

(No Model.)

E. K. COAS.

METHOD OF MAKING METAL TUBES.

No. 285,576.

Patented Sept. 25, 1883.

FIG. 1.

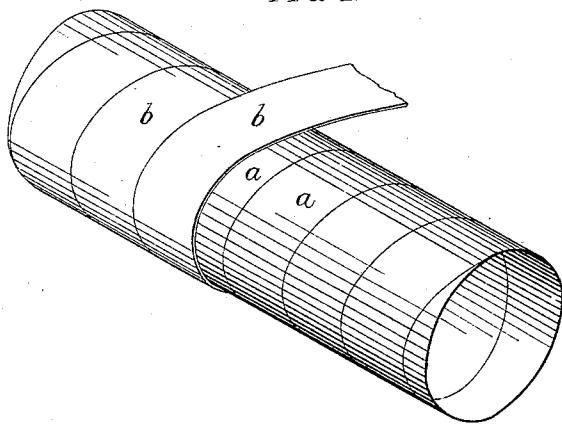


FIG. 2.

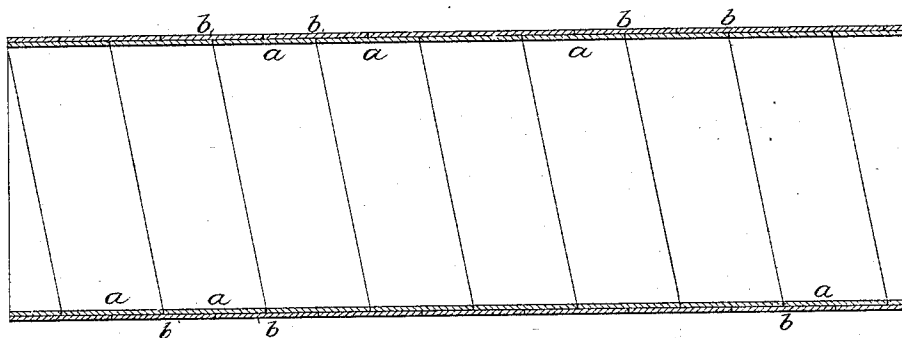
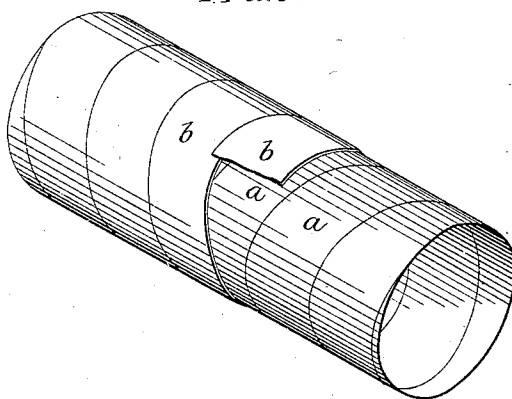


FIG. 3.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

EDWARD K. COAS, OF PHILADELPHIA, PENNSYLVANIA.

## METHOD OF MAKING METAL TUBES.

SPECIFICATION forming part of Letters Patent No. 285,576, dated September 25, 1883.

Application filed February 23, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD K. COAS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Sheet-Metal Cylinders, of which the following is a specification.

My invention relates to certain improvements in that class of tubes or cylinders which are made by spirally coiling a sheet-metal strip so that its edges abut against each other, and then securing said edges together, the object of my invention being to make a stronger and more rigid cylinder than usual of this class.

In the accompanying drawings, Figure 1 is a perspective diagram illustrating one mode of carrying out my invention; Fig. 2, a longitudinal section of the cylinder on a larger scale than Fig. 1, and Fig. 3 a perspective view illustrating another method of accomplishing the object of my invention.

It is a common practice to make sheet-metal cylinders by spirally coiling over a suitable former a narrow strip of the desired metal so that the edges of the same will abut against each other, and then securing these edges by soldering; but such cylinders cannot be made strong enough for numerous purposes on account of the continuous spiral joint.

In carrying out my invention I form a double cylinder by first coiling a strip, *a*, as usual, for the inner cylinder, and then coiling on top of said strip *a* a second strip, *b*, for the outer cylinder, care being taken that the joint of said outer cylinder does not coincide with the joint of the inner cylinder, the preferable plan being to have the joint of one cylinder as near as possible to the center of the strip composing the other cylinder, as shown in Fig. 2. The two strips being thus coiled, the cylinder is dipped in a bath of molten metal, which penetrates the joints, and serves not only to

solder each joint, but also to firmly unite the two cylinders.

As shown in Fig. 1, both strips are coiled in the same direction; but the strips may be coiled in opposite directions, if desired, and as shown in Fig. 3.

More than two cylinders may be employed where great strength is necessary.

A cylinder made in accordance with my invention is much stronger and more rigid than an ordinary cylinder of this class, as the joint of each cylinder is covered, and the cylinders afford each other mutual support. The structure is therefore available as a core for the rolls or other rollers of a carding-machine, and for various other purposes to which an ordinary single cylinder is inapplicable.

I am aware that a tube made from a coiled sheet-metal strip has had a narrow strip coiled around the outside of the same to cover and protect the joint; but this differs from my improved cylinder, because in the latter each tube is continuous from end to end, and the cylinder presents a smooth, uniform, exterior surface.

I therefore claim as my invention—

The mode herein described of making a sheet-metal cylinder, said mode consisting in coiling a ribbon with its edges close together to the form of a tube, similarly coiling upon this another ribbon breaking joint with the first, and uniting the coils and the tubular-formed bands to each other by solder, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD K. COAS.

Witnesses:

HARRY L. ASHENFELTER,  
HARRY SMITH.