

(No Model.)

W. E. VOLZ.

PACKING FOR CONDENSER TUBES.

No. 386,048.

Patented July 10, 1888.

Fig. 1.

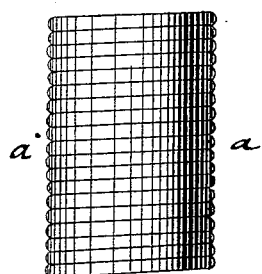


Fig. 2.

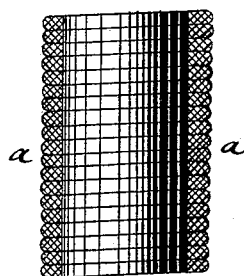


Fig. 3.

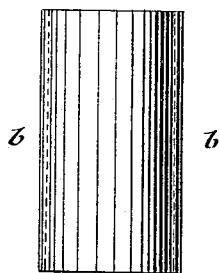


Fig. 4.

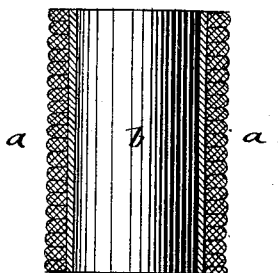


Fig. 5.

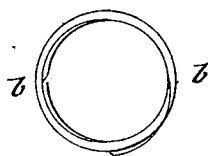
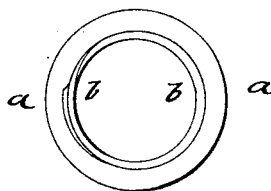


Fig. 6.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM E. VOLZ, OF NEW YORK, N. Y.

## PACKING FOR CONDENSER-TUBES.

SPECIFICATION forming part of Letters Patent No. 386,048, dated July 10, 1888.

Application filed August 2, 1887. Serial No. 245,918. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. VOLZ, of the city, county, and State of New York, have invented certain new and useful Improvements in Packing for Surface-Condenser Tubes, of which the following is a specification.

My invention relates to an improved packing for the tubes of surface-condensers, so as to form waste and water steam-tight joints between the tubes and tube-heads thereof; and the invention consists of a cylindrical packing for condenser-tubes composed of spirally-wound cord or stay-lacing of cotton, linen, or other material, the coils of said cord or stay-lacing being united at their adjacent edges by means of paste, glue, or other adhesive material. The packing may be re-enforced by an interior cylindrical shell made of woven fabric or other material and saturated with paste, around which the cord or stay-lacing is wound, the tubular packing being then cut into suitable lengths, as required.

Among the condenser-packings heretofore known the so-called "stay-lace packing" has been extensively used, owing to its durability, tight fitting, and ease of removal, which advantages are offset by the slow, laborious, and expensive method of using it by tucking coil upon coil around the tubes and into the stuffing-boxes of tube-heads until a sufficient quantity is inserted to make a tight joint, while my improved packing can be quickly driven in, as it is cut to the required length and inserted complete into the stuffing-boxes.

In the accompanying drawings, Figure 1 represents a side elevation, and Fig. 2 a vertical central section, of my improved packing for surface-condenser tubes without an interior re-enforcing shell. Figs. 3 and 5 are a side view and plan of the exterior cylindrical shell employed for re-enforcing the packing, and Figs. 4 and 6 are respectively a vertical central section and plan of a packing with a re-enforcing shell.

Similar letters of reference indicate corresponding parts.

In the drawings, *a* represents a packing, of cylindrical shape, which is obtained by winding a cord or stay-lacing spirally around a mandrel after being saturated with paste, glue, or other adhesive mixture, so that the coils, after being dried, adhere to each other and form a tubular packing. This packing may be re-enforced by an interior shell, *b*, of woven fabric, which is first wound in one or more layers on a mandrel, the overlapping parts being united by paste, glue, or other adhesive material. The cord or stay-lacing is then wound around said shell, after being saturated with adhesive material, so that the coils, after being dried, adhere to the shell and to each other. The tubular shell thus obtained is cut into packing of the required length, inserted around the ends of the condenser-tubes, and driven into the stuffing-boxes formed in the tube-heads around said tube ends.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A packing for the tubes of surface-condensers, consisting of a cylindrical tube composed of spirally-wound cord or stay-lacing, the coils of said cord or stay-lacing being united edge to edge by an adhesive cement, substantially as described.

2. A packing for the tubes of surface-condensers, consisting of an interior re-enforcing shell composed of a woven fabric, and an exterior layer composed of a spirally-wound cord or stay-lacing, the coils of which are united to the shell and to each other by a cement, substantially as described.

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

WILLIAM E. VOLZ.

Witnesses:

PAUL GOEPEL,  
MARTIN PETRY.