H. F. RAND.

DEVICE FOR EQUALLY DIVIDING AND DISTRIBUTING A CURRENT OF AIR.

APPLICATION FILED DEC. 22, 1908.

962,720. Patented June 28, 1910.

Fig 1

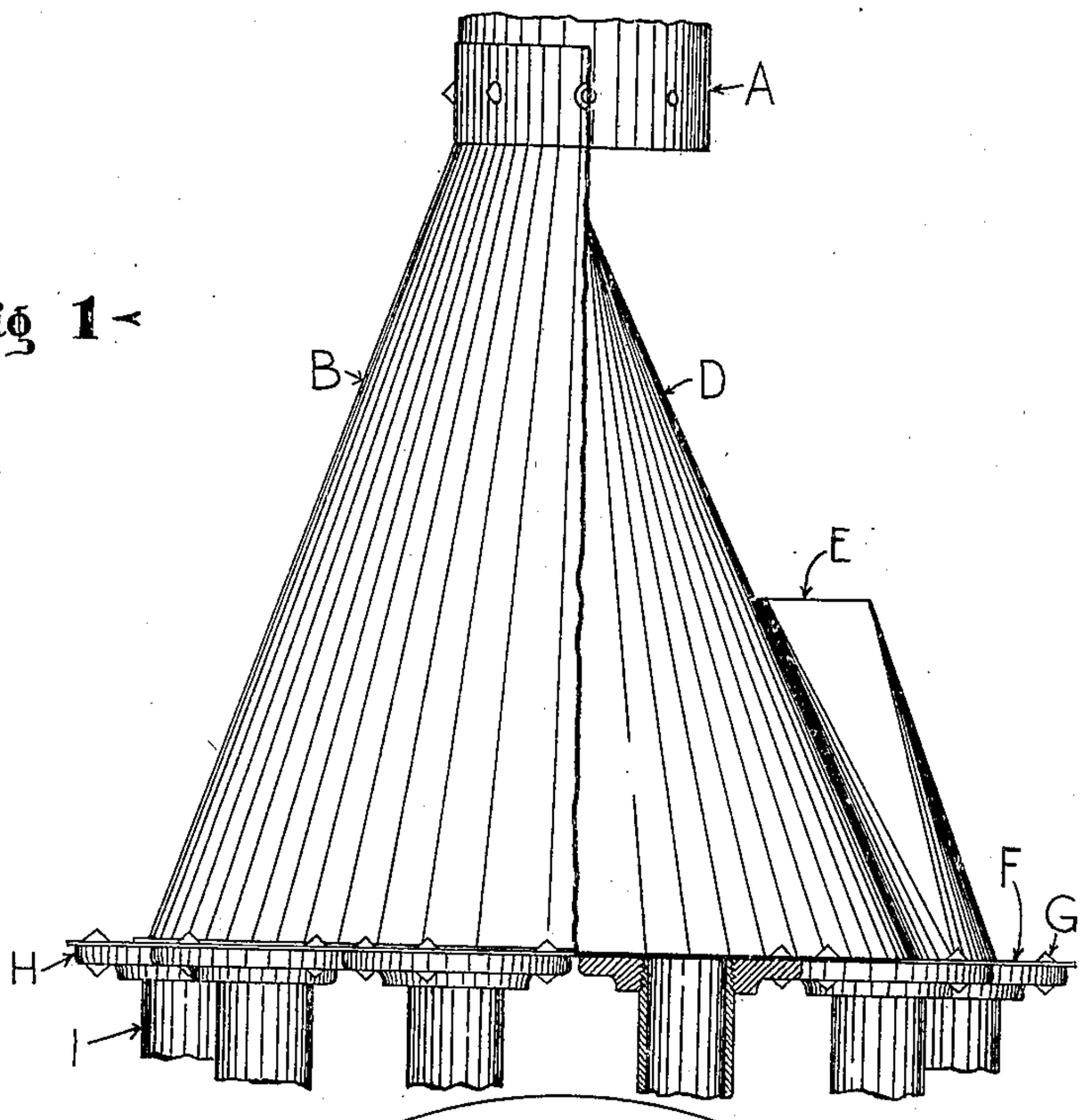
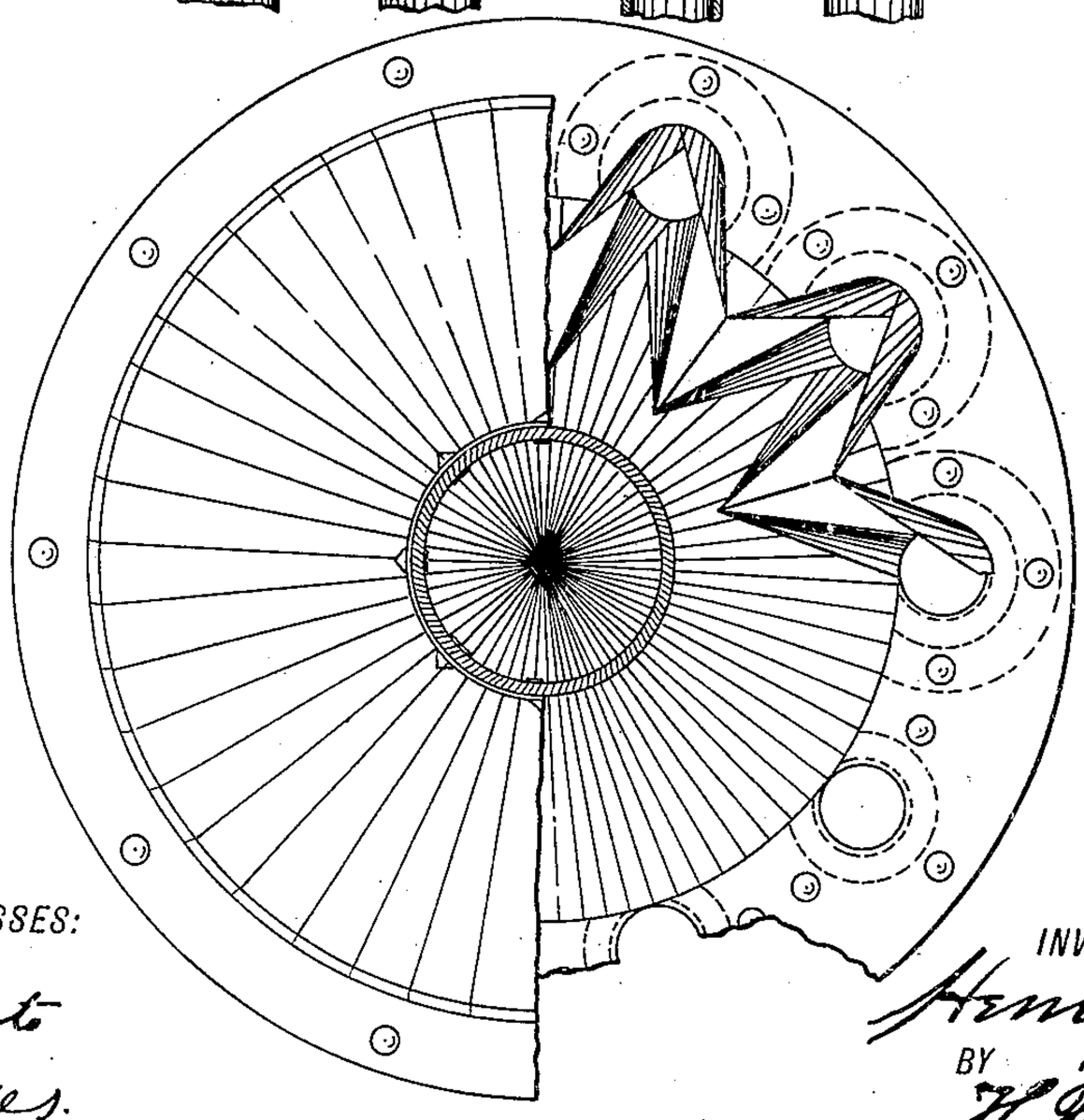


Fig 2



WITNESSES:

E. Dwoto

J. G. Jones.

INVENTOR

Henry F. Rand

BY

H. F. Norris

ATTORNEY

ANDREW B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY F. RAND, OF TACOMA, WASHINGTON.

DEVICE FOR EQUALLY DIVIDING AND DISTRIBUTING A CURRENT OF AIR.

962,720. Specification of Letters Patent. **Patented June 28, 1910.**

Application filed December 22, 1908. Serial No. 468,880.

To all whom it may concern:

Be it known that I, HENRY F. RAND, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Devices for Equally Dividing and Distributing a Current of Air, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to devices for splitting up a current of air into a number of separate currents and has for its object to provide a device which shall be cheap to make and operate and which shall perform its functions without materially increasing the friction of the air. I attain these and other objects by the devices and constructions illustrated in the accompanying drawing in which—

Figure 1 is an elevation of my invention showing a part of the outer casing broken away to reveal the interior thereof; and Fig. 2 is a plan thereof similarly broken away to reveal the interior.

Similar letters of reference refer to similar parts throughout the several views.

This invention consists of an interior cone D, surrounded by a conical casing B separated from the cone D, and a plurality of dividing partitions E within the space between the cone D and the casing B and leading to the distributing pipes I.

The pipe A conducts the air from the pressure blower to the distributer. The hollow truncated cone B is secured to the end of the pipe A and forms the casing of the distributer. The plate F closes the base of the conical casing B to which it is suitably secured. A distributing cone D is secured to the plate F coaxially with the conical casing B and with the end portion of the pipe A. This cone D is of smaller diameter at the base F than is the casing B and its sides are preferably not quite so steep, so that the two cones B and D converge toward the base. Within the space between the cones D and B are secured the dividing partitions E. These partitions are shaped to fit between the two cones, presenting a sharp, straight radial edge at the dividing point, which is between the apex and base of the cone D, and leading therefrom with inclined and gradually curved sides to the holes through the base plate F. The dividing edges of the partitions are equidistant between holes to which they lead. The partitions leading to any hole are preferably made of separate pieces joining together at the hole and each extending upward therefrom and diverging from each other toward the respective dividing edges. The two adjacent partitions of adjacent holes are preferably formed of a single piece bent across the middle to form the dividing edge and cut and bent to fit between the cones D and B and to lead by gradually changing curvatures to the circular holes. The pipes I are preferably screwed into the flanges H, which are secured by the rivets G to the outer side of the plate F at each of the holes therethrough. The air passes first through the cylindrical pipe A; then through the annular space between the cones D and B, which space is gradually increased in diameter but diminished in width; then this annular space is divided by the edges of the partitions into a series of segments whose corners are gradually rounded as the base is approached until they form true circles.

Having described my invention, what I claim is,

In a device of the class described, the combination with a pipe; of a hollow conical casing coaxial therewith and secured thereto; a base closing said casing and having a plurality of circular outlet holes arranged therein within the casing; a cone secured to said base and coaxial with said casing and pipe and separated therefrom and extending from the base toward the pipe and adapted to divide the cylindrical stream in the pipe into an annular stream of increasing diameter; and a series of partitions fitting between said cone and said casing and having inclined and gradually curved sides and extending from a mediate point on said cone to the outlet holes in said base.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY F. RAND.

Witnesses:

THOS. D. HITCHCOCK,

BELLE R. C. OVERFIELD.