

J. HILL.
DRIVING CYLINDER FOR MULES AND SPINNING FRAMES.

No. 243,897.

Patented July 5, 1881.

Fig. 1.

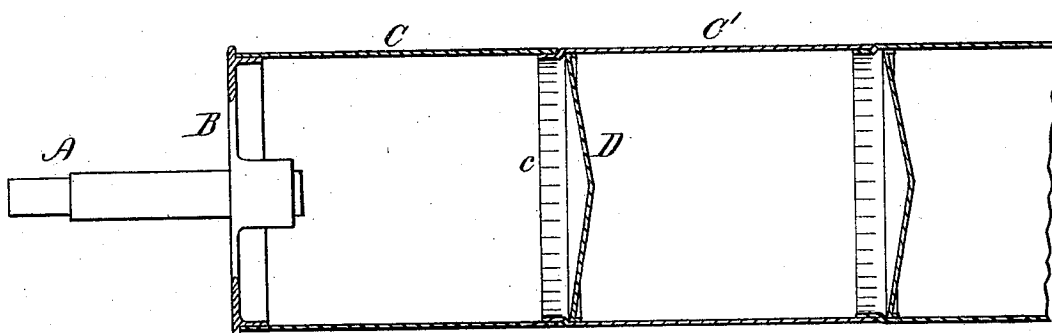


Fig. 2.

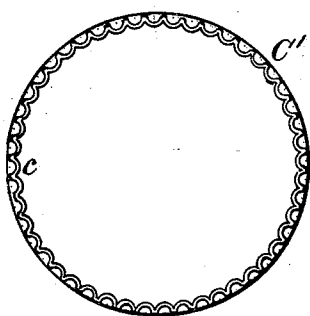
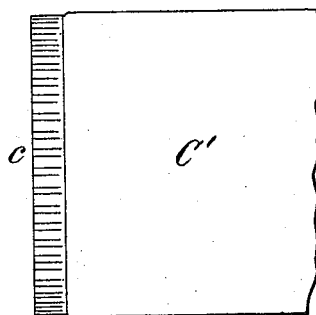


Fig. 3.



Witnesses.

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JAMES HILL, OF PROVIDENCE, RHODE ISLAND.

DRIVING-CYLINDER FOR MULES AND SPINNING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 243,897, dated July 5, 1881.

Application filed June 13, 1879.

To all whom it may concern:

Be it known that I, JAMES HILL, of Providence, in the State of Rhode Island, have invented an Improvement in Driving-Cylinders for Mules and Spinning-Frames, of which the following is a specification.

Heretofore, in making these driving-cylinders, it has been the practice to reduce the end of the section which was to be inserted in the end of the adjoining section, leaving the reduced end smooth in surface and cylindrical, so as to fit snugly into the end of the next section. When so fitted and connected the joints at the sections were soldered; but as the joints were necessarily close but little solder could be introduced, and this, uniting with the tin of the sheet-metal surface, absorbed an excess of tin into its composition, and thus became more brittle. It was therefore smaller in quantity and inferior in quality, and rendered the joints imperfect and unable to resist the strain of the bands or belts carried by the cylinders.

My invention aims to remedy this defect; and it consists in corrugating the ends of the sections of driving-cylinders for mules and spinning-frames in that part which is inserted in the adjacent end of the next section, said grooves or corrugations running lengthwise of the cylinder, and serving both to reduce the inserted end and to admit the solder in larger quantity.

Referring to the accompanying drawings, Figure 1 represents a central longitudinal section of such a cylinder; Fig. 2, a transverse section through the joint; Fig. 3, a part of a section with reduced end.

In these drawings, C represents a cylinder-section; C', the next in order, with its end reduced for insertion in the section C. The reduced end is marked *c*, and is shown more clearly in Fig. 2, the corrugations being there plainly indicated. As remarked, the formation of the corrugations reduces the diameter of the end and makes it of proper size to enter the end of the next section, and the corrugations should be adapted in size and depth to this purpose. When the sections have been put together I apply the solder, which, by the well-known process of sweating, enters the grooves of the corrugations in much larger quantities than would be admitted if the surfaces were

all smooth and in the contact which is always necessary to give a firm joint. Manifestly the outer edges or crests of all the ridges may be in contact with the inner surface of the next section while the grooves are open to admit the solder. The quantity admitted is such that it is not changed by contact with the tin-surfacing of the sheet metal and retains its ordinary strength. The sections of the cylinder are thus firmly held together and the smooth exterior preserved. The corrugations may be made in any convenient way.

A conically-shaped head, D, may be placed in the sections near the end *c*, to give additional strength.

The ordinary head and shaft are represented by B and A.

I am aware that it is not new to form a seam for metal cans by means of a series of indentations struck or formed in the overlapping parts of the metal, said indentations being approximately transverse to the line of the seam; and I do not broadly claim such indentation in a seam whereby an increased amount of solder is introduced.

I desire it to be understood that my invention is limited to the seam or joint of a driving-cylinder of the form shown when the corrugation of the end of the inserted section reduces it, and at the same time admits increased amount of solder when the sections are united, and whereby I produce a strong joint and smooth cylindrical surface.

What I claim, therefore, is—

1. In a driving-cylinder, the section C', formed with a reduced corrugated end, in combination with the smooth cylindrical section C and with the solder, as set forth.

2. The method herein described of uniting the sections of a driving-cylinder for mules and spinning-frames, consisting in first reducing the end of one section by corrugating said end longitudinally of the section, then inserting said corrugated end into the plain end of the adjoining section and soldering, substantially as described.

JAMES HILL.

Witnesses

J. J. SCHOLFIELD,
ISAAC LINDSLEY.