

(No Model.)

J. HOFFMAN.
MANUFACTURE OF TUBES.

No. 343,584.

Patented June 15, 1886.

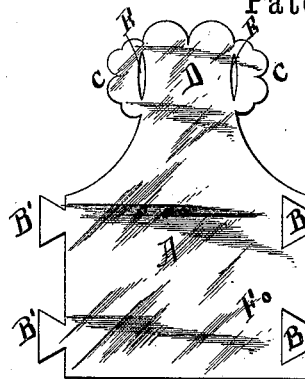


Fig. 1.

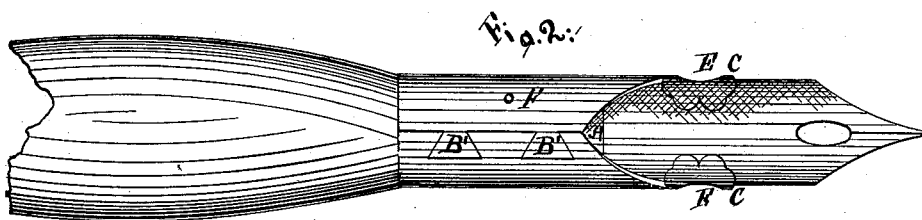


Fig. 2.

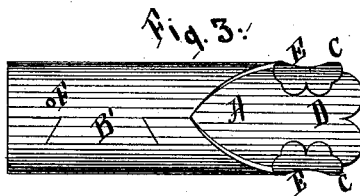


Fig. 3.

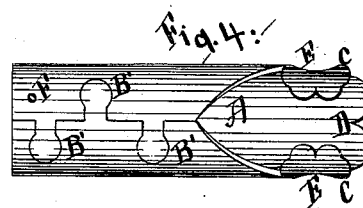


Fig. 4.

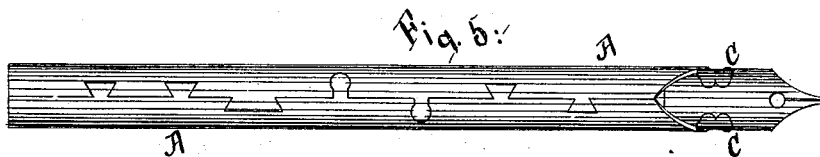


Fig. 5.



Fig. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH HOFFMAN, OF HOBOKEN, NEW JERSEY.

MANUFACTURE OF TUBES.

SPECIFICATION forming part of Letters Patent No. 343,584, dated June 15, 1886.

Application filed March 5, 1886. Serial No. 194,111. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HOFFMAN, a citizen of the United States, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Tubes and Pen-Holders, of which the following is a specification.

My invention relates to an improvement in the construction of split tubes, ferrules, and like articles which are rolled up from flat material, and is especially used by me in the manufacture of the metallic pen-grasping part of pen-holders; but, as stated, it may be advantageously employed in many other tubular structures, whether of metal or other material, and irrespective of the special uses for which they may be intended.

The invention consists in forming upon the meeting edges of the tube dovetailing or interlocking portions which will accurately engage with each other and hold the tube against expanding strain.

I illustrate the invention in the drawings as applied to the tip of a pen-holder and also to the handle of a pen-holder.

In the figures of the drawings like letters indicate like parts.

Figure 1 illustrates a blank as cut out by the dies before being bent into tubular form. Fig. 2 illustrates the blank shown in Fig. 1 bent up and attached to an ordinary wooden pen-holder and provided also with a pen. Figs. 3 and 4 show modified methods of constructing the interlocking portions. Fig. 5 illustrates a continuous tube, showing various forms of interlocking parts, and finished at one end with a tip for the reception of a pen, thus making a complete pen-holder out of the tube. Fig. 6 illustrates the dishing of the interlocking part, B' being a vertical mid-section of such part.

A is the blank. It is cut out from a sheet of metal or other suitable material in any suitable manner, preferably by the employment of dies, as usual in such manufactures.

B B are dovetail recesses formed in one of the edges of the blank, and B' B' are corresponding dovetail projections formed on the opposite edge of the blank. These constitute the interlocking parts.

C C (best seen in Fig. 1) are laterally-projecting portions intended to be bent inwardly

over the forward part of the tip, as shown in Figs. 2, 3, 4, and 5, which receive the tang of the pen between them and the forward end of the tip, (shown at D,) and thus hold the pen by their elasticity in a manner well known. I prefer to cut out small portions of the metal at the part marked E E, so as to somewhat remove rigidity and afford greater elasticity to the pen-clamping parts D D.

F is a hole, which may be punched in the blank, through which a pin may be driven into the wood of the pen-holder to confine the tip more securely in its place thereon. When the blanks are rolled up and the interlocking parts are properly engaged with each other, I prefer to subject them to a squeezing action, as by rolling them when on a mandrel between pressure-rollers, or striking them with a drop-hammer, or by other suitable means, so as to squeeze the interlocked parts firmly together. By this means the slight burr which is produced by the action of the dies in cutting out the blanks is pressed back into and about all the surfaces of the joints between the interlocking parts, thus firmly locking them together, and I have found this so effectual that the edges of a tube thus pressed cannot be separated, even by pressure immediately adjacent to the split or line of union, unless such pressure is extreme. The projecting parts B' may be all on one edge of the blank and the recesses B all on the other edge, as illustrated in Figs. 1 and 2, or they may be some on one side and some on the other, as illustrated in Fig. 4. This method will be found advantageous in many instances. It is desirable that the interlocking parts should fit each other as snugly as possible, so that when subjected to the squeezing action the metal constituting the burrs shall be made to jam itself hard into and about all the surfaces of the joints, so as to fill up all seams and present a smooth surface, and also thus secure greater strength in the joint, and if the interlocking parts are thus snug in their fit it is a little difficult to properly engage them one with the other. To render this more easy I so construct the dies that the projecting parts B' shall be dished a trifle, as seen at G in Fig. 6. This contracts their surface-area slightly and enables them to be more easily engaged with the recesses B, and when subjected to the squeezing action the dishing is

taken out again and the parts are pressed back flat and flush with the adjoining surfaces. For this dishing effect I have found that the circular projections shown in Fig. 4 are very satisfactory, since a central depression, if applied to such circular disk, more easily and accurately contracts its area than if rectangular in shape. The same effect, however, can be produced without difficulty in projections of other shapes.

Solder or other cementing agents may be employed in connection with the interlocking joint above described, if desired.

It is obvious that a reversible pen-holder tip detachably attached to the holder may be made on the plan of this invention.

I do not limit myself to the details of construction shown, since they may be somewhat departed from and still my invention be employed.

Having described my invention, I claim—

1. As a new article of manufacture, a split metallic tube made of sheet metal, the meeting edges whereof are provided with inter-

locked dovetailed projections and recesses, substantially as and for the purposes set forth.

2. As a new manufacture, a tip for a pen-holder having the meeting edges thereof provided with interlocking dovetail projections, substantially as and for the purposes set forth.

3. The mode herein described of constructing tubular sheet-metal articles, consisting in first forming dovetailed and indented or dished projections on one edge of the flat sheet of metal, and corresponding dovetailed recesses on the opposite edge thereof, then bending the sheet into tubular form and interlocking the said projections into the said recesses, and then pressing the dished projections down flush with the circumference of the tube, substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 4th day of March, A. D. 1886.

JOSEPH HOFFMAN.

Witnesses:

CHARLES B. WEBER,
JOHN H. IVES.