

(No Model.)

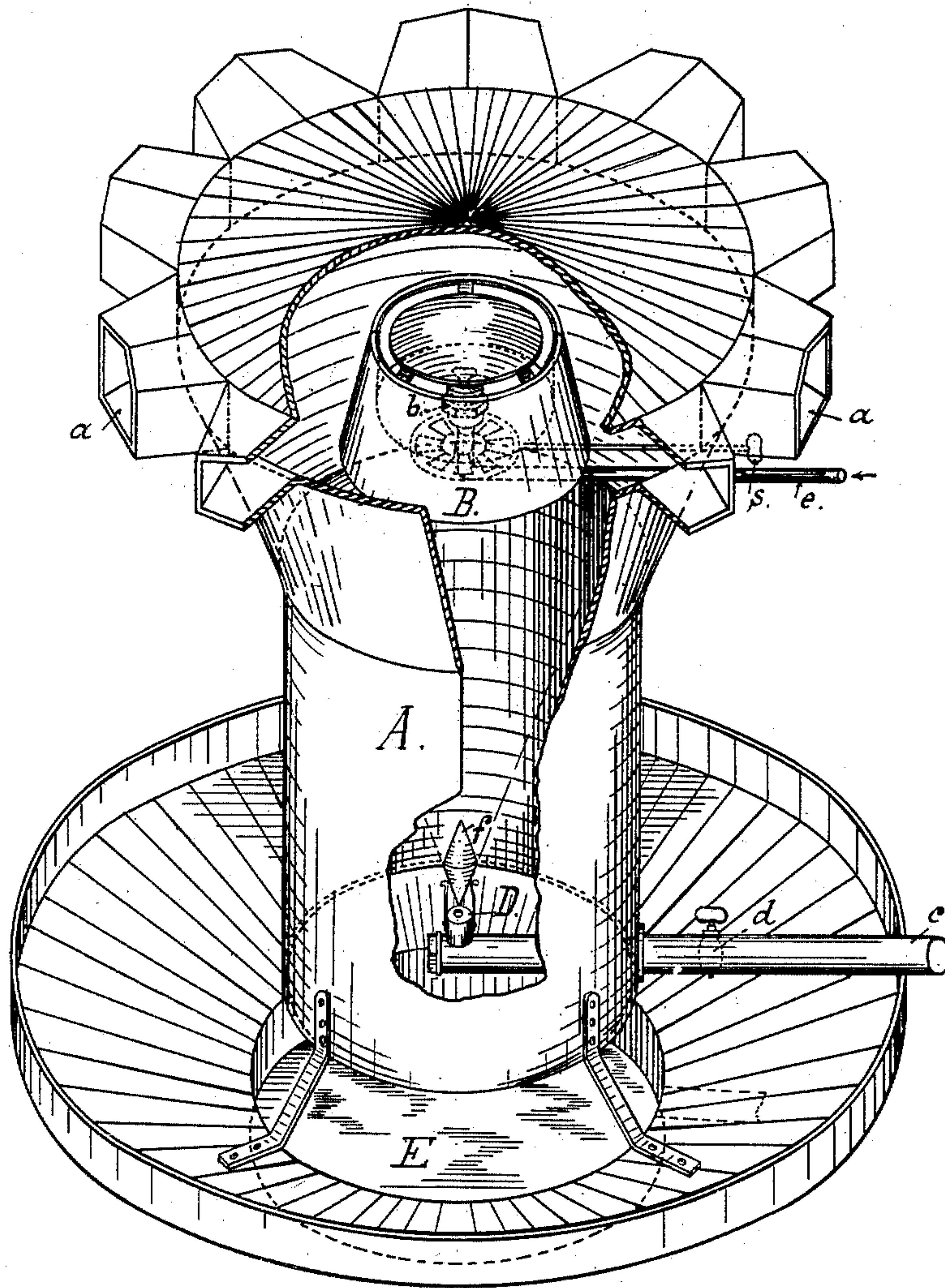
2 Sheets—Sheet 1.

E. H. C. OEHLMANN.
AIR COOLING APPARATUS.

No. 468,115.

Patented Feb. 2, 1892.

Fig. 1.



Witnesses:

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

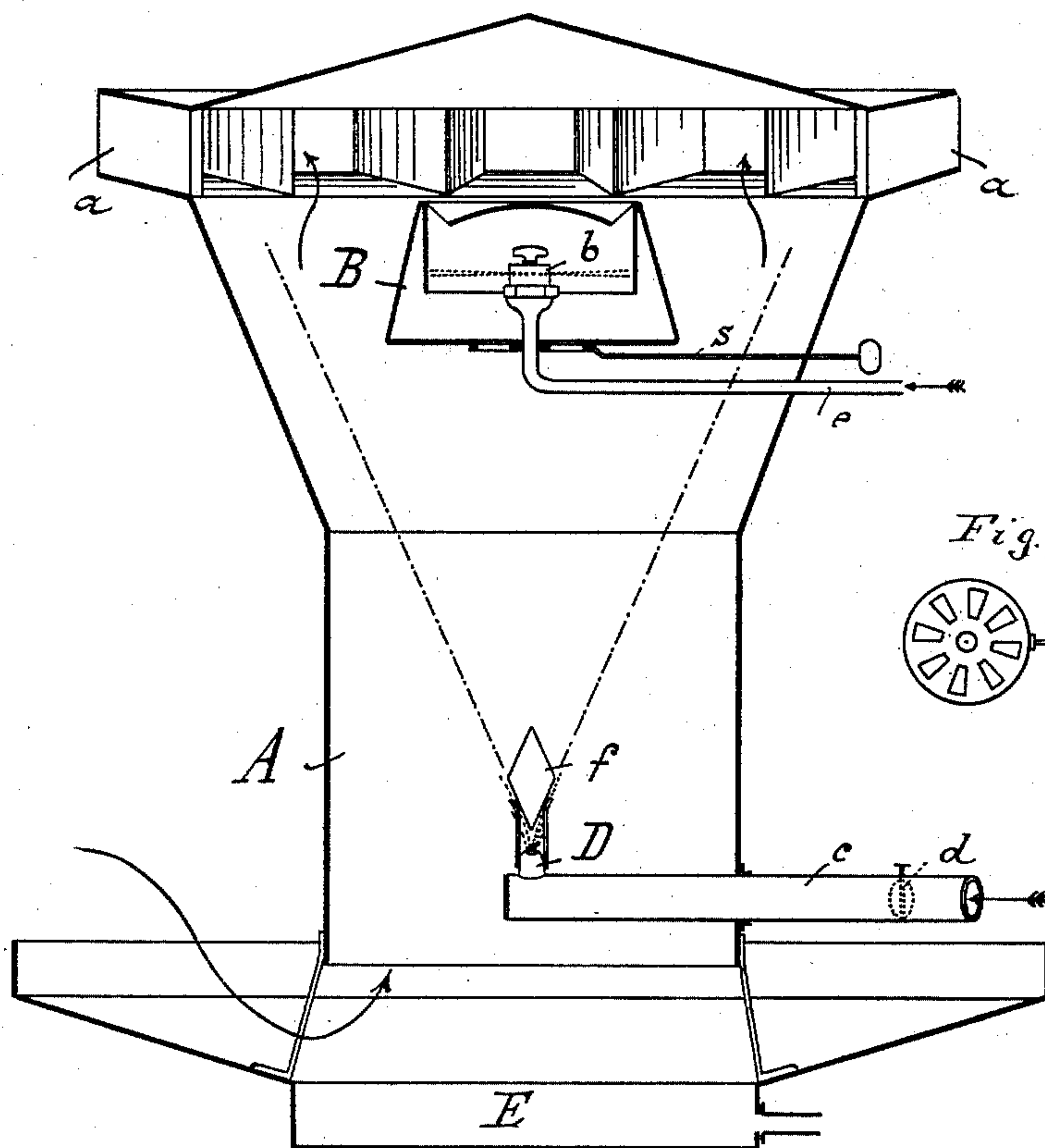
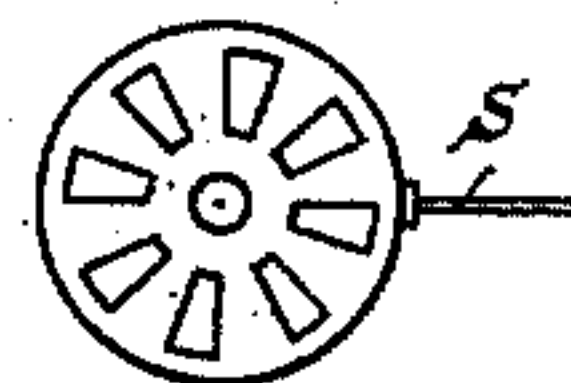


Fig. 3.



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UNITED STATES PATENT OFFICE.

EMIL HEINRICH CONRAD OEHLMANN, OF BERLIN, GERMANY.

AIR-COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 468,115, dated February 2, 1892.

Application filed April 8, 1889. Serial No. 306,431. (No model.)

To all whom it may concern:

Be it known that I, EMIL HEINRICH CONRAD OEHLMANN, a subject of the German Emperor, residing at Berlin, in the Kingdom of Prussia, German Empire, have invented a new and useful Apparatus for Ventilation and Air-Moistening, of which the following is a full, clear, and exact description.

Certain of the apparatus for moistening the air hitherto known present the disadvantage that, while they impart in a more or less perfect degree the necessary moisture to the air in the working-rooms, they do not effect the admission of fresh air, and consequently leave the ventilation of the rooms entirely disregarded. These deficiencies are done away with by the apparatus forming the object of the present invention, which is arranged so that underneath a spray or water diffusing device fresh forced or compressed air is introduced in such a manner that not only the degree of moistening but also the admission of the fresh air into the working-room may be regulated according to the requirements of the case.

An apparatus of this description is shown in the annexed drawings, in which—

Figure 1 is a perspective view, partly broken away, of an apparatus embodying my invention; and Fig. 2 is a vertical section of the same, taken in front of pipes *c* and *e*. Fig. 3 is a plan view of the rosette-valve for admitting air into the spray.

In the upper part of the apparatus A, which is provided with the distributing-orifices *a*, the spray or water diffusing device B is arranged, inclosing the central nozzle *b* and provided at its lower end with a rosette-valve, which is moved by means of a lever *s* from outside and which regulates the admission of the air. Below the spray or water diffusing device the nozzle D for the introduction of fresh forced air is arranged, which receives such air through the pipe *c* from a fan or ventilator or air-compressor, which may simultaneously feed several apparatus. Under the apparatus A the receptacle E for drip-water is arranged. The nozzle D for the forced air carries above its mouth a stationary or movable cone *f*, imparting to the forced air, which flows from the nozzle in a full jet, a conical shape, aspirating or inducing a cur-

rent of the air from the working-room. By the application of this cone the required conical shape is given to the air-current flowing from the nozzle without any material loss of its power, so that almost the full air-pressure originated by the fan or ventilator is used in the apparatus.

The apparatus works as follows: The throttle-valve *d* in the air-admission pipe *c* is opened, and the conical-shaped air-current draws the air from the working-rooms and is intimately mixed with the same before reaching the distributing-orifices *a*. The admission-pipe *e* for the water conducted under pressure to the nozzle is also opened, so that the spray or diffusing device is likewise in operation. By means of the lever *s* the rosette-valve, admitting the air into the spray, is now opened, so that the current of air originated by the cone placed in the air-nozzle carries along the fine particles of water and turns them over to the principal air-current. The arrangement of the nozzle for the compressed air underneath the spray or water diffusing apparatus, whereby a pushing effect of the air-current is obtained, causes the moistened air to extend itself in the room over a much larger area than would be the case with the application of an aspirating air-current. The larger spreading of the moistened-air current involves a better mixture with the air of the room, which of course allows of an intense moistening of the air flowing out of the apparatus, whereby the efficiency of the apparatus is considerably enhanced. The fan or ventilator producing the compressed air may be arranged in such a way as to use at pleasure fresh outside air or in cold weather heated air.

Besides its cheapness of manufacture and its plain manner of operation the apparatus presents the advantage that without any alteration it may be used, first, as air-moistening apparatus; second, as ventilating apparatus if outside air is used for the compressed-air current, and, third, as air-moistening and ventilating apparatus simultaneously.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a ventilating apparatus, the combination, with the spray or water diffusing device

inclosing the central nozzle, pipe *e* for conducting water to said nozzle, and a valve for regulating the admission of air to the same, of a nozzle for forced air, a pipe for supply-
5 ing said air, and a cone-shaped body between the spray device and the air-nozzle with its sharp end turned to the latter, so as to impart a conical shape to the air-current flowing from the nozzle, substantially as set forth.
10 2. In a ventilating apparatus, the combination, with the casing having distributing orifices and the water or spray diffusing device, of the nozzle D, pipe *c* for conducting forced

air to the same, throttle *d* in said pipe, the drip-water pan E, having above it an opening 15 for an induced current of air from the apartment to be ventilated, and a cone-shaped body between the spray device and the air-nozzle, substantially as set forth.

In witness whereof I have hereunto set my 20 hand in the presence of two witnesses.

EMIL HEINRICH CONRAD OEHLMANN.

Witnesses:

GEO. H. MURPHY,
F. VON VERREN.