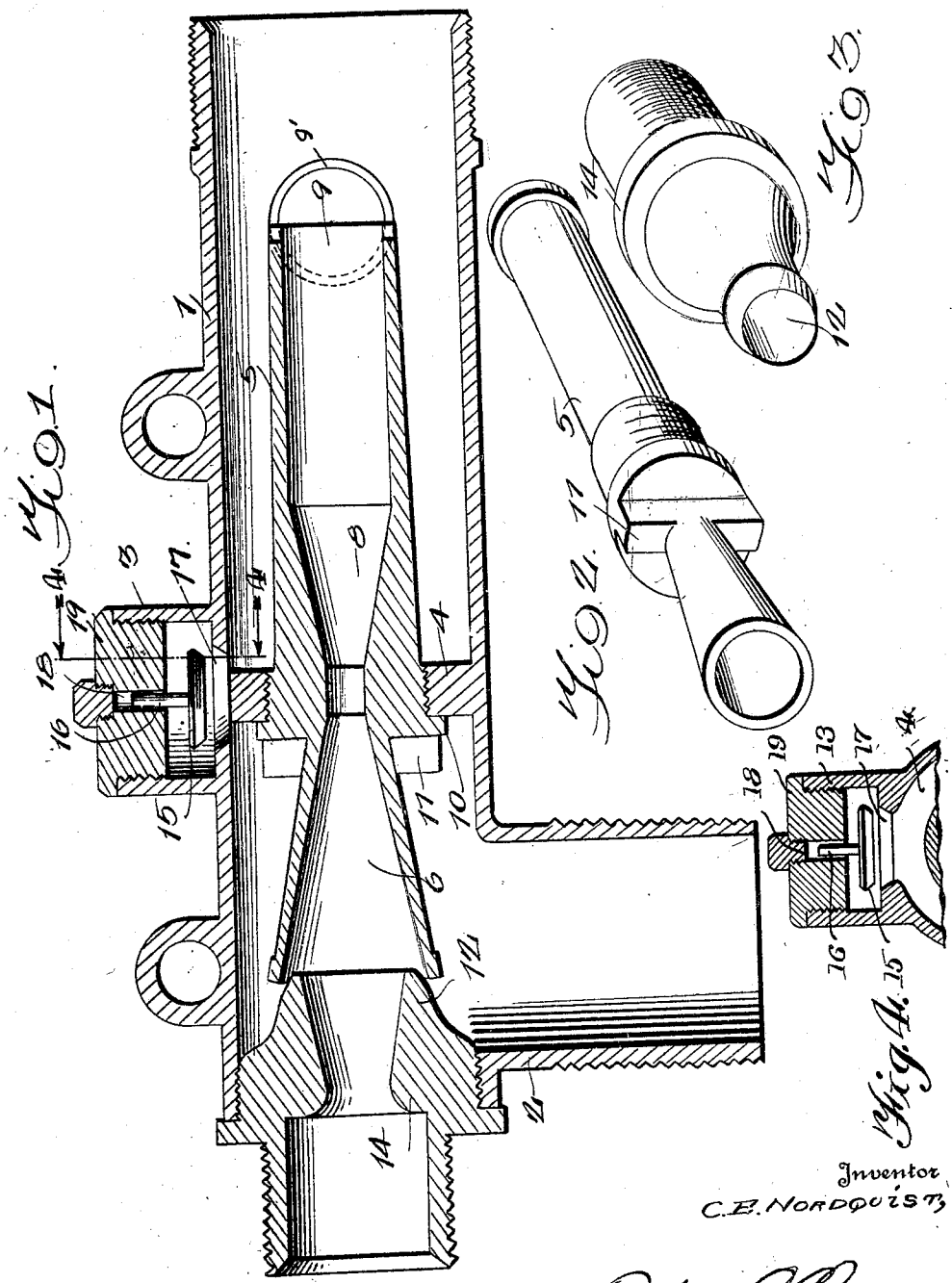
Aug. 11, 1925. 1,549,375

C. E. NORDQUIST

INJECTOR

Filed Aug. 28, 1922



Inventor
C. E. NORDQUIST

WITNESSES
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UNITED STATES PATENT OFFICE.

CHARLES E. NORDQUIST, OF SOUTH CONNELLSVILLE, PENNSYLVANIA.

INJECTOR.

Application filed August 28, 1922. Serial No. 584,772.

To all whom it may concern:

Be it known that I, CHARLES E. NORDQUIST, a citizen of the United States, residing at South Connellsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in an Injector, of which the following is a specification.

The present invention relates to an injector used for the purpose of mixing water with steam for use upon steam boilers and the like. The principal object of the invention is to provide a device of this nature which will be simple and efficient in construction, reliable in operation, durable, easily assembled and disassembled.

With the above and numerous other objects in view as will appear as the description progresses, the invention resides in certain novel features of construction, and the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:—

Figure 1 is a longitudinal vertical section through the device,

Figure 2 is a detailed perspective of the inner tube thereof,

Figure 3 is a perspective of the nipple used in conjunction therewith, and

Figure 4 is a detail transverse section taken substantially on the line 4—4 of Figure 1 looking in the direction of the arrows.

Referring to the drawing in detail it will be seen that 1 represents the tubular casing which is open at its ends and provided with a branch 2 adjacent one end. A valve casing 3 is mounted on the tubular casing 1 intermediate the ends thereof and at a point diametrically opposed to the branch pipe 2. A wall 4 is internally mounted within the casing, being provided with an opening having internal threads for receiving an inner tube 5 which has a conical shaped bore 6 communicating with a second conical shaped bore 8 which in turn communicates with a bore 9. A shoulder 10 is arranged on the intermediate portion of the inner tube 5 adjacent the threads thereof so as to abut the wall 4 and suitable lugs 11 are provided adjacent thereto so that an implement may be engaged therewith for screwing the inner tube in place. The bore 6 is in communication with the spout 12, a slight space being allowed therebetween for the passage of water. This spout 12 is mounted on the nipple 14 which is threaded in the end of the casing adjacent the branch 2. It will be understood that steam passes through the nipple 14 and through the inner tube 5 whereas the water passes through the branch 2 through the space between the inner tube and the nipple so as to mix with the steam. An overflow valve plug is shown at 9'.

A valve 15 having a stem 16 is mounted within the valve casing 3 and is adapted to normally rest upon the seat 17 and the upper flat surface of the wall 4 extending across the seat 17. The stem of the valve projects through a bore 18 provided in the plug 19 in the opening or end of the casing 3. Should the pressure of the water become too great this valve will be automatically lifted thereby allowing the water to freely pass through the casing 3 and thereby flow from one portion of the casing 1 to the other portion, as is evident from an inspection of Figure 1.

It is thought that the construction and operation of the invention will be now thoroughly understood without a more detailed description thereof, but it is desired to point out that I have merely disclosed the preferred embodiment of the invention, and that numerous changes in the details of construction and in the combination and arrangement of parts may be resorted to without departing from the spirit of the invention as hereinafter claimed.

Having thus described my invention what I claim as new is:—

1. An injector of the class described including a casing having a branch adjacent one end thereof, both ends of the casing being open, a wall interiorly disposed intermediate the ends of the casing to divide the casing into two compartments, a tube extending through said wall connecting the two compartments, said casing provided with an opening across which a portion of said wall extends, said opening connecting the two compartments of the casing, a valve casing disposed over the opening, and a valve movable in the valve casing and seatable on said opening and the portion of said wall extended across said opening all in the manner and for the purpose specified.

2. An injector of the class described including a casing having open ends, a branch connected with the casing adjacent one end, a wall disposed interiorly of the casing intermediate its ends separating said casing

into two compartments, a tube extending through said wall, a nipple in one end of the casing adjacent the branch and extending into one end of the tube, said nipple being slightly spaced from the end of the tube into which it extends so that water may pass between the nipple and the tube from the branch, said casing provided with an opening connecting the two compartments of the casing across which the wall extends, a valve casing exteriorly of first mentioned casing over the opening and a valve therein seatable in the opening and on the portion of the wall extended there across all in the manner and for the purpose specified.

3. An injector of the class described including a casing having open ends, a branch connected with the casing adjacent one end, a wall disposed interiorly of the casing intermediate its ends separating said casing into two compartments, a tube extending through said wall, a nipple in one end of the casing adjacent the branch and extending into one end of the tube, said nipple being slightly spaced from the end of the tube into which it extends so that water may pass between the nipple and the tube from the branch, said casing provided with an opening connecting the two compartments of the casing across which the wall extends, a valve casing exteriorly of the first mentioned casing over the opening and a valve therein seatable in the opening and on the portion of the wall extended there across all in the manner and for the purpose specified, and a stem extending from the valve, a plug engaged in the valve casing and provided with a bore for receiving the stem of the valve.

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

CHARLES E. NORDQUIST.

Witnesses:

FRANCIS J. STADER,

FRENCH S. DURST.