

(No Model.)

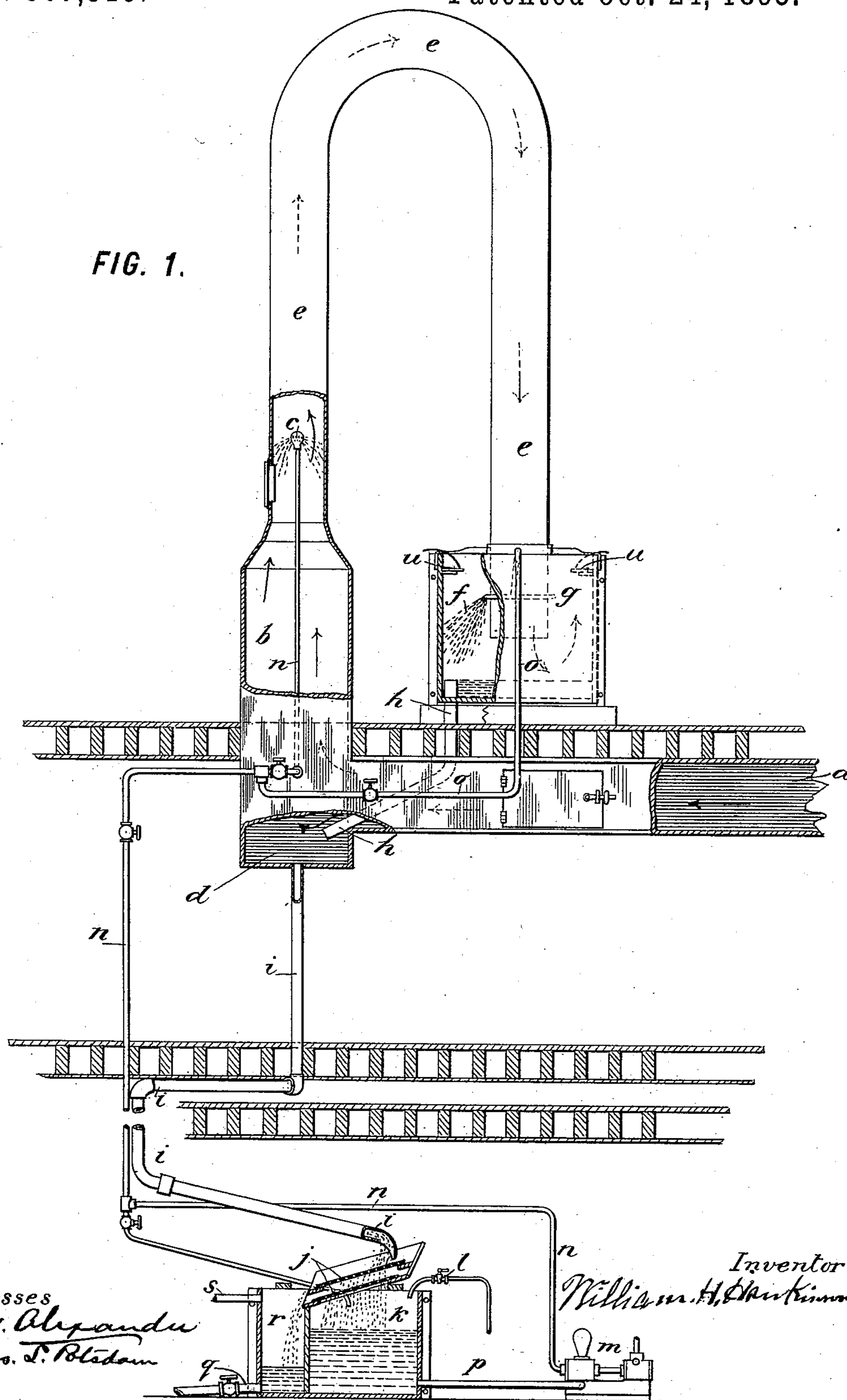
2 Sheets—Sheet 1.

W. H. HANKINSON.  
DUST COLLECTOR.

No. 507,319.

Patented Oct. 24, 1893.

FIG. 1.



Witnesses  
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(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

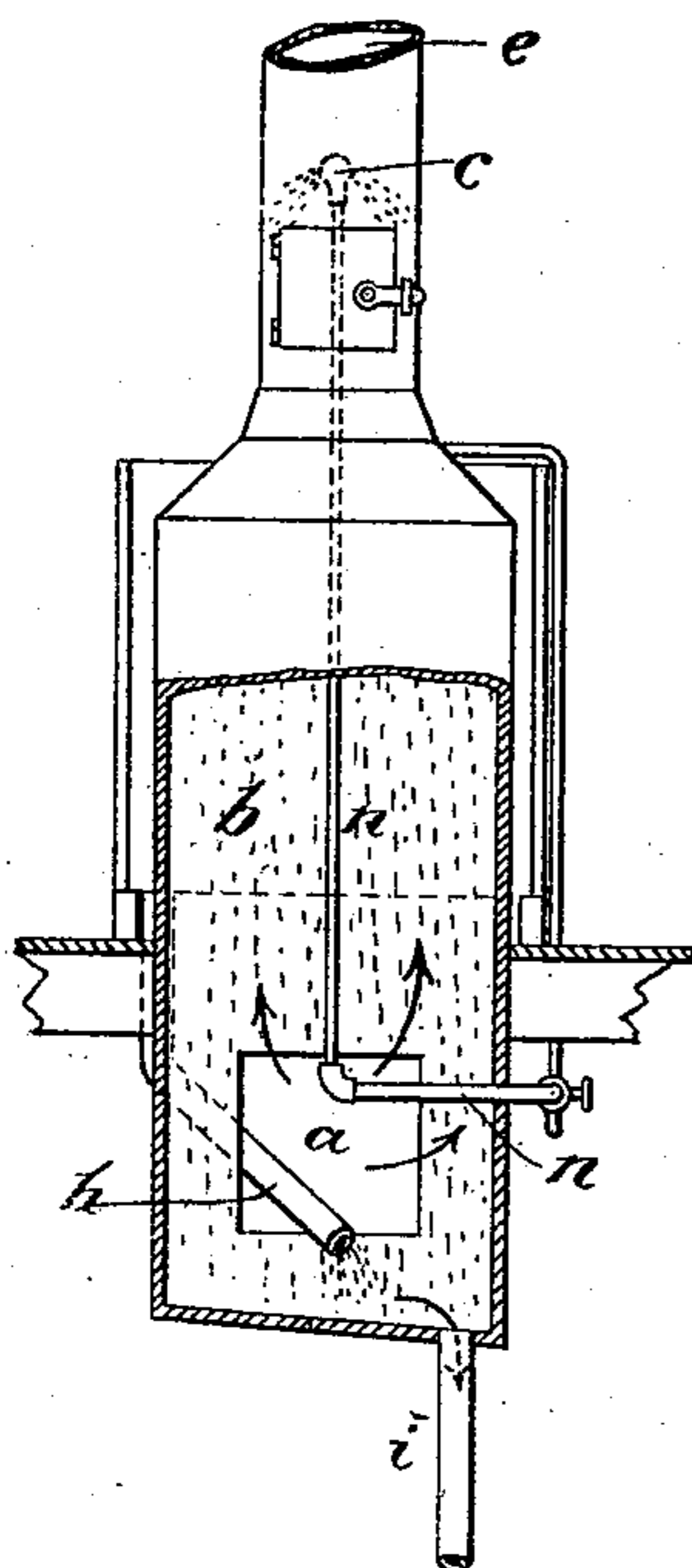


FIG. 3.

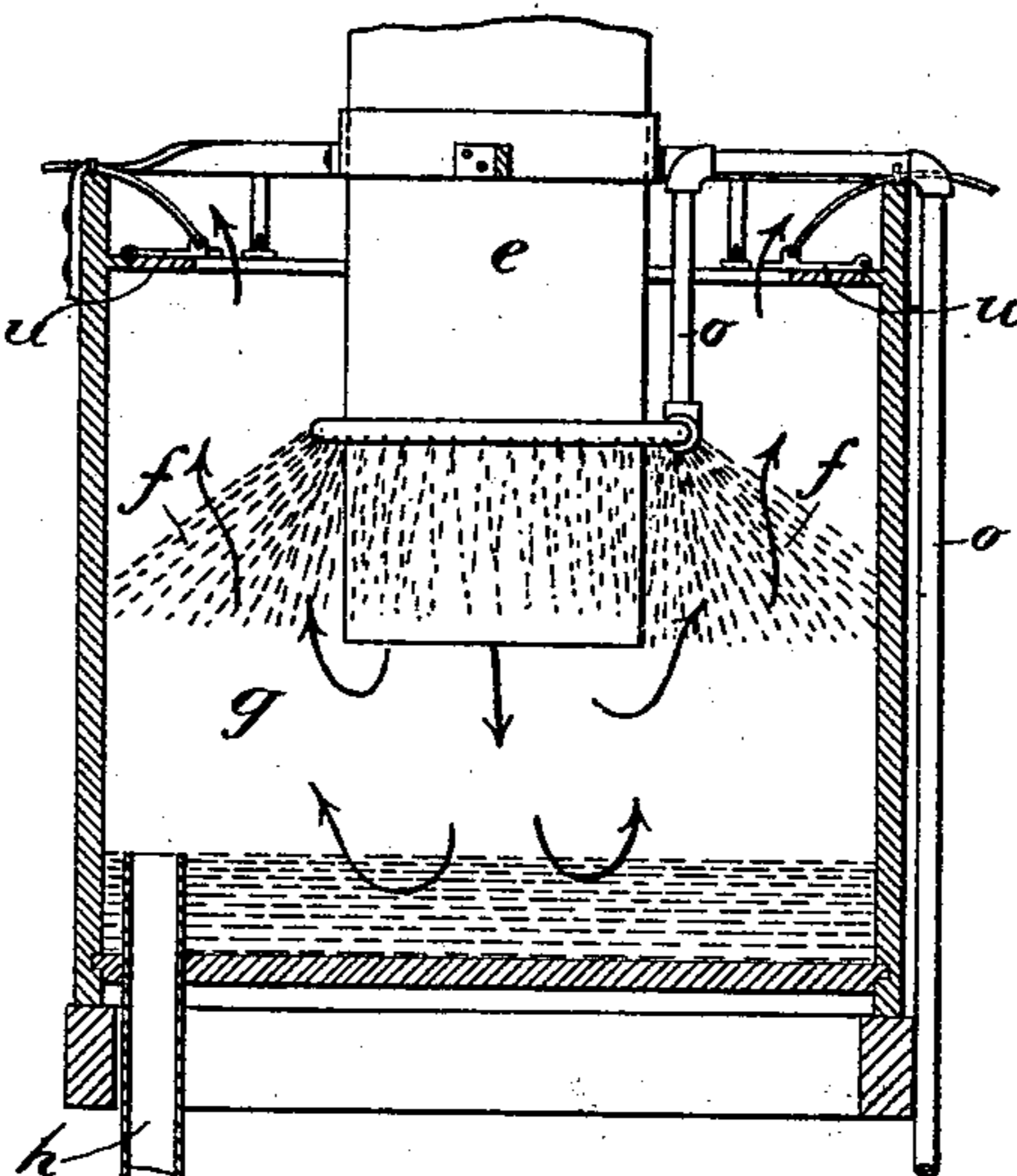


FIG. 4.

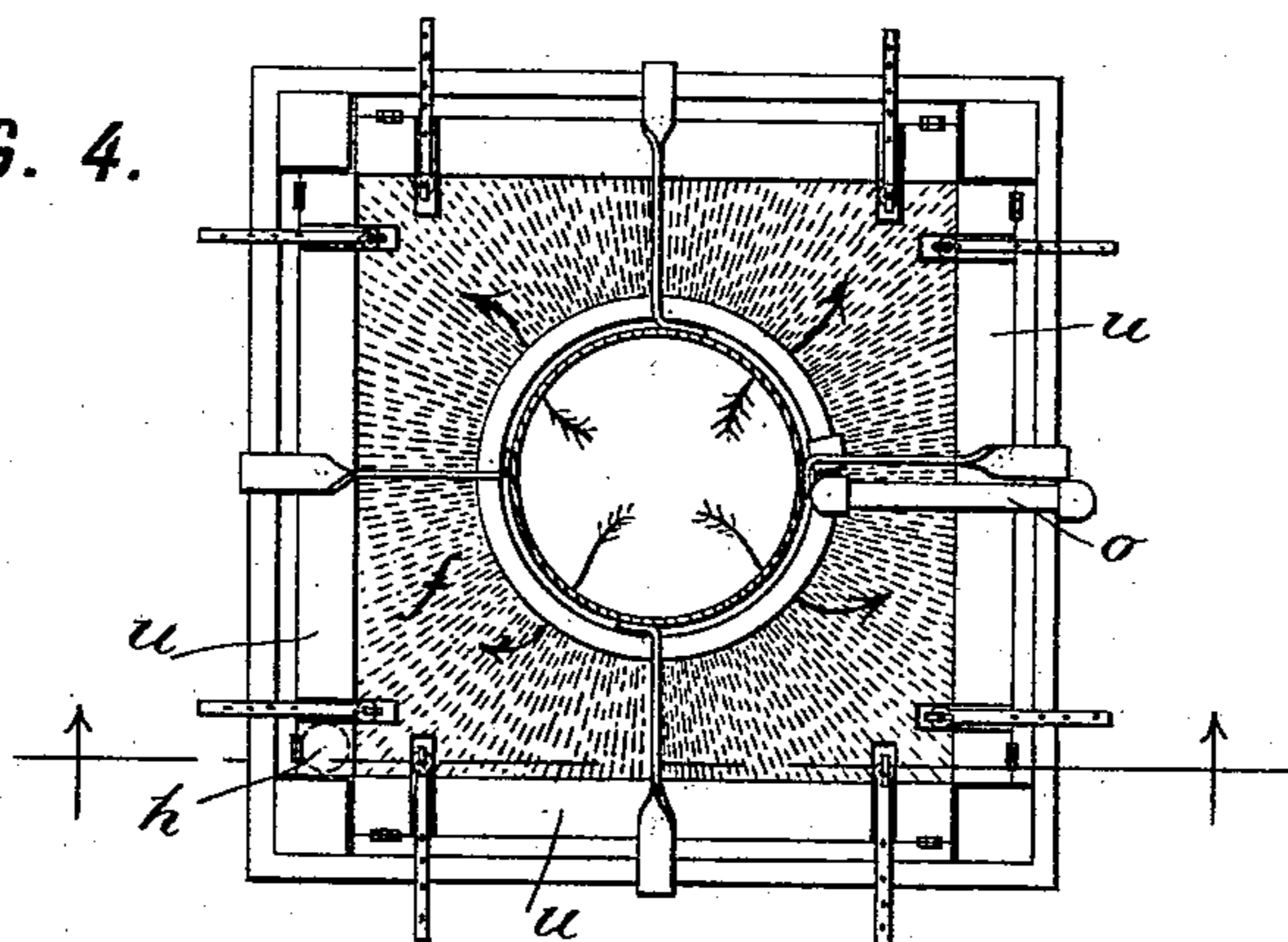


FIG. 5.

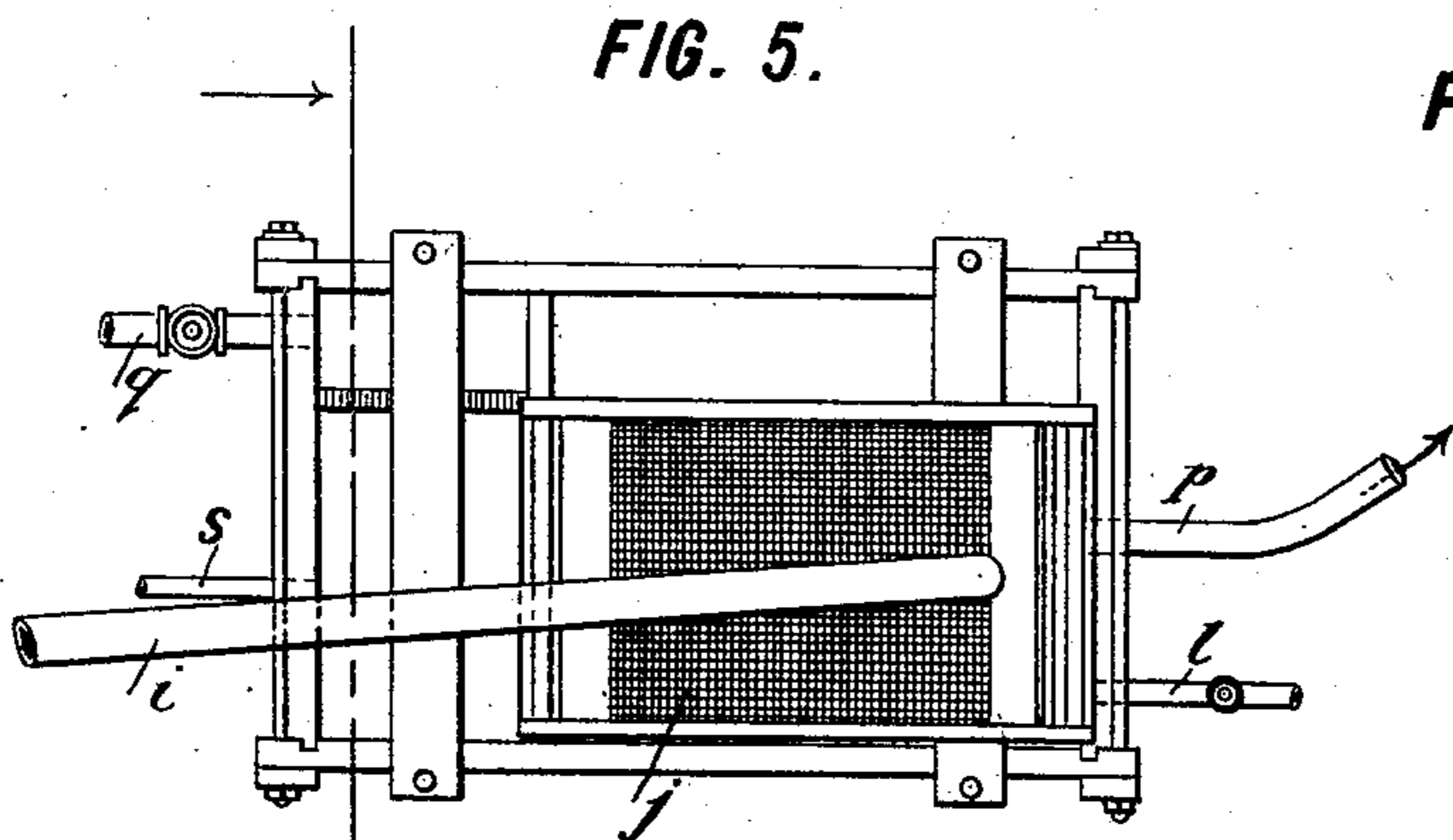
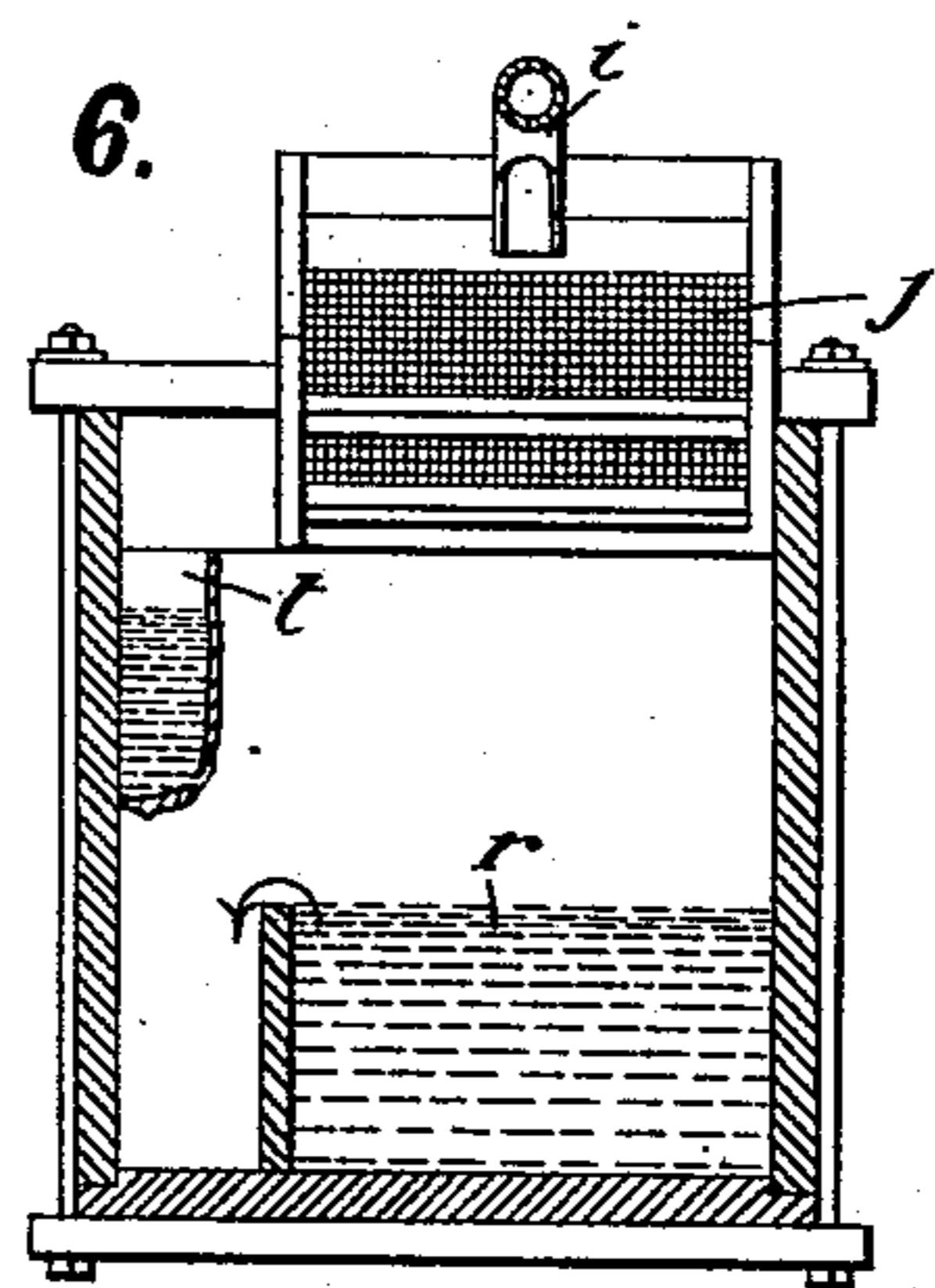


FIG. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM H. HANKINSON, OF NEW YORK, N. Y.

## DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 507,319, dated October 24, 1893.

Application filed August 31, 1892. Serial No. 444,627. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. HANKINSON, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Dust-Collectors, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to improvements in dust collectors or separators.

The main object of my invention is to collect the dust arising or proceeding from carpet beating and cleaning establishments, and precipitate it, so as to avoid the pollution of the atmosphere.

Another object of my invention is to accomplish this result with a minimum amount of water.

With these objects in view, my invention consists in such features of construction and combination of parts as will first be described in connection with the accompanying drawings and then pointed out in the claims.

In the drawings—Figure 1 is a side elevation, partly in section, illustrating a plant embodying my invention. Fig. 2 is a detail, vertical sectional view, partly in elevation, of the first reservoir. Fig. 3 is a similar view of the second reservoir. Fig. 4 is a top, plan view of the second reservoir. Fig. 5 is a similar view of the supply tank and strainers. Fig. 6 is a detail, sectional view of Fig. 5, taken on the line  $x-x$ , looking in the direction of the arrows.

Referring to the drawings,  $a$  is a flue leading from the exhaust fan or other device which removes the dust-laden air from the carpet-cleaning or other machines and forces it through the flue,  $a$ , to a dust-reservoir,  $b$ , preferably situated partly below and partly above the roof of the building. In this reservoir,  $b$ , is located the upper end of a water-supply pipe,  $n$ , having a sprayer,  $c$ , at its upper end. The upper end of the dust-reservoir,  $b$ , communicates with a second reservoir,  $g$ , by means of a pipe,  $e$ , preferably bent as shown, and opening into the reservoir,  $g$ , at a short distance above its bottom. Around the pipe,  $e$ , is a spray-pipe,  $f'$ , in communication with the pipe,  $n$ , through a pipe,  $o$ . The bottom of res-

ervoir,  $g$ , is connected to the bottom,  $d$ , of reservoir,  $b$ , by a pipe,  $h$ , while the top of reservoir,  $g$ , is provided with lids,  $u$ , which may be opened or closed, as desired.

A supply tank having a clean water compartment,  $k$ , and a waste water compartment,  $r$ , is located at a suitable point below the reservoirs,  $b$ , and  $g$ , being provided with inclined sieves or screens,  $j$ , as shown. A pipe,  $i$ , connected to the bottom,  $d$ , of the reservoir,  $b$ , has its lower end opening above the upper end of the upper screen. The lower ends of the screens are arranged to deliver the tailings or overflow into compartment,  $r$ , which compartment is connected with the sewer by an outlet pipe,  $q$ , an overflow pipe,  $s$ , also being provided. An inlet pipe having a faucet,  $l$ , supplies water from any suitable sources when desired, while a pump,  $m$ , pumps the clear water from compartment,  $k$ , through pipe,  $p$ , to the reservoirs,  $b$ , and  $g$ , through pipes,  $n$ , and  $o$ .

The operation of my apparatus, briefly stated, is as follows: The dust-laden air from the carpet-cleaning or other machines is forced through the flue,  $a$ , to reservoir,  $b$ , where it is compelled to ascend and pass through a spray of water, issuing from the sprayer,  $c$ , the dust thereby becoming moistened, thus being rendered much heavier so that a large proportion of it drops down into the lower part,  $d$ , of the reservoir,  $b$ . The air, with that part of the dust which is precipitated, is forced through pipe,  $e$ , into reservoir,  $g$ , when it emerges from the pipe and turns upward, being then met by the spray,  $f$ , which removes the remaining dust and causes it to fall to the bottom of reservoir,  $g$ , the purified air escaping through the top of the reservoir, this escape being regulated as desired, by means of the doors or lids,  $u$ . The spray,  $f$ , together with the dust which falls in the bottom of reservoir,  $g$ , is carried through pipe,  $h$ , to the bottom,  $d$ , of reservoir,  $b$ , there uniting with the dust first precipitated, and with the water from sprayer,  $c$ . From here, the dust-laden water flows through pipe,  $i$ , to the screens,  $j$ , which strain the dust from the water and allows the clean water to pass into compartment,  $k$ , from whence it is pumped to the sprayers,  $f$ , and  $c$ , to be used over again. The dust, together with a small

percentage of water, is carried from the screens into the compartment, *r*, when it is conducted to the sewer through pipe, *q*, or carried off by pipe, *s*, in case of an overflow.

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

10 1. The combination, with a primary and a secondary dust receiver, and a flue connecting both receivers, of a circular sprayer surrounding the lower end of the flue and located within the secondary dust receiver, substantially as set forth.

15 2. The combination, with a primary and a secondary dust receiver, a flue connecting both receivers and a sprayer for each receiver, of a pipe connecting the bottom of the secondary receiver to the bottom of the primary receiver, substantially as set forth.

3. The combination, with a primary and a 20 secondary receiver, a flue connecting both receivers, and a sprayer for each receiver, of a pipe connecting the bottoms of both receivers, a straining device, a pipe connecting the bottom of the primary receiver with the strain- 25 ing device, and a pump arranged to pump the water from the straining device to the sprayers, substantially as set forth.

4. A straining device comprising a tank with two compartments, and an inclined sieve 30 above one of the compartments and having its lower end opening over the other compartment, substantially as set forth.

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Witnesses:

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