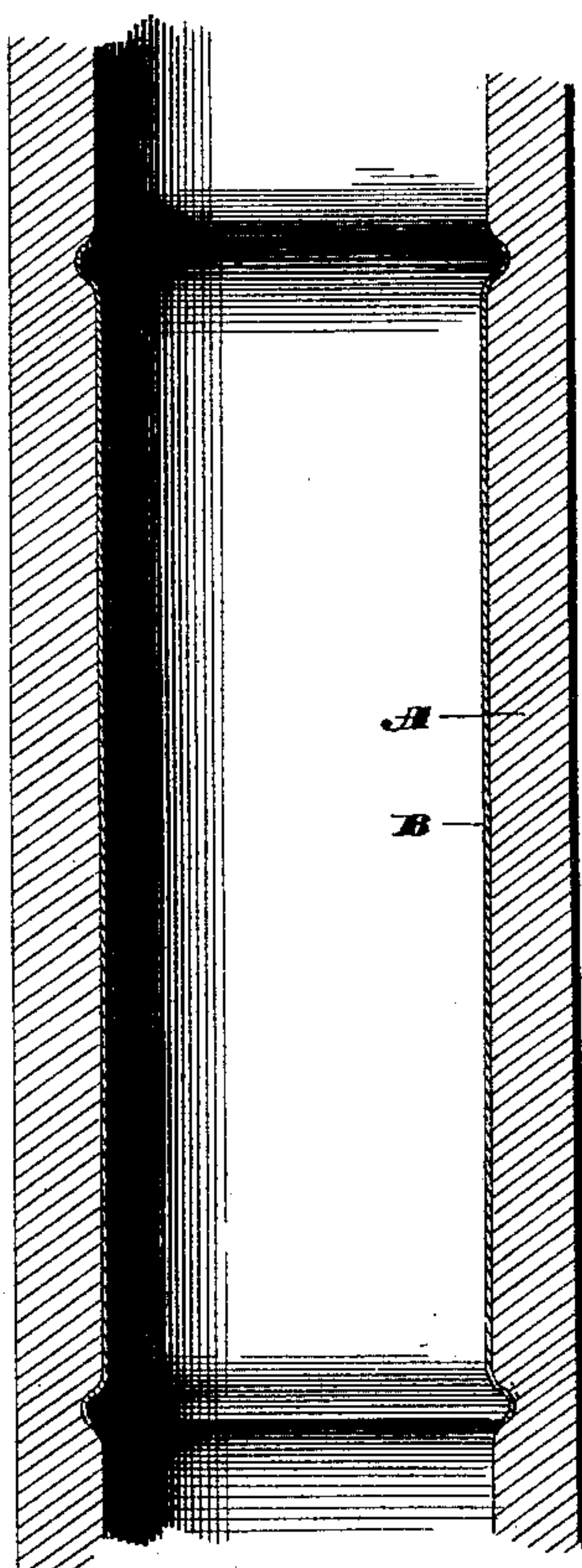


(No Model.)

E. J. COLER.
METALLIC LINING FOR PUMPS.

No. 414,022.

Patented Oct. 29, 1889.



WITNESSES
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UNITED STATES PATENT OFFICE.

ELIJAH J. COLER, OF LIBERTY, OHIO.

METALLIC LINING FOR PUMPS.

SPECIFICATION forming part of Letters Patent No. 414,022, dated October 29, 1889.

Application filed September 20, 1888. Serial No. 285,864. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH J. COLER, a citizen of the United States of America, residing at Liberty, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Metallic Linings for Pump-Stocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in fastening metallic linings to wooden pump-stocks; and it consists in securing within the pump-stock a metallic lining by means of semicircular flanges formed on the upper and lower ends of said lining, said flanges entering the wood of the pump-stock, so that the edges of the flanges will lie out of line with the movement of the piston, as will be hereinafter fully set forth and claimed.

Prior to my invention it has been proposed to secure sheet-metal linings or tubes within pump-stocks by cutting suitable grooves within the stock and then turning or flanging the metal at the ends of the tube, so as to lie within the grooves.

By my invention I overcome the necessity of cutting grooves in the stock and hold the lining more securely in position and lessen the cost of lining the stock.

In the accompanying drawing I have illustrated a vertical longitudinal section of a pump-stock, showing the lining attached thereto in accordance with my invention.

A refers to a pump-stock, and B the metallic lining, this lining being, preferably, a seamless metal tube of malleable metal. This metallic tube is of sufficient length to receive

the piston, which reciprocates between the upper and lower ends of the same, and this tube is of substantially the same diameter as the pump-stock.

In order to insert the lining, it is first forced into a section of the pump-stock, and then by means of a suitable tube-expander the ends of said tube are expanded, so as to give to the ends thereof, on the inner side of the lining, a rounded hollow recess, and exteriorly an annular bead, as shown, the implement also forcing the grain of the wood of the pump-stock aside, so as to hold the lining securely within the stock. The edges of the cylinder or lining extend beyond the inner surface of the same, so that even if the piston should move beyond the lining it cannot come within contact with the edges of the lining.

The lining when secured in position, as shown, is held securely, and a water-tight joint is formed between the lining and pump-stock, which will prevent the pump-stock swelling opposite the lining to compress the lining and force it out of shape.

Having thus described my invention, I claim—

A pump-stock provided with a tubular unbroken lining of malleable metal fitting snugly within the stock and provided at its ends with semicircular annular beads fitting snugly within corresponding shaped grooves in the stock and having their free edges lying flush with the bore of the same, the extreme ends of the said tube being of less diameter than the central part of the annular beads and of greater diameter than the bore of the pump-stock, substantially as set forth.

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

ELIJAH J. COLER.

Witnesses:

B. B. REYNOLDS,
E. GIFFORD.