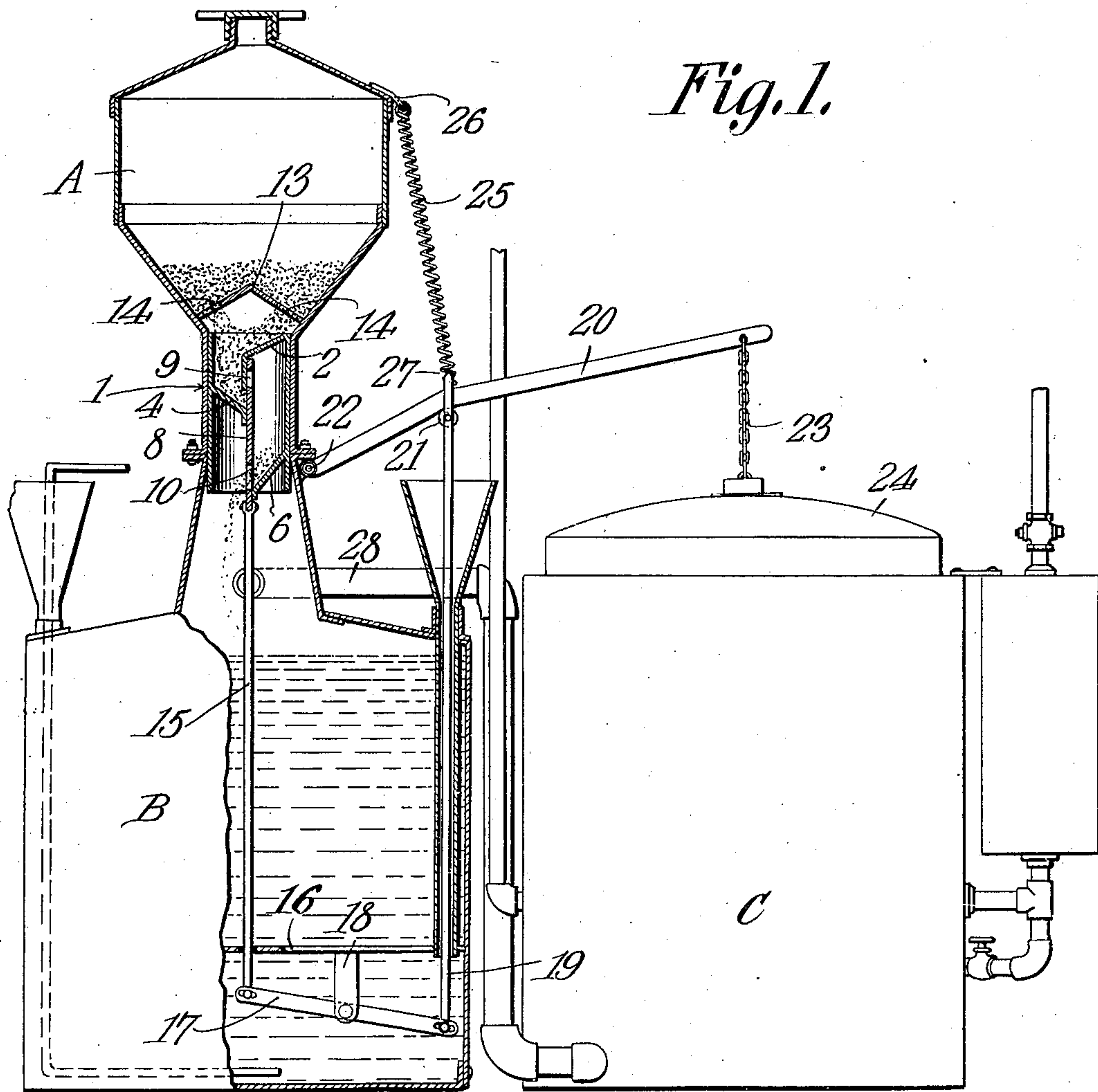


No. 861,380.

PATENTED JULY 30, 1907.

S. A. MENCZER.
ACETYLENE GAS GENERATOR.
APPLICATION FILED NOV. 27, 1906.

2 SHEETS—SHEET 1.



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WITNESSES:

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ATTORNEYS

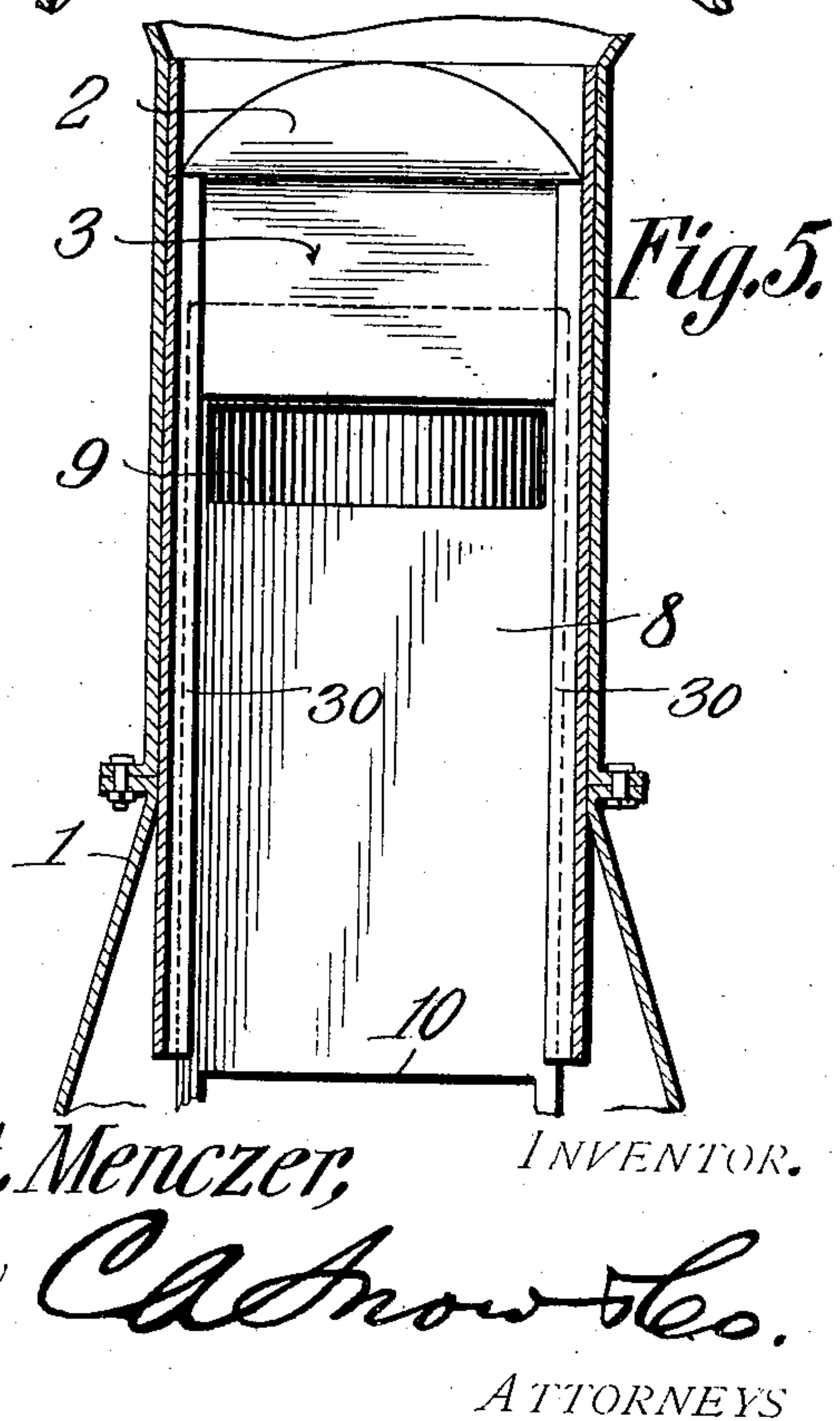
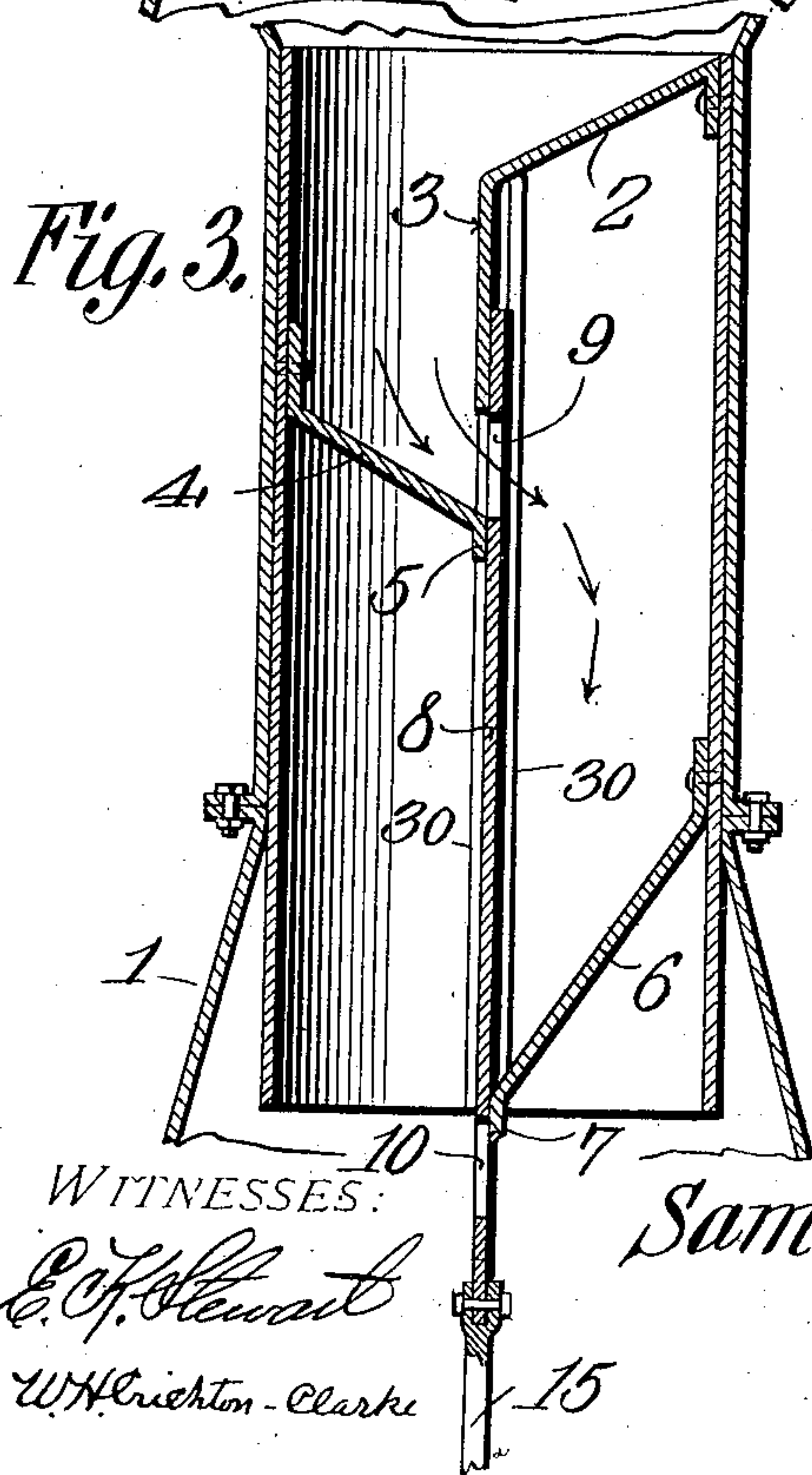
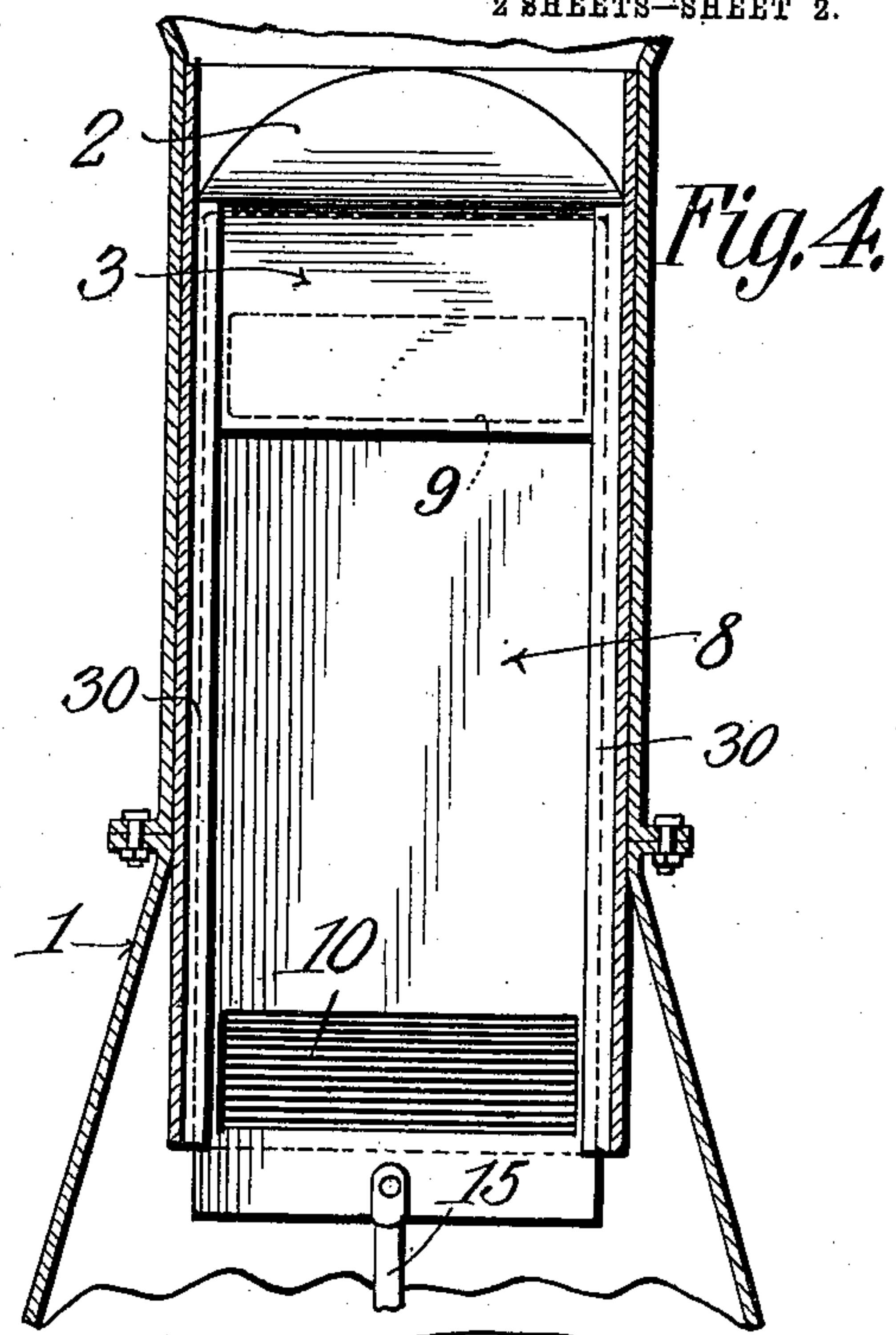
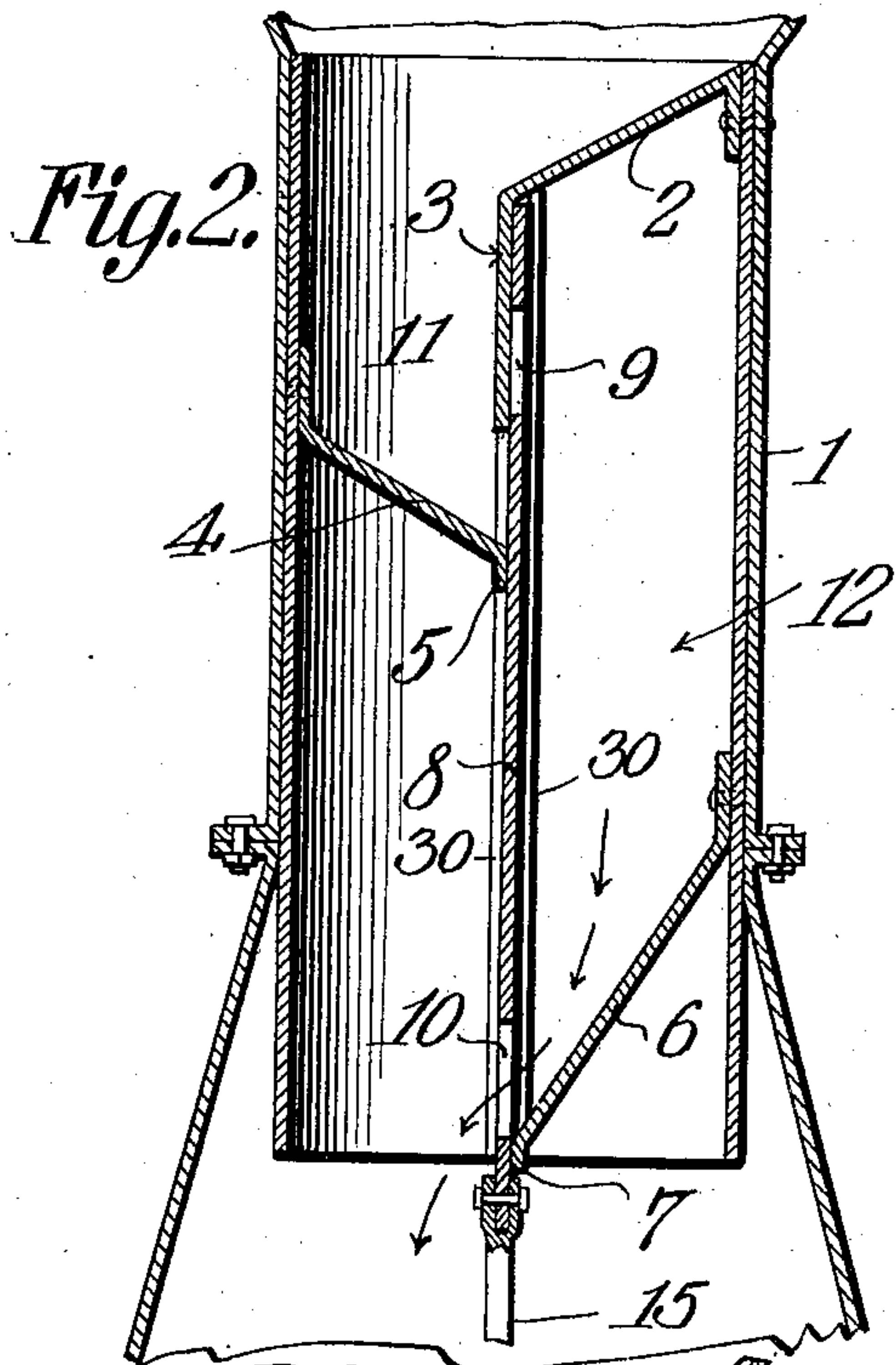
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UNITED STATES PATENT OFFICE.

SAMUEL A. MENCZER, OF FORT WORTH, TEXAS.

ACETYLENE-GAS GENERATOR.

No. 861,380.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed November 27, 1906. Serial No. 345,318.

To all whom it may concern:

Be it known that I, SAMUEL A. MENCZER, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented a new and useful Acetylene-Gas Generator, of which the following is a specification.

This invention relates to acetylene gas generators.

The objects of the invention are to improve and simplify the construction of the valve mechanism for feeding carbid to the generating tank; furthermore, to increase the efficiency in operation and to decrease the expense attending the manufacture of such valves.

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 invention herein disclosed can be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings forming part of this specification: Figure 1 is a side elevation, partly in section, of a gas generator equipped with the improvements of the present invention; Fig. 2 is an enlarged sectional view showing the valve in raised position; Fig. 3 is a view similar to Fig. 2, showing the valve in lowered position; Fig. 4 is a view taken at a right angle to Fig. 2; and Fig. 5 is a view taken at a right angle to Fig. 3.

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

The reference letter A indicates a carbid holder; B, a generating tank; and C, a gas holder or bell. These parts may be of any suitable form and construction.

In equipping an apparatus of the general form illustrated with the improvements of the present invention, the chute 1, which leads from the carbid holder A into the generating tank B, is provided with an upper inclined shelf 2 having at its lower end a depending flange 3. Below the upper inclined shelf 2, the chute 1 is provided with an oppositely-inclined intermediate shelf 4 having a depending flange 5. In addition to the shelves 2 and 4, the chute 1 is provided with a lower shelf 6 having a depending flange 7. The lower shelf 6 is inclined in a direction opposite the intermediate shelf 4, and the degree of incline of said lower shelf is greater than the degree of incline of the intermediate shelf in order that the carbid may be quickly discharged from the lower shelf, as will hereafter appear. Furthermore, the incline of the intermediate shelf 4 preferably is greater than the incline of the upper shelf 2.

As shown in the drawing, the lower end of each of the shelves 2, 4 and 6 terminates a short distance from the center of the chute 1 so as to leave space for a vertically-extending slide valve 8 which contacts with the de-

pending flanges 3, 5 and 7 of the different shelves, the flanges 3 and 5 being disposed on one side of said valve and the flange 7 on the opposite side thereof so as to act as guides during the vertical movement of the slide valve. The valve 8 is formed with an upper rectangular opening 9 and a lower rectangular opening 10. The openings 9 and 10 are so arranged that when the upper opening 9 is disposed at the lower end of the intermediate shelf 4, the lower opening 10 will be disposed below the lower shelf 6. The depending flange 3 of the upper inclined shelf 2 preferably is longer than the other depending flanges so that when the valve 8 is in raised position the flange 3 will extend down far enough to cover the upper opening 9 of the valve so as to prevent any carbid from passing therethrough. As shown in the drawing, the intermediate shelf 4 forms the bottom of an upper carbid compartment 11 and the lower shelf 6 forms the bottom of a lower carbid compartment 12.

In order to relieve the valve mechanism of the weight of the body of carbid in the holder A, a V-shaped partition 13 is arranged across the upper end of the chute 1 so as to provide small openings 14 for the passage of the carbid into the chute.

It will be obvious that when the valve 8 is in lowered position, a quantity of carbid can pass from the upper compartment 11 through the upper opening 9 of the valve into the lower compartment 12, the escape of said carbid from the lower compartment being prevented by the fact that the lower opening 10 of the valve is disposed below the lower shelf 6.

When it is desired to supply a quantity of carbid to the generator B, the slide valve 8 is raised, whereby communication between the upper compartment 11 and the lower compartment 12 is closed and the carbid in the lower compartment is permitted to pass through the lower opening 10 of the slide valve into the gas generator.

In view of the fact that the slide valve 8 closes the outlet from the upper compartment 11 at the instant that it opens the outlet from the lower compartment 12, it will be apparent that only the limited quantity of carbid contained in the lower compartment 12 can be fed to the gas generator at one operation.

While any suitable form of mechanism can be employed for causing the valve 8 to be operated by the rising and falling of the bell of the gas holder C, so that when said gas holder becomes nearly exhausted and the bell drops, the valve 8 will be opened to feed more carbid to the generating tank B, the preferred mechanism for accomplishing this result consists of a valve stem 15 which is connected with the lower end of the valve 8 and extends down through the cross member 16 in the generating tank. The lower end of the valve stem 15 is pivotally connected with an intermediate lever 17 which is fulcrumed upon a bracket 18 and is pivotally connected at its opposite end with

a link rod 19. The link rod 19 at its upper end is provided with a conventional form of eye through which extends an operating lever 20, the link rod 19 at the lower end of the eye therein being provided
 5 with an anti-friction roller 21 to engage the lower edge of the operating lever 20. The operating lever 20 is pivotally connected at 22 with the lower end of the chute 1. Connected with the free end of the
 10 operating lever 20 is a flexible element or link device 23 which is secured at its lower end to the bell 24 of the gas holder C. For the purpose of closing the valve 8 as the bell 24 rises, a yielding device or spring 25 is connected at its upper end with the carbide holder A, as shown at 26, and at its lower end
 15 with the upper end of the link rod 19, as indicated at 27.

Constructed as described, it will be apparent that when nearly all of the gas is exhausted from the gas holder C, the bell 24 descends so as to draw down-
 20 ward upon the free end of the operating lever 20. This action causes rocking of the intermediate lever 17, whereby the valve 8 is raised and the carbide in the lower compartment 12 of the chute 1 is discharged into the generating tank B so as to generate a further
 25 quantity of gas which passes through the supply pipe 28 into the gas holder C so as to raise the bell 24. As the bell 24 rises, the yielding device or spring 25 acts to raise the operating lever 20, whereby the intermediate lever 17 is rocked in the opposite direction and
 30 moves the valve 8 to its lowest position so as to permit a quantity of carbide to pass from the upper compartment 11 into the lower compartment 12 of the chute 1 in readiness to supply the generating tank as soon as the gas holder shall again become exhausted.

35 The improvements of the present invention are strong, simple, durable and inexpensive in construction as well as thoroughly efficient in operation.

It will be understood that the improved valve mechanism is adapted to feed the proper quantity of carbide
 40 to the generating tank without rendering it possible to supply an excessive quantity.

If desired, the chute 1 can be provided with vertical guideways 30 for the slide valve 8 so as to aid the

shelves 2, 4 and 6 in holding the same in proper position. 45

What is claimed is:

1. A valve mechanism for acetylene gas generators comprising an upper compartment, a lower compartment, and a slide plate valve mounted between said compartments and having upper and lower openings. 50

2. A valve mechanism for acetylene gas generators comprising a chute provided with an upper compartment having an inclined bottom and a lower compartment having a bottom inclined in a direction opposite the bottom of the upper compartment, and a slide valve mounted in the
 55 chute and movable between the bottoms of said compartments and having upper and lower openings.

3. The combination with a carbide holder and a generating tank, of a chute leading from the carbide holder into the tank and having upper and lower compartments formed
 60 with oppositely inclined bottoms, and a slide plate valve mounted between said compartments and having upper and lower openings adapted simultaneously to close the lower end of one of said compartments and to open the lower end of the other of said compartments. 65

4. The combination with a carbide holder, a generating tank and a gas holder, of a chute leading from the carbide holder to the generating tank and having a partition disposed at the upper end thereof, an inclined upper shelf mounted in said chute and having a depending flange, an
 70 intermediate shelf inclined in a direction opposite the upper shelf and having a depending flange, the incline of said intermediate shelf being greater than the incline of said upper shelf, a lower shelf mounted in said chute and extending at an incline opposite the incline of the intermediate shelf, said lower shelf being inclined to a greater degree than said intermediate shelf and having a depending
 75 flange, a slide valve extending upward through the center of said chute between the depending flanges of the upper and lower shelves, said valve having an upper and a lower opening, a valve stem connected with said valve, an intermediate lever pivotally connected with said valve stem, a link rod connected with said intermediate lever, said link rod having an eye and an anti-friction roller, an operating
 80 lever extending through said eye and being connected at its free end with said gas holder, and a yielding device connected with the upper end of said link rod, for substantially the purposes set forth. 85

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

SAMUEL A. MENCZER.

Witnesses:

F. W. ANGEL,
 CHAS. W. BAGLEY.