

J. CLONTZ & A. BRETZ.
COLD AIR MACHINE.
APPLICATION FILED APR. 30, 1912.

1,037,728.

Patented Sept. 3, 1912.

2 SHEETS—SHEET 1.

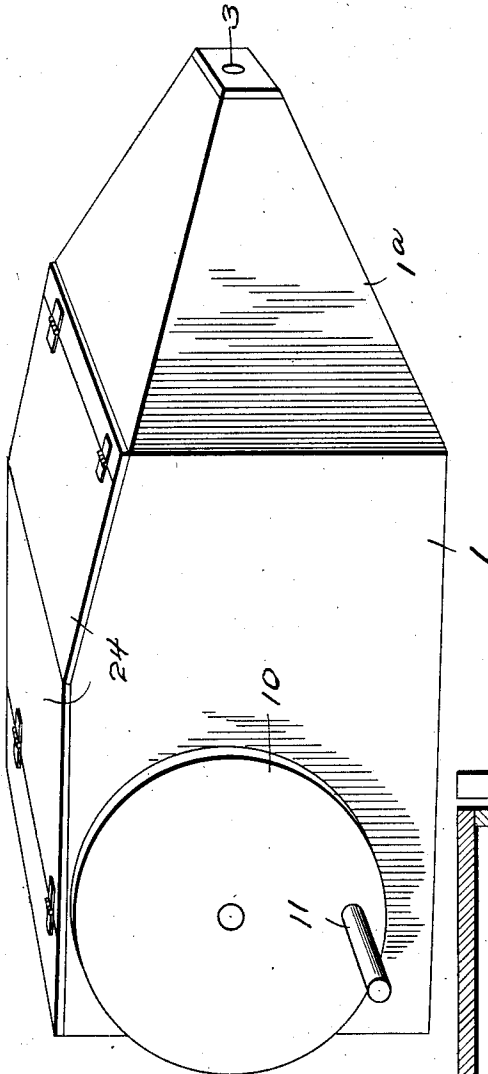


FIG. 1.

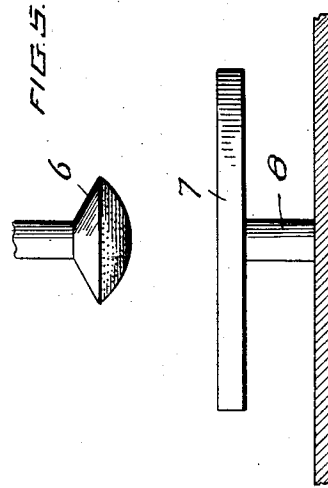


FIG. 5.

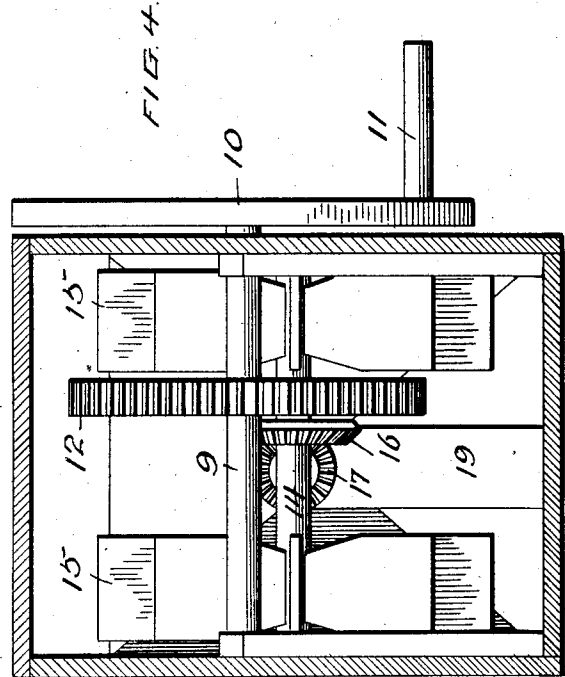


FIG. 4.

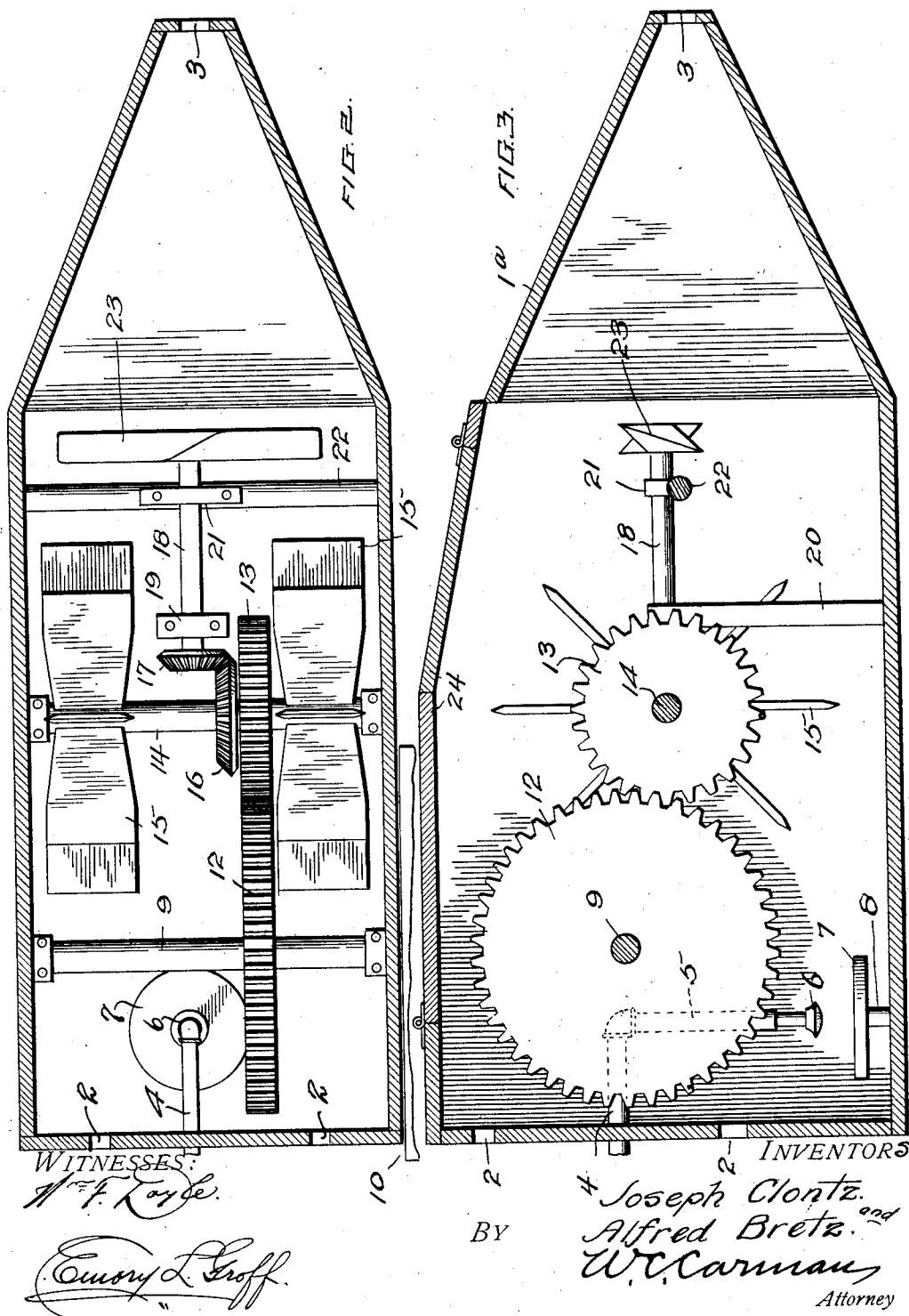
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UNITED STATES PATENT OFFICE.

JOSEPH CLONTZ AND ALFRED BRETZ, OF YOUNGSTOWN, OHIO.

COLD-AIR MACHINE.

1,037,728.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed April 30, 1912. Serial No. 694,162.

To all whom it may concern:

Be it known that we, JOSEPH CLONTZ and ALFRED BRETZ, citizens of the Kingdoms of Roumania and of Austria, respectively, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Cold-Air Machines, of which the following is a specification.

The present invention relates to certain new and useful improvements in the design and construction of air cooling and moistening machines such are adapted to be employed in connection with buildings and like structures for ventilating purposes.

The object of the invention is to provide a machine of this character which is comparatively simple and inexpensive in its construction, which can be easily operated, and which will serve in an effective manner to moisten and cool the air passing through the same.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a perspective view of a cold air machine constructed in accordance with the invention. Fig. 2 is a horizontal sectional view through the same. Fig. 3 is a vertical longitudinal sectional view through the same. Fig. 4 is a transverse vertical sectional view through the rear end of the machine, looking toward the forward end thereof, and Fig. 5 is a detail view of the spraying nozzle and stationary disk.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates a casing which is of an elongated formation, and is provided at the rear end thereof with suitable air inlet openings 2. The forward end of the casing is tapered, as indicated at 1^a, and provided at the extreme end thereof with an outlet opening 3 through which the treated air discharges into the room or compartment.

A cold water pipe 4 enters the casing through the rear end thereof and has the inner end extended downwardly at 5 toward the bottom of the casing. A spraying nozzle 6 is applied to the lower extremity of the cold water pipe, and a stationary disk or plate 7 is arranged immediately under the nozzle 6, the said plate being shown as supported in an elevated position above the floor of the casing by means of a suitable standard 8. The cold water flowing through the pipe 4 is discharged through the nozzle 6 in a spray which strikes against the stationary disk 7 and is broken up thereby into minute particles which are adapted to permeate the entire rear end of the casing.

A transverse shaft 9 is arranged within the rear end of the casing 1, one end of the shaft projecting through the casing to the exterior where it is provided with a drive wheel 10, the said wheel being shown as having a handle 11 applied thereto. This shaft 9 is provided with a gear wheel 12 which meshes with a pinion 13 on a counter-shaft 14 which also extends transversely across the interior of the casing 1, and has the ends thereof suitably journaled upon the side walls of the casing. Paddles or beaters 15 are applied to opposite ends of the shaft 14, the said paddles being adapted to be rotated through the medium of the drive wheels 10 so as to act as beaters and cause a thorough mixing of the air and spray.

At a point between the beaters 15, the shaft 14 is provided with a beveled gear wheel 16 which meshes with a beveled pinion 17 at the rear end of a longitudinal shaft 18. This shaft 18 is journaled in a bearing 19 at the upper end of a standard 20 and in a bearing 21 upon a cross bar 22, the forward end of the shaft being provided with a suction fan 23. This suction fan 23 is driven simultaneously with the beaters 15 and serves to cause the air to circulate through the casing and be discharged through the outlet 3 at the forward end of the casing. It will thus be obvious that the cold water is discharged from the nozzle 6 in a spray which strikes upon the stationary disk 17 and is broken up by the same into a fine mist which permeates the entire rear end of the casing. The rapid rotation of the paddles or beaters 15 causes a thorough mixing of the spray with the air so as to cool and moisten the air, while a continu-

ous circulation of air through the casing is caused by the fan 23. The top of the casing may be provided with a pair of doors 24 which normally close the casing, but which
 5 can be readily opened at any time to admit of access being had to the interior of the casing.

Having thus described the invention, what we claim as new and desire to secure
 10 by Letters Patent, is:—

1. A machine of the class described comprising a casing having an air inlet at one end and a discharging opening at its opposite end for the moistened and cooled air,
 15 a water-spray producing device arranged within the casing, rotary beaters arranged within the casing in advance of the said water-spray producing device, a circulation-producing fan arranged beyond the beaters,
 20 and common driving means for the beaters and the said fan.

2. A cold air machine including a casing through which air is adapted to pass, water
 25 spraying means at the rear end of the casing, a transverse drive shaft extending across the casing and having one end thereof projecting through the casing, a drive wheel upon the projecting end of the shaft, a second transverse shaft extending across the
 30 casing and geared to the drive shaft, a pair

of rotary beaters upon opposite ends of the second shaft, a longitudinal shaft arranged in the casing and geared to the second shaft, and a circulation producing fan upon the longitudinal shaft.

3. A cold air machine including a casing through which air is adapted to pass, an inverted water spraying nozzle arranged within the rear end of the casing, a stationary plate under the water spraying
 40 nozzle for breaking up the sprayed water into a mist, a transverse drive shaft extending across the casing, means for turning the drive shaft, a second transverse shaft extending across the casing and geared to the
 45 drive shaft, a pair of rotary beaters on opposite ends of the second transverse shaft, a longitudinal shaft having one end thereof geared to the second transverse shaft between the rotary beaters, and a circulation
 50 producing fan upon the longitudinal shaft.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses.

JOSEPH CLONTZ.
 ALFRED BRETZ.

Witnesses:

WM. W. ZIMMERMAN,
 AGNES A. JOHNSTON.

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