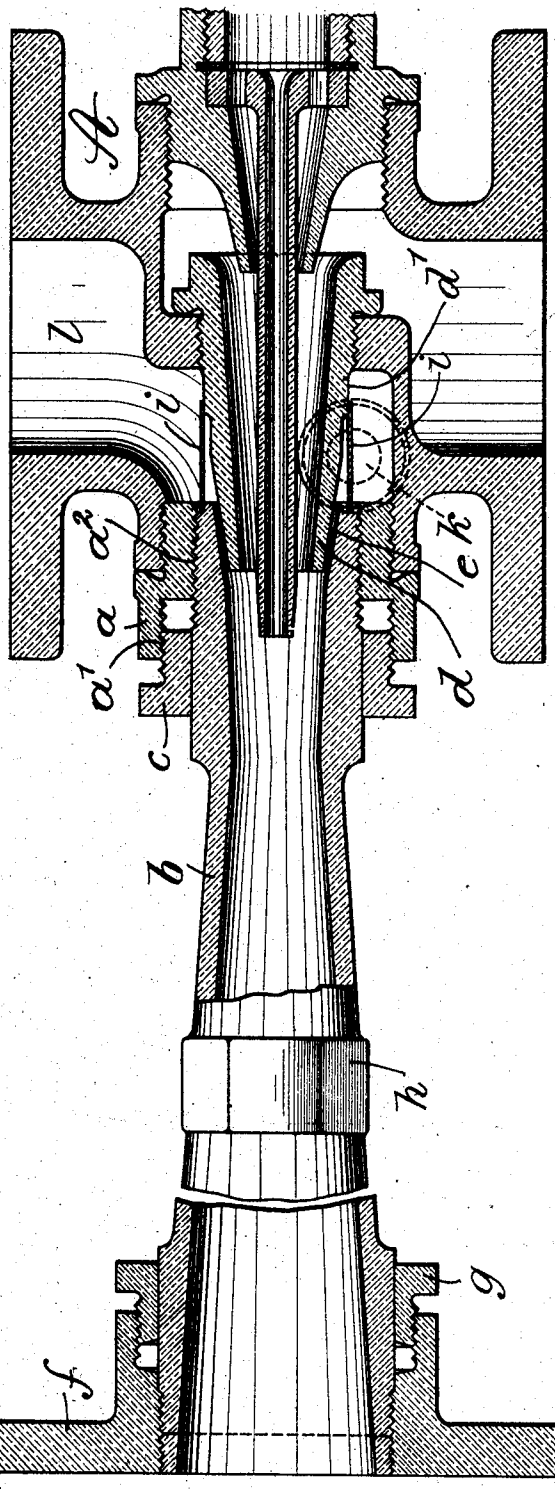
No. 778,122. PATENTED DEC. 20, 1904.

M. ERFURT.

INJECTOR.

APPLICATION FILED MAY 28, 1903.

NO MODEL.



Witnesses:-
C. H. Schilling
Gustav Heyde

Inventor:-
Max Erfurt
by Paul E. Schilling
attorney.

No. 778,122. Patented December 20, 1904.

UNITED STATES PATENT OFFICE.

MAX ERFURT, OF STRAUPITZ, NEAR HIRSCHBERG, GERMANY.

INJECTOR.

SPECIFICATION forming part of Letters Patent No. 778,122, dated December 20, 1904.

Application filed May 28, 1903. Serial No. 159,211.

To all whom it may concern:

Be it known that I, MAX ERFURT, a subject of the Emperor of Germany, residing at Straupitz, near Hirschberg, Silesia, Germany, have invented certain new and useful Improvements in Injectors, of which the following is a specification.

This invention has reference to improvements in injectors for mixing one or more liquids with steam.

The object of the invention is to provide means whereby the cross-section of the annular passage for one of the liquids can be adjusted during operation for the purpose of reducing or enhancing the percentage of the liquid introduced through this adjustable passage.

With these objects in view the invention consists in the novel construction and arrangements of parts, as will be described with reference to the accompanying drawing which represents a sectional elevation of my invention.

Screwed into the injector-casing A, which is of ordinary construction, is a sleeve *a* with two integral threads *a'* and a^2. The threads a^2 receive one end of the combining-tube *b*, and the threads *a'* receive the threads upon the stuffing-box *c*. The other end of the combining-tube threads into the connecting-flange *f* and is packed against the same by a stuffing-box *g*. A portion of the inner circumference of the combining-tube conforms to the outer circumference of the tapering portion of the nozzle *d*, which acts as a passage for one of the liquids, so as to form between the two surfaces an annular passage *e* for another liquid which enters through the port *l*. By rotating the combining-tube one way or the other it will screw farther into or out of the sleeve *a* and will correspondingly enlarge or reduce the cross-section of the annular passage *e*. For the purpose of getting a firm hold on the combining-tube with a wrench a nut-shaped enlargement *h* is formed thereon.

To prevent clogging of the adjustable passage, an annular strainer *i* is rigidly secured to the combining-tube and is adapted to be supported by and slide upon the cylindrical portion *d'* of the nozzle *d*. This strainer may be cleaned, or any accumulated obstruction may be removed through the cleaning-opening *k*.

Screwed into the casing and communicating with the nozzle *d* and the combining-tube *b* is a compound steam-nozzle for injecting steam and the liquids, which enter through the annular passage *e* and nozzle *d*.

I deem the forgoing explanation sufficiently plain that the operation of the device will be readily understood by all conversant in such matters, the extreme simplicity rendering an elaborate description unnecessary.

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

In an injector for mixing liquids with steam, the combination of a casing having therein a steam-inlet and a tapering nozzle, a sleeve secured in said casing, the said sleeve being oppositely disposed with respect to the said steam-inlet, and said nozzle, a combining-tube adjustable in said sleeve, an annular passage formed by a portion of the inner circumference of the combining-tube conforming to a portion of the outer circumference of the nozzle, an annular strainer secured to said combining-tube and adapted to slide on said nozzle, an opening in the casing for cleaning the strainer, and a stuffing-box packing said combining-tube against the injecting-casing, substantially as specified,

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

MAX ERFURT.

Witnesses:
A. SCHELBAS,
ALFR. MAUKSCH.