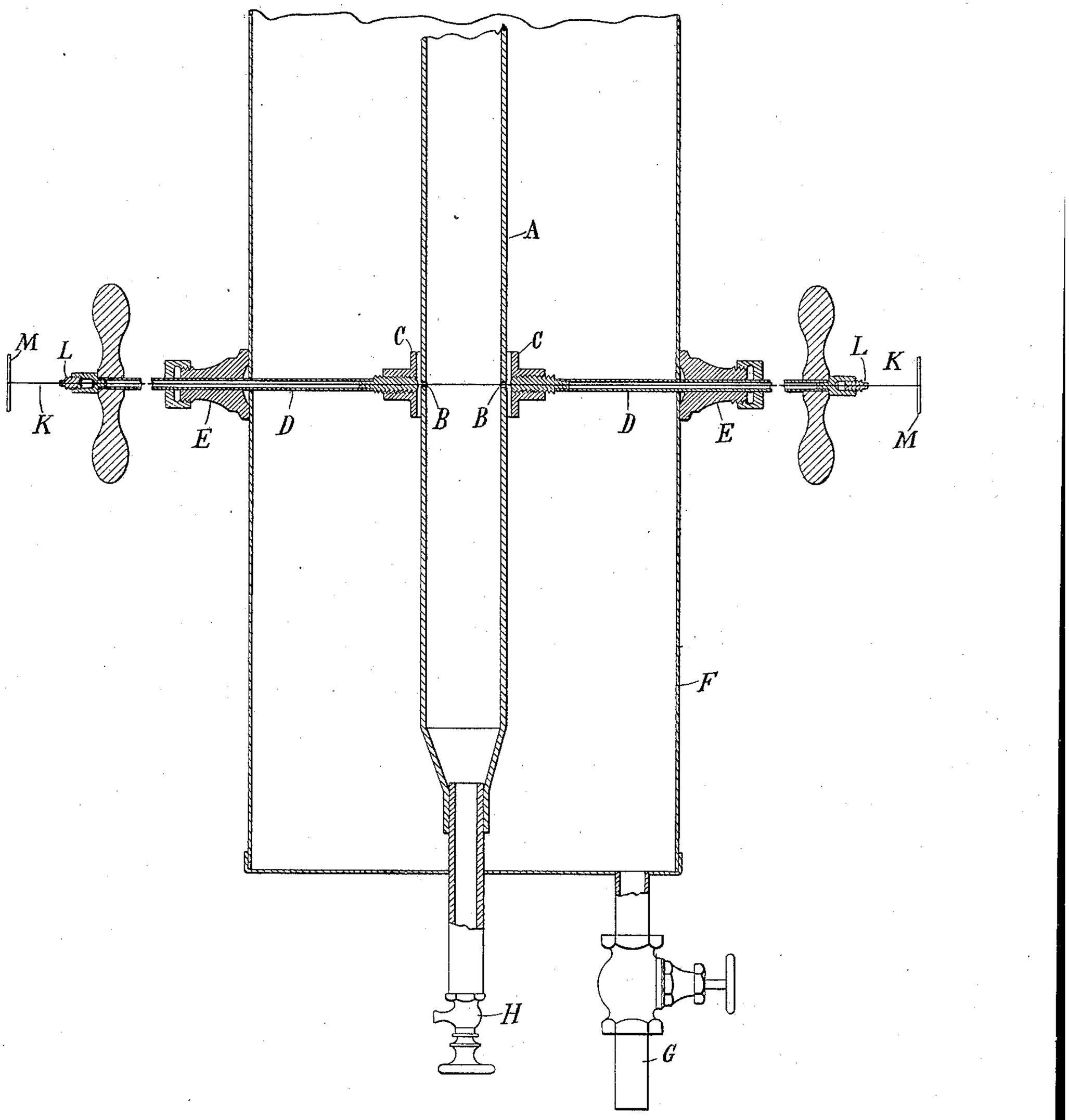
No. 652,304. Patented June 26, 1900.

C. E. TRIPLER.

LIQUID AIR GENERATOR.

(Application filed Apr. 25, 1900.)

(No Model.)



Witnesses:
Raphael Netter
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UNITED STATES PATENT OFFICE.

CHARLES E. TRIPLER, OF NEW YORK, N. Y.

LIQUID-AIR GENERATOR.

SPECIFICATION forming part of Letters Patent No. 652,304, dated June 26, 1900.

Application filed April 25, 1900. Serial No. 14,254. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. TRIPLER, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Liquid-Air Generators, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

This invention is an improvement designed for use with a form of apparatus heretofore devised by me for the purpose of producing liquefied air or other gases, although it is capable of general application to any other forms of such apparatus in which occasion for its use arises.

The invention resides in a simple but highly useful and important detail which may be most readily understood from an explanation of the accompanying drawing, which illustrates the improvement and the particular part of the generator to which it is applied.

The figure is a vertical central section of a portion of a liquid-air generator; but in order to arrive at an understanding of the present improvement it is only necessary to state that the part designated by A is the receiver into which the highly-compressed and extremely-cold air is introduced after passing through the machine. From this receiver, the air escapes through two small orifices B B and impinges in expanding on two baffle-plates C C, adjustable toward and from the orifices by means of the stems D D, passing through stuffing-boxes E E in the walls of the chamber F.

The liquefaction of a portion of the air occurs at the point of impact between the jets and the baffle-plates and in the vicinity of the latter, the liquid collecting in the bottom of the chamber F, from whence it is drawn off through a cock G, while the air or vapor which has not been converted into a liquid form passes upward and back through the apparatus to assist in cooling the incoming air.

The carbonic dioxid and other impurities in the air are liquefied in the receiver A and accumulate in the bottom of the same, from which they are periodically drawn off through a cock H; but carbonic-acid gas in this art seems to bear the same relation to atmospheric air that mud does to pure water, for it has been found that when present it clogs up the small orifices and more delicate parts of the apparatus. For this reason in the forms of this apparatus which I have heretofore made I inserted in the ends of the stems D D needles or fine points, which entered the orifices B B when the stems were adjusted for that purpose, and by these means the said orifices could be cleared, when necessary, of such foreign matter as might accumulate therein. I found, however, that it was a matter of no small difficulty to use these needle-points to advantage without frequently breaking them, and it was to overcome this objection that my present improvement was devised.

This improvement is as follows: Through the entire length of both stems D D a small hole is drilled, and a wire K, preferably of platinum, is carried through the stems and both orifices B B in the receiver A, the axes of the stems being in line with said orifices. The wire issues from the stems through suitable stuffing-boxes L L, and to its ends are attached suitable handles M.

Whenever it is desired to clear the orifices of any foreign matter that may have accumulated therein, the ends of the wire are grasped and it is drawn back and forth through the orifices while the apparatus is in operation. This will be found to effectually clear the orifices and not to interfere in the least with the operation or adjustment of the machine.

What I claim as my invention is—

1. The combination with the receiver provided with diametrically-opposite orifices, of the hollow stems in line with said orifices, and a cleaning-wire extending through the stems and orifices in the receiver, as herein set forth.

2. The combination with the receiver A, provided with orifices B B of the baffle-plates C C, hollow stems D D for adjusting the position of said plates and the cleaning-wire extending through the stems and the orifices in the receiver, as herein set forth.

CHARLES E. TRIPLER.

Witnesses:

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