April 16, 1929. W. SCHROERS 1,709,745

ECONOMIZER TUBE

Filed Aug. 15, 1927

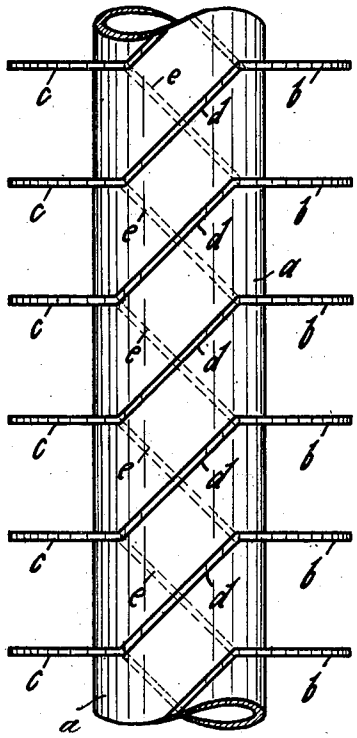

Fig. 1.

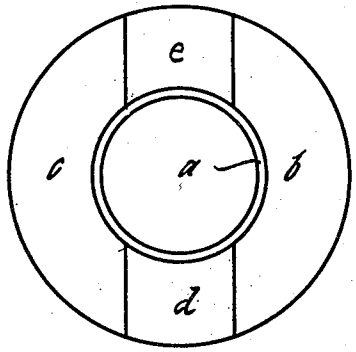

Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLY SCHROERS, OF KREFELD, GERMANY, ASSIGNOR TO JOHANNES KLEINEWEFERS, OF KREFELD, GERMANY.

ECONOMIZER TUBE.

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The ordinary economizer tubes having a smooth inner surface and cast of one piece with integral external disclike ribs, are liable to easily break between said ribs due to the high internal pressure existing in the tubes.

According to the invention, said drawback is overcome by arranging the integral external disclike ribs, each being composed of two segments at right angles to the longitudinal axis of the tube with a space left between them, and joining on each side of the tube the ends of the segments of said ribs alternately in a regular succession by means of straight inclined walls which are also integral with the tube and with said ribs. Thereby, a single or double continuous fin is formed around the tube, which strengthens the latter on its whole length and reliably prevents a breaking thereof.

The accompanying drawing shows by way of example a preferred constructional form of the improved economizer tube: Figs. 1 and 2 are respectively a side view and an end view thereof.

The economizer tube *a* is cast in one with its external disclike ribs, each being composed of two segments *b*, *c*, which are arranged at right angles to the longitudinal axis of the tube with a space left between them, while on each side of the tube the ends of the segments of said ribs are joined alternately in a regular succession by means of straight inclined walls *d*, *e* which are also cast in one with the tube and with said ribs, in such a way that a single or double continuous fin is formed around the tube, for the purpose explained.

A main advantage of the invention is that the moulding and casting in one of the tube with the straight disclike ribs and their straight joining walls can be effected in a very easy manner.

What I claim, is:—

An integral ribbed economizer tube having a smooth inner surface and comprising straight external disclike ribs, each being composed of two segments, arranged at right angles to the longitudinal axis of the tube with a space left between them, and straight inclined walls joining on each side of the tube the ends of the segments of said ribs alternately in a regular succession, whereby a continuous fin is formed around and integral with the tube.

In testimony whereof I have hereunto set my hand.

WILLY SCHROERS.