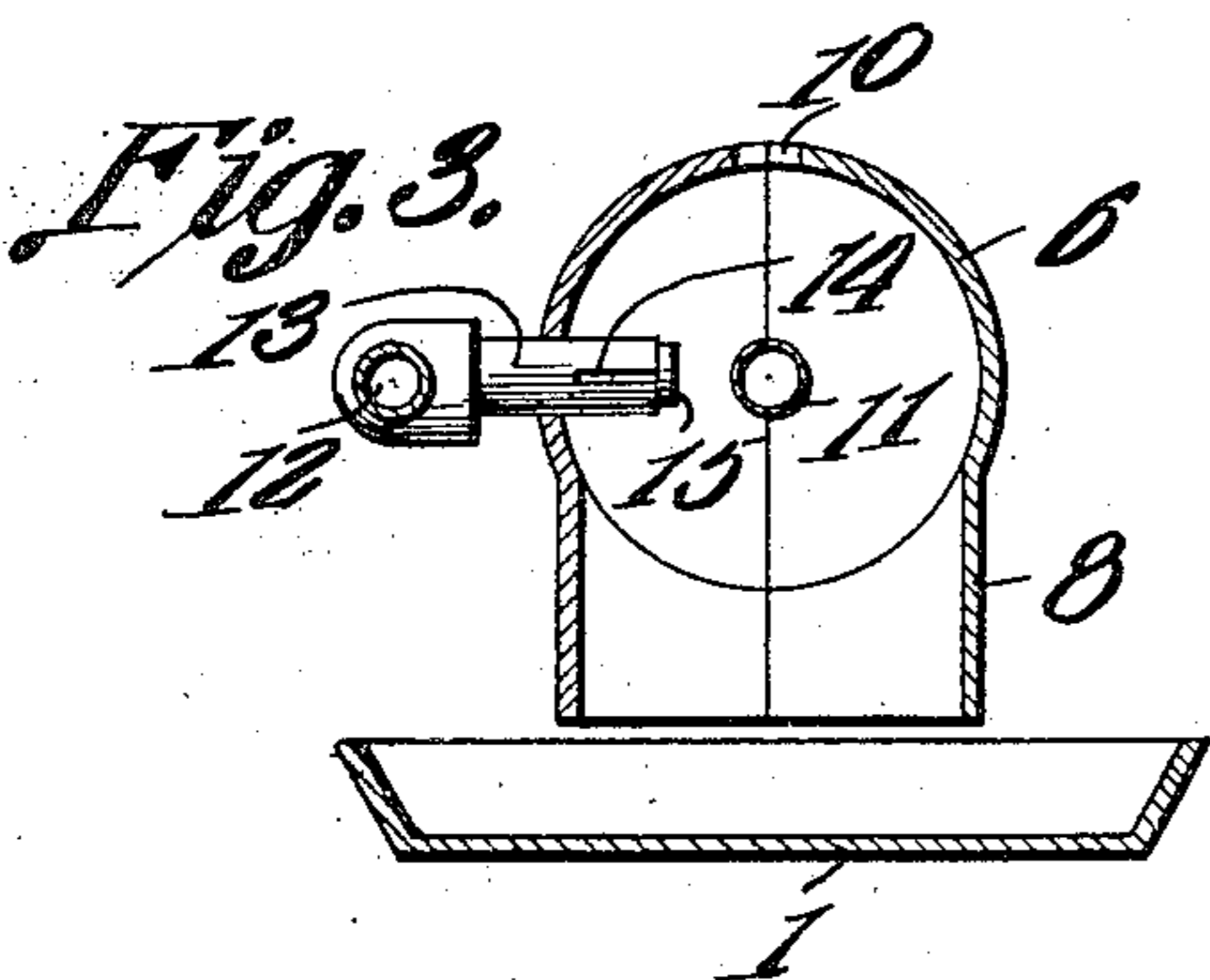
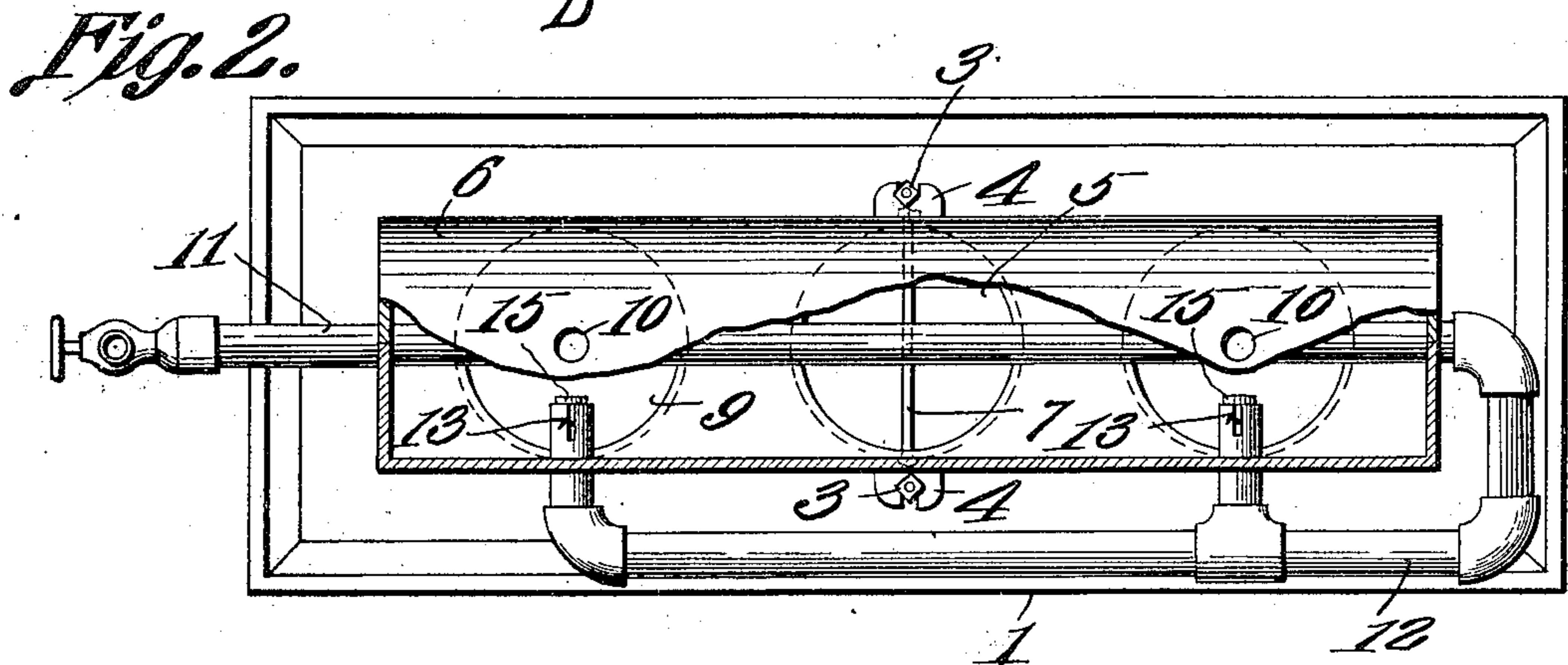
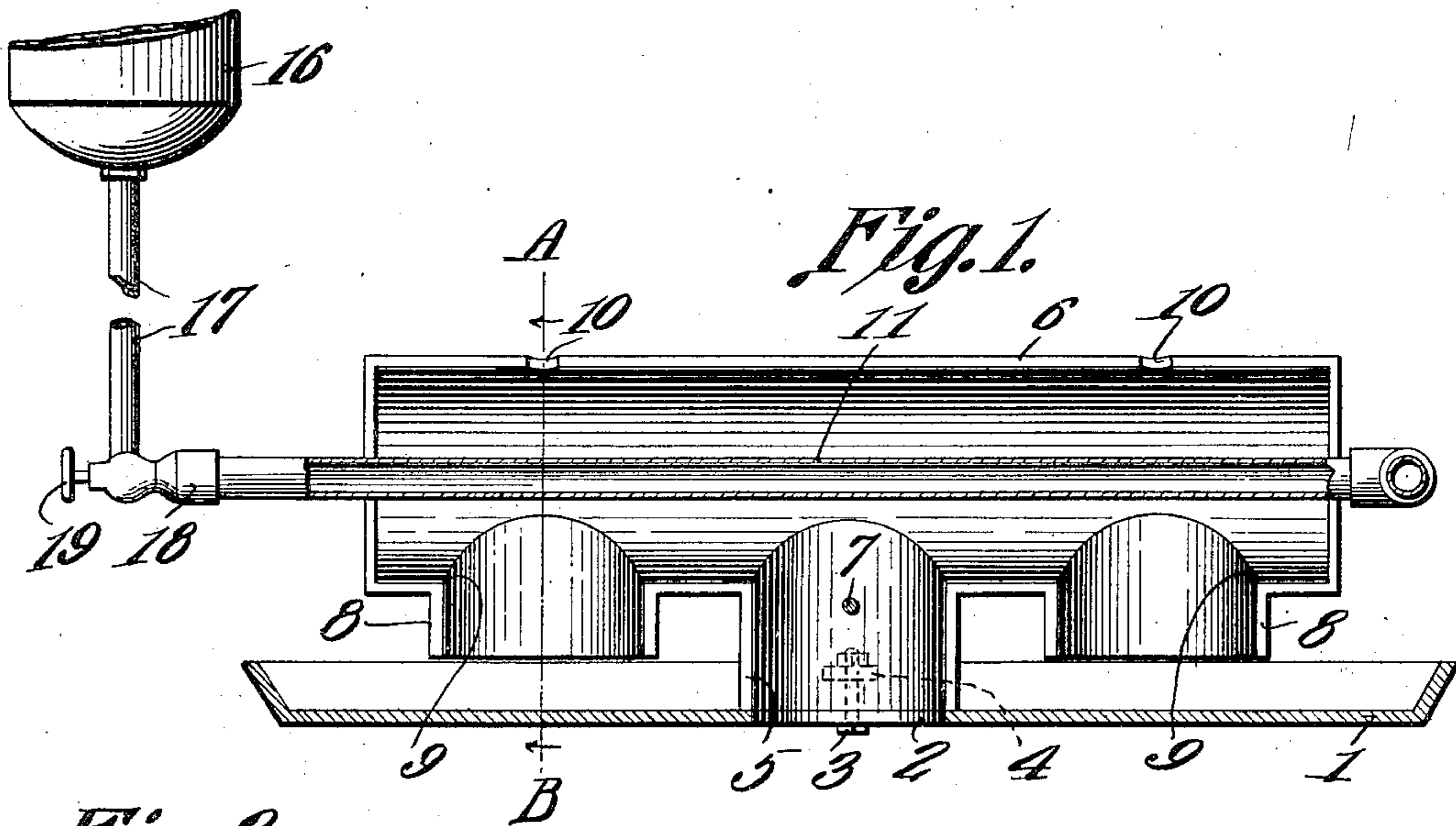


R. REED.
CRUDE OIL BURNER.
APPLICATION FILED JAN. 24, 1911.

999,338.

Patented Aug. 1, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT REED, OF ROCKWALL, TEXAS.

CRUDE-OIL BURNER.

999,338.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed January 24, 1911. Serial No. 604,367.

To all whom it may concern:

Be it known that I, ROBERT REED, a citizen of the United States, residing at Rockwall, in the county of Rockwall and State of Texas, have invented a new and useful Crude-Oil Burner, of which the following is a specification.

This invention relates to crude oil burners for use in ranges, furnaces and the like, the burner being of that type adapted to be placed upon the grate bars ordinarily employed and whereby crude oil may be used in lieu of coal or similar fuel.

The object of this invention is to provide a compact burner cheap to manufacture and which will not readily get out of order, means being provided whereby an abundant supply of air may be mixed with the fuel to insure practically perfect combustion.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings, the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a central vertical longitudinal section through the burner, a portion of the tank being shown in connection therewith. Fig. 2 is a view partly in plan and partly in section of the burner. Fig. 3 is a section on line A—B Fig. 1, the nozzle being shown in elevation. Fig. 4 is a perspective view of one end of a nozzle for directing fuel into the mixing chamber.

Referring to the figures by characters of reference 1 designates a pan-like base having a central opening 2, and fastening bolts 3 are extended through the pan adjacent this opening at diametrically opposed points. These bolts are adapted to detachably engage slotted ears 4 extending in opposite directions from a downwardly projecting tubular extension 5 formed at the center of a cylindrical member 6 closed at its ends and forming the mixing chamber of the burner. This member 6 is preferably formed of two oppositely arranged similar castings held together by means of a tie bolt 7 or the

like and tubular extensions 8 project downwardly from the end portions of this mixing chamber and terminate above the top of the base 1, these extensions forming fuel outlets. Vent openings 10 are formed in the top of the mixing chamber adjacent the ends thereof and preferably directly over the outlets 9.

A fuel conducting pipe 11 is supported axially within the mixing chamber and has a laterally and backwardly extending portion 12 lying parallel with and close to one side of the mixing chamber, there being nozzles 13 extending laterally from said portion 12, and through openings formed in one side of the mixing chamber. Each nozzle is preferably made of a short length of pipe having longitudinal slits 14 extending into the free end thereof and plugs 15 of metal or other suitable non-combustible material are forced into the ends of these pipes so that fuel can only escape through the unclosed portions of the slits 14. A fuel tank 16 is supported above the burner at any desired distance therefrom and is connected by a pipe 17, to a valve casing 18 arranged at one end of the pipe 11, said casing having a needle valve 19 arranged therein so that the supply of fuel may be readily controlled.

By referring to the drawings it will be noted that the nozzles 13 are located above and at one side of the fuel outlets 9. It will be seen therefore, that when the valve 19 is opened, fuel will be discharged into the pipe 11 and sprayed therefrom through the slots 14 in the nozzles. When the fuel is ignited upon the pan or base 1 it will thoroughly heat and vaporize that portion of the fuel contained within the pipe 11 and the vapor thus produced will mix with air drawn into the chamber through the opening 5. A highly combustible mixture will thus be produced and the flames discharged through the openings in the extensions 8 will strike the base 1 and be spread laterally thereon thus enveloping the mixing chamber 6 and insuring the rapid vaporization of the fuel and its thorough commingling with the air supplied to the chamber. It will be noted that the burner is formed of but three parts, to wit the base 1, and the two sections constituting the mixing chamber. The pipe 11 can be readily placed in position within the mixing chamber merely by detaching the two parts forming said chamber.

A device such as has been described can be easily placed on the grate in a fire box and it has been found, in practice, that practically all parts of the fuel are completely
5 consumed. It will be noted, also, that there are no small orifices likely to become choked. When it is desired to clean the burner the various parts can be readily disconnected without requiring the services of a skilled
10 mechanic.

What is claimed is:—

A crude oil burner including a pan having an opening in the center of the bottom thereof, a mixing chamber consisting of con-
15 nected sections having cooperating means forming an air inlet registering with the opening in the pan and constituting means for supporting the mixing chamber above the pan, tubular outlet extensions upon the
20 mixing chamber and directed toward the pan,

said extensions constituting means for directing fuel downwardly into the pan, there being vent openings in the mixing chamber and above the fuel outlets, a fuel conducting pipe extending longitudinally through the
25 mixing chamber and supported by the end walls thereof, said pipe being extended along one side of the chamber and above the pan, and nozzles extending from the pipe and into the mixing chamber at one side
30 thereof for directing fuel into said chamber between the outlet extensions and the vents.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT REED.

Witnesses:

E. D. FOREE,
W. A. BUNCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
