

April 17, 1928.

J. L. SUSSMAN

1,666,401

METAL TUBE

Filed Nov. 10, 1925

Fig. 1.

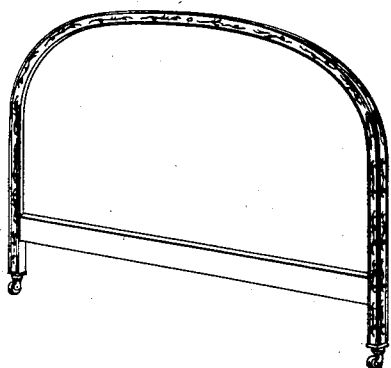


Fig. 2.

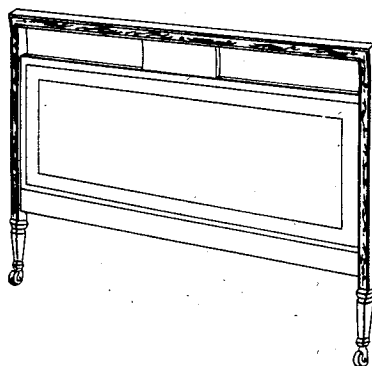


Fig. 3.

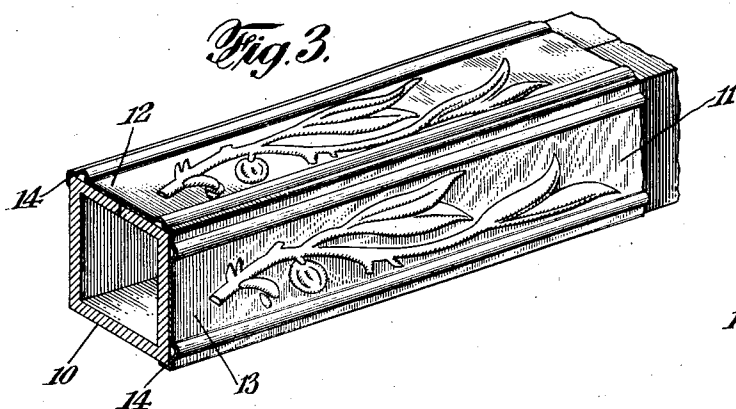


Fig. 4.

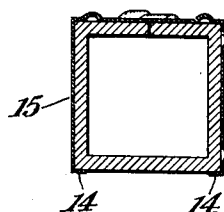


Fig. 5.

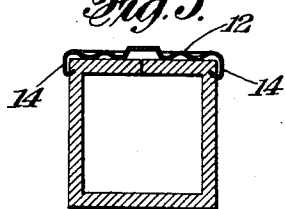


Fig. 6.

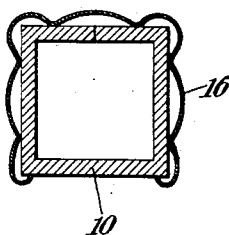
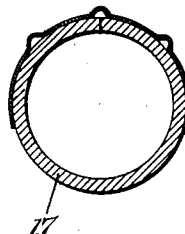


Fig. 7.



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UNITED STATES PATENT OFFICE.

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METAL TUBE.

Application filed November 10, 1925. Serial No. 68,154.

- Metal tubes constructed in accordance with my invention are adapted for a wide variety of uses, particularly where it is desired that the tube present an ornamental appearance or some distinctive design or special shape. Such tubes may be used in the manufacture of bedsteads, fire screens, office or stair railings, elevator cages, ornamental gates, grilles, standing lamps, etc.
- In making metal tubes for such purposes, it is customary to feed a flat strip of metal past a series of forming rolls which bring the side edges of the strip together and give to the tube the desired cross-sectional form.
- The edges may be secured together in various ways, as for instance by electric welding, brazing, etc. Certain of the rolls, or certain special rolls which may be provided, may be so formed that they impress a design in the metal of the tube at the time the tube is made, but this is very expensive and is not satisfactory if the design be at all intricate or the metal of the tube be other than very thin.
- The main object of my invention is to secure a tube having any desired ornamental effect, particularly as to contour or design, at low expense, and in such a manner that different designs may be applied to different section of the same tube; that the design may be applied to only the desired portion of the tube; that the design may be applied only after the tube has been secured in place or cut for incorporation in the finished article; that the most intricate designs may be used; and that the tube has the appearance of having had the design impressed in the metal of the tube itself.
- In carrying out my invention, I provide a thin sheet metal strip in which the design may be impressed or embossed, and which is of such width and so bent to channel or other form that it may be applied to a tube of appropriate cross section so that the parallel side edges of the strip will closely engage opposite sides of the tube along the length of the latter. The strip may in some cases be retained on the tube solely by the spring or frictional gripping action when the strip is sprung into place on the tube, or the edges may be brazed, soldered, spot welded, or in some cases, riveted to the tube.
- The strip does not completely encircle the tube, but the portion of the periphery of the tube which is covered by the strip may vary in different constructions. If the tube when in use has only one side exposed to view, the strip may cover only the exposed side, or may cover more of the periphery, but have its design only along the exposed side. If the tube has other parts, such as cross-bars, slats, or the like, secured along one side, the strip may be so formed as to cover only the other sides.
- The strip may be made into long ribbons and cut to the desired length so that each section may be bent to the contour of the tube when applied to the latter, or the strip may be permanently attached to long sections of the tube which may be bent or cut up into short lengths, according to the character or design of the article in which the tube is to be used. Obviously the sections of the strip may be made shorter than the tube sections, and strip sections having different designs may be attached end to end on the same tube. The metal of the strip may be very much thinner than that of the tube, so that it can take more intricate designs than would be possible if the design were formed directly on the tube. The thickness of the metal of the strip also permits the edges to be soldered, brazed or welded to the tube in such a manner as to leave a comparatively inconspicuous seam. The strip may be secured along the side of the tube having the weld produced in making the tube, and may thus serve to conceal the weld so that less careful work is necessary in making the weld, if strength is not required, and less buffing or other finishing operation of the seam is required. The ornamental strip also serves as a strengthening element, and may in some cases permit the tube itself to be made of thinner metal than would otherwise be the case.
- In the accompanying drawings I have illustrated certain embodiments of my invention.
- Figs. 1 and 2 are perspective views of bedstead head or foot frames having my improved ornamental tube employed in the construction thereof.
- Fig. 3 is a perspective view of a portion of an ornamental tube, rectangular in cross section, and having two sides covered by the strip, and
- Figs. 4, 5, 6 and 7 are transverse sections showing different alternative constructions. In Figs. 3 to 6 inclusive I have illustrated

different constructions embodying my invention, and in which a rectangular tube 10 is employed. In the construction shown in Fig. 3 the strip 11 which is secured to the tube, has two sections 12 and 13 adapted to engage with and cover two walls of the tube, and has inturned flanges 14 at the parallel side edges of the strip which may be sprung over the corners of the tube so as to hold the strip in place. The two sections 12 and 13 of the strip may be embossed to provide any suitable ornamental design, or to give to the tube the desired appearance, and the edges 14 may be brazed, soldered or welded to the tube. Preferably the major portion of each of the sections 12 and 13 lies in direct contact with the surface of the tube so as to prevent or retard relative movement of the two superposed metal layers.

In Fig. 4 I have shown a construction similar to that illustrated in Fig. 3, except that the strip has an additional section 15 which is not ornamented, and which lies in contact with a third side of the rectangular tube. This leaves only one side of the tube exposed. The same inturned edges 14 are employed.

In Fig. 5 I have shown a construction in which the strip has only a single section 12 with side edges 14 gripping the opposite sides of the tube. To hold the strip in place and to avoid the necessity of soldering or riveting, the tube may have narrow inclined grooves cut or milled therein, to receive the edges of the strip to hold the latter permanently in place.

In Fig. 6 I have shown a further construction in which the strip 16 is beaded or fluted to give the desired ornamental appearance.

In Fig. 7 I have shown a construction in which the tube 17 is circular in cross-section, and the strip extends along slightly more than 180° of the peripheral surface of the tube. The edges thus tend to frictionally hold the strip in place, but these edges are preferably also welded, soldered or brazed, particularly if the article in which the tube is employed be one which is subjected to such use as would be liable to loosen the strip.

As previously noted, my improved tube is

adapted for a wide variety of uses. In Fig. 1 I have shown merely as an example, a portion of the head frame or foot frame of a bedstead. In this construction the ornamental strip may be attached to the tube before the latter is bent to bow shape to form the two corner posts and the connecting rail.

In Fig. 2 I have shown another bedstead frame, but with the cross rail and posts straight sections connected together at right angles. These are merely examples of the use of the tube, and I do not wish to be limited to either the bedstead construction or the ornamentation.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. An ornamented tube, including a main tubular body portion made up of a strip of comparatively thick sheet metal with its side edges butt-welded together to form a longitudinal seam, and a strip of thinner metal extending substantially the full length of the tube and of such width and so bent as to cover more than one-half of the surface of the tube, said strip having a portion intermediate of its edges embossed to present an ornamental design and having its opposite parallel side edges extending inwardly and resiliently engaging the opposite sides of the tube, said second mentioned strip serving to cover the seam of the plane tube and having such resiliency that it is held in place solely by the frictional engagement with the plane tube and snugly adheres to the latter.

2. An ornamented tube, including a main tubular body portion made up of a strip of comparatively thick sheet metal with its side edges butt-welded together to form a longitudinal seam, and a strip of thinner metal extending substantially the full length of the tube and having straight parallel side edges and an intermediate embossed portion, the side edges converging toward each other and frictionally gripping the opposite sides of the plain tube to retain the embossed strip in position.

Signed at Kew Gardens, in the county of Queens and State of New York, this 5th day of November A. D. 1925.

JULIUS L. SUSSMAN.