(No Model.)

M. J. STARK.

Soldering Cylinder.

No. 243,469. Patented June 28, 1881.

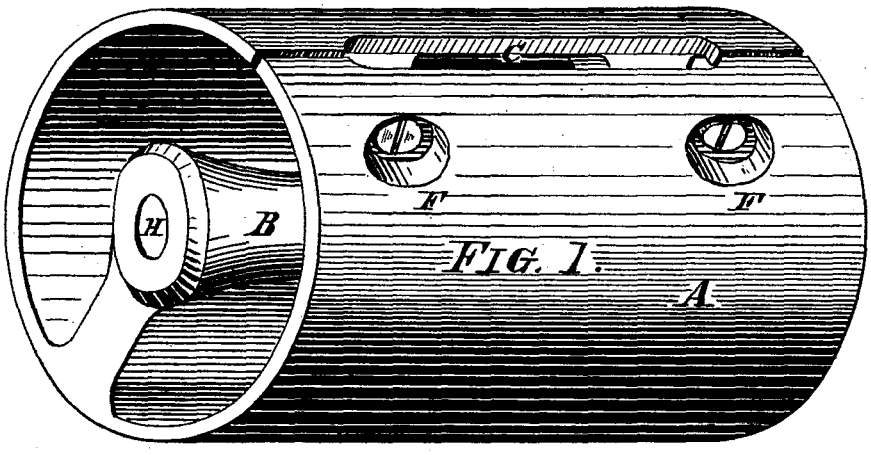

FIG. 1.

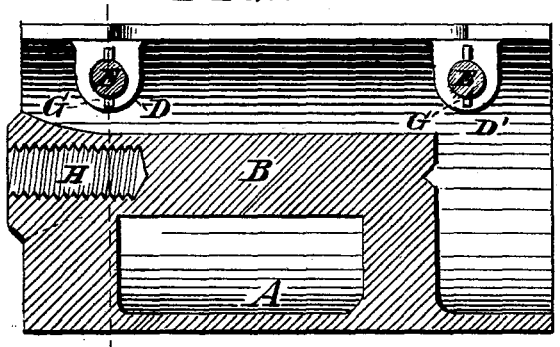

FIG. 2.

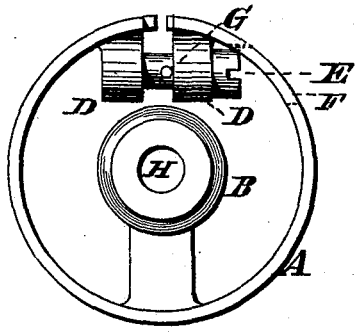

FIG. 3.

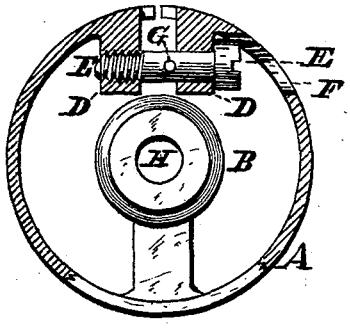

FIG. 4.

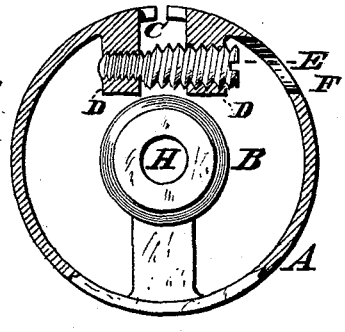

FIG. 5.

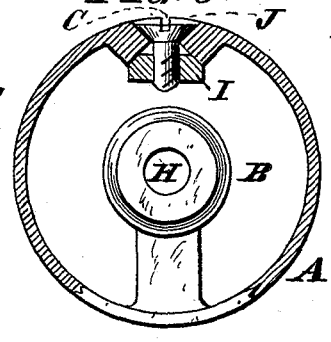

FIG. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

MICHAEL J. STARK, OF BUFFALO, NEW YORK.

SOLDERING-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 243,469, dated June 28, 1881.

Application filed April 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. STARK, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Soldering-Cylinder; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention has general reference to metallic cylinders upon which the bodies of oval or round fruit, paint, and other cans are soldered; and its object is to produce a cylinder of the kind described, that can be positively adjusted on either end, substantially as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate my said invention more fully, Figure 1 is a perspective view of a soldering-cylinder. Fig. 2 is a longitudinal sectional elevation. Fig. 3 is an end view. Fig. 4 is a transverse partially sectional elevation in line *x x* of Fig. 2. Fig. 5 is a similar view, illustrating a differentiating device for regulating the diameter of a cylinder. Fig. 6 is a similar view, showing the present mode of constructing said cylinder.

Like parts are designated by corresponding letters of reference in all the figures.

Heretofore metallic cylinders upon which the longitudinal seam of fruit, &c., cans is soldered have been constructed substantially as shown in Fig. 6, where the letter A designates a metallic cylinder longitudinally grooved and slotted at C. In order to adjust this cylinder to the slight differences in the tops and bottoms of cans, resulting from the variations in standard sizes of the dies as made by the different die-makers, or from the variations occurring when a die is repaired and its size thereby altered, it is provided with a wedge, I, operated by screws J in such manner that when said screws are drawn tighter the wedge will expand the same and thereby increase its size.

In the manufacture of cans it sometimes happens (particularly in the larger canning establishments) that the tops and bottoms of cans are made in different dies, differing also in size, so that in order to make bodies corresponding to these tops and bottoms the cylinder has to be slightly tapering, while at other times it must be perfectly parallel.

In the cylinders as now made there are usually two screws, J, one on each end, but if it is attempted to screw one of them only, so as to make the cylinder tapering, it will always be found that the other end will also expand or contract, as the case may be, and thus defeat the attempt at adjustment. These cylinders must always be made a trifle smaller than the desired can-body, but if it is borne in mind that there is over one-quarter of an inch difference in sizes of dies of different die-makers, it is evident that it is extremely difficult for a manufacturer to keep soldering-cylinders on hand, ready for immediate use, because he cannot well anticipate the size they should be. In making these cylinders the ends are left solid, so as to enable the cylinder to be turned, after which they are sawed open in the slit C, and as soon as this is done there is no possible way of again turning the cylinder, so that if a manufacturer has cylinders of the larger standards on hand and receives orders for smaller ones he cannot take the larger ones and turn them down to the size required, but must make new ones.

For the above reasons soldering-cylinders are a very undesirable and unsatisfactory article of manufacture for makers of can-tools; and to overcome these obstacles and objections, which is the object of my present invention, I construct my soldering-cylinder as shown in Figs. 1 to 5. In these figures A represents the usual metallic cylindrical shell having centrally a hub or boss, B, by means of which and a screw-bolt (not shown) inserted into the screw-threaded aperture H in said hub the cylinder is secured to the usual soldering-frame. This cylinder is longitudinally slotted at C, and provided in its inside with two pairs of lugs, D D′, respectively, there being a pair of these lugs on each end of the cylinder. In these lugs are apertures (one of which is screw-threaded) to receive bolts E inserted through apertures F in the shell A. In these bolts there are pins G, so that after the bolts are inserted into the lugs they cannot be withdrawn without removing the pins.

Instead of the bolts E, as shown in Fig. 4, I may make bolts as shown in Fig. 5—that is to say, I may provide both lugs of a set with screw-threads of different pitch and diameter and construct the bolt E, Fig. 5, accordingly. This device, when screwed into the lugs, causes them to separate for each turn of the screw E the difference in pitch of the finer and coarser threads, and thereby to expand the cylinder accordingly.

It will now be readily observed that the means described for expanding and contracting the cylinder are positive—that is to say, that I can expand one end of the cylinder without also expanding the other end, or vice versa, and that, thereofore, I can adjust the size of the same to a nicety.

It will be further observed that by contracting the cylinder until the seams meet I can close the same so tightly as to enable me to turn the same in a lathe, and that thereby I have overcome all the objections to the metallic soldering-cylinders now urged against their use, so much so that in making the cylinders I now leave them all the full-size standard, and after receiving an order for smaller sizes I take them in a lathe and turn them down to the exact size required, thus obviating the carrying of a large stock of cylinders, and furnishing an article far superior and more desirable than those heretofore offered in the market.

It will be further observed that the device, as hereinbefore described, is not more expensive than the common cylinder, and that for this reason it is preferred by all who have occasion to use the same.

I have hereinbefore said that my expansion device is positive in its action, and wish here to call attention between this action and that of the common cylinder. In the latter the wedge I, Fig. 6, is capable of expanding the cylinder only, it contracting in virtue of the elasticity of the shell A. This latter action, however, is not positive in any sense of the term, and therefore one of the causes of failure in making exact adjustment. After these cylinders are turned and split it frequently happens that they open, owing to the tension in the iron, the inner side of the cylinder having a hard scale, while that on the outer side has been removed in turning. Now, if the cylinder by thus opening expands beyond the size of the body to be soldered thereon it is useless, while if it should open to or very nearly to its correct size it cannot be contracted for the purpose hereinbefore described. This method is therefore not positive, while in my cylinders, no matter how wide they may have sprung open in cutting or splitting them, they can be contracted until the ends meet, and can therefore be positively adjusted.

In constructing these cylinders I do not wish to confine myself to any of the specific means described for adjusting the cylinder. I do, however, prefer the device illustrated in Figs. 1 to 4 to that shown in Fig. 5, because the former are cheaper, and, in my opinion, more desirable.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. A soldering-cylinder consisting of a longitudinally-slitted shell having on both ends screws crossing the longitudinal slot in said cylinder, said screws being adapted to open and close the longitudinal slot positively, in contradistinction to means for only opening the same and other means for closing the same, consisting of or depending upon the elasticity of metallic parts—*i. e.*, one means for opening and separate means for closing, substantially in the manner as and for the object specified.

2. As an improved article of manufacture, a soldering-cylinder for tin-can bodies, consisting, essentially, of a longitudinally-slitted shell, A, having in its interior two sets of lugs, D, and the screws E, substantially as described, said screws being adapted to positively expand and contract the split shell in the manner as and for the object specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand in the presence of two subscribing witnesses.

MICHAEL J. STARK.

Attest:
JOHN C. DUERR,
FRANK HIRSCH.