

(No Model.)

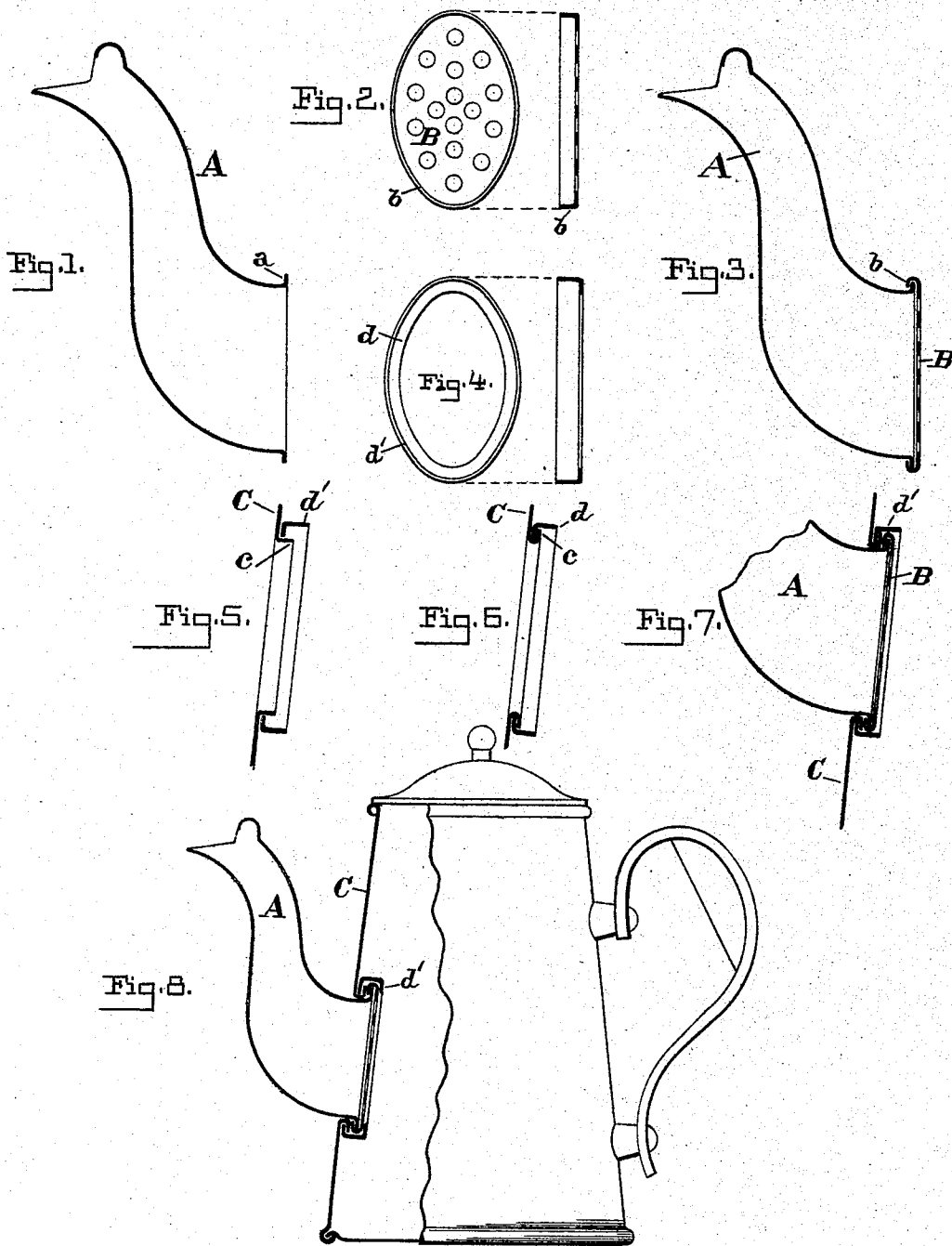
2 Sheets—Sheet 1.

G. W. KNAPP.

ATTACHING SPOUTS AND LIPS TO SHEET METAL VESSELS.

No. 487,032.

Patented Nov. 29, 1892.



WITNESSES:—

A. O. Babendreier,
J. P. Wain.

INVENTOR:—

G. W. Knapp

BY Chas B. Manner

ATTORNEY.

(No Model.)

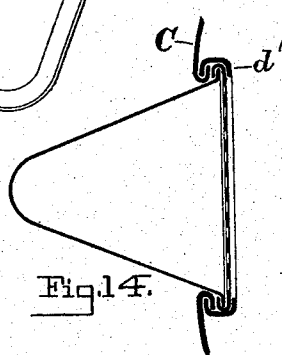
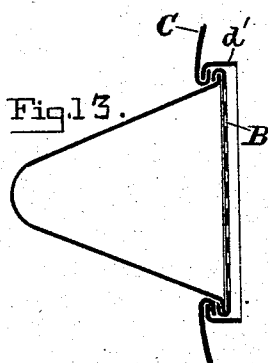
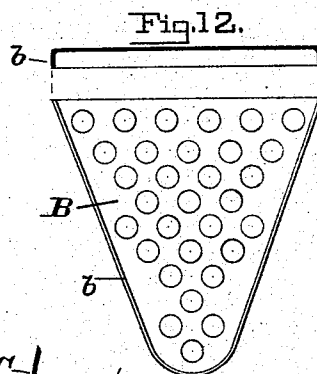
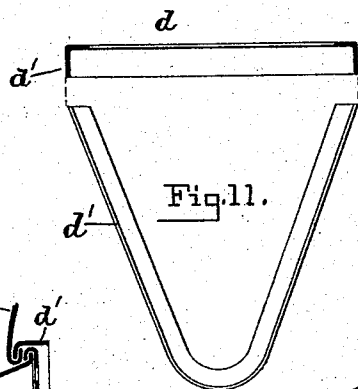
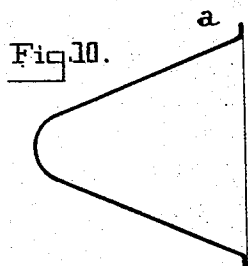
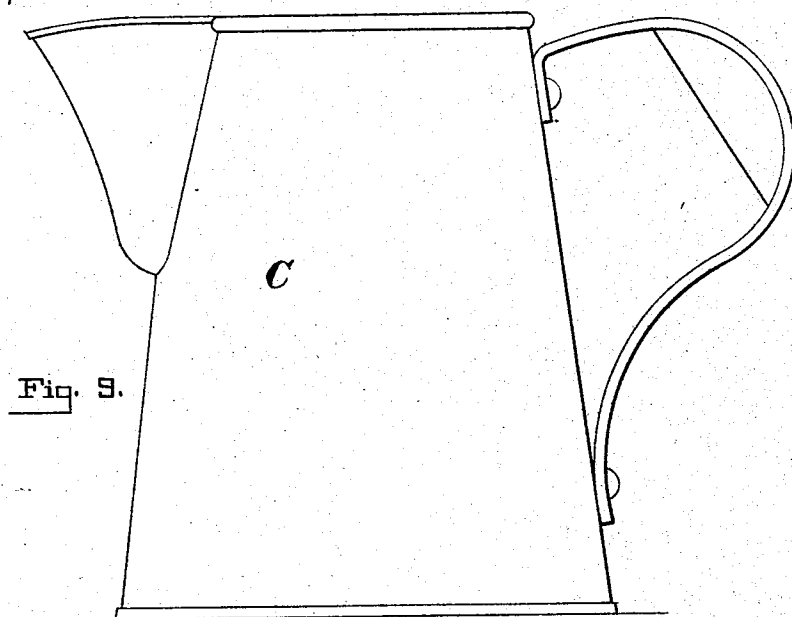
2 Sheets—Sheet 2.

G. W. KNAPP.

ATTACHING SPOUTS AND LIPS TO SHEET METAL VESSELS.

No. 487,032.

Patented Nov. 29, 1892.



WITNESSES:—

A. O. Babendreier,
J. P. Davis.

INVENTOR:—

G. W. Knapp

BY *Chas B. Mann*

ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE W. KNAPP, OF BALTIMORE, MARYLAND.

ATTACHING SPOUTS AND LIPS TO SHEET-METAL VESSELS.

SPECIFICATION forming part of Letters Patent No. 487,032, dated November 29, 1892.

Application filed February 13, 1892. Serial No. 421,373. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KNAPP, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Attaching Spouts and Lips to Sheet-Metal Vessels, of which the following is a specification.

My invention relates to an improved mode of attaching spouts and also lips and strainers to pots, pails, and similar sheet-metal vessels.

The improved construction is designed especially for enameled sheet-iron ware.

In coating sheet-metal vessels the enamel must be applied in a liquid state and then be subjected to heat to bake or harden the enamel. It has been found in practice that the enamel has a tendency to flow or run off any sharp edges or ridges which are formed upon the vessel in any way, as by seaming or joining two edges together. This is very objectionable when it occurs upon the outside of the vessel, as it is liable to be easily broken off by coming in contact at that point with other vessels or to be soon worn off in scouring or cleaning the outside of the vessel.

Another objection to securing the spout to the outside of the vessel is in the rough edge which is formed around the base of the spout by the flange which is generally used and which is bent in toward the spout. Now if this flange is too wide it cannot be bent in far enough until its edge will strike the spout and cause it to bend or crinkle around the spout and spoil the joint. On the other hand, if it is not wide enough to reach the spout, besides exposing its rough edges, it will form a groove or channel adjacent to the edge, into which the enamel will flow, thus tending to expose the rough edge of the metal. Where there are two edges or flanges to be thus bent around the spout, as occurs where a strainer is flanged to the base of the spout, the above defect is correspondingly increased. Efforts have been made to overcome these objections by making the joint or seam between the edges of the metal upon the inside of the vessel, but with only partial success, as the projection or ridge has been formed upon the outside, or the strainer must be omitted or defectively secured thereto by rivets or

other means which are equally defective and objectionable. To obviate these defects and to make a vessel which shall be strong, efficient, and durable, I have formed a joint which is upon the inside of the vessel and which will cause a slight groove or depression to be formed in the body of the vessel around the spout, into which the enamel will flow until it is substantially even with the outside surface of said vessel, and which will thus add to the appearance of the vessel and also strengthen the enamel at a point where greater strength is desired.

The invention will first be described, and then designated in the claim.

In the drawings, Figure 1 illustrates a spout ready for attachment to the pot. Fig. 2 shows the strainer. Fig. 3 shows the strainer attached to the base end of the spout. Fig. 4 is a view of the clamping-clip. Fig. 5 is a sectional view representing the wall of a vessel with a flanged opening for the spout and the flanged clip in position. Fig. 6 shows the clip attached permanently to the flanged opening. Fig. 7 shows all the parts in position and in readiness for closing or crimping the clamping-clip. Fig. 8 is a view of a coffee-pot in section, showing the appearance of the parts in the finished article. Fig. 9 is a partial side view of a coffee-pot with a lip attached by the improved construction. Fig. 10 is a cross-section of the lip. Fig. 11 shows the clamping-clip for attaching a lip. Fig. 12 shows the strainer. Fig. 13 is a cross-section showing all the parts of the lip in position ready to be closed or clamped. Fig. 14 is also a section showing the finished article.

The spout A (see Figs. 1 to 8) is first provided with a lateral base-flange *a*. The strainer B is flanged around its edge, as at *b*. This edge flange snugly fits around the flange *a* of the spout and then preferably is attached thereto by closing the edge flange *b* over and around the base-flange *a*, as in Fig. 3.

The body C of the vessel has an opening where the spout is attached. The edge around this opening is first flanged inwardly, as at *c*.

The clamping-clip for the spout is first made in the shape of a flat oval ring *d*, (see Fig. 4,) with a flange *d'* on its exterior rim.

In putting the parts together, or assembling them to secure the spout to the body the oval

ring is first placed around the inward flange *c* on the body, as seen in Fig. 5, and then the flange *c* is expanded or laid over the flat part *d* of the clip, as shown in Fig. 6. The small end of the spout is then passed from the inside of the body *C* through the opening until its base-flange *a*, with the strainer edge flange *b* closed over it, is in contact with the inward flange *c* of the body-opening, as shown in Fig. 7. The parts are now in readiness to be fastened together.

By means of suitable mechanism the flange *d'* of the clip is crimped inward, so as to close over the rim of the strainer, and is then compressed upon the rim of the strainer. In this position the clip and all the parts of the joint are tightly compressed. It will be seen that in the finished article the clamping-clip in cross-section is U-shaped and all parts of this joint are on the inside of the wall of the vessel. Thus while a simple and tight joint is made between the spout and body no part of the joint shows on the exterior, the plane of the body on the exterior being undisturbed and fitting smoothly around the base of the spout.

It will be seen by reference to Figs. 10 to 15, inclusive, that the same construction of joint may be used for attaching a lip to a vessel. In this instance the clamping-clip is V-shaped, but the parts are assembled in the same manner and the U-shaped clip is compressed on the joint parts, as in the other case, and the joint is wholly on the side of the vessel.

It will be observed that in the construction of the vessel as above described the strainer is first permanently secured to the inner end of the spout, so that the two pieces can be handled as easily and readily as one piece, and that the putting of them together can be done before they are placed in the vessel, and therefore tools can be employed for such work which could not be used upon the inside of the vessel, and, furthermore, that the lip or flange of the strainer is outward and can be pressed down very securely upon the

flange of the spout and the clamping-clip is as easily and firmly secured in its place in the flange of the opening in the body of the vessel, as it only requires the inwardly-projecting edge of the vessel to be expanded and laid over the flange of the clip. After these parts have been thus secured together the spout is inserted through the flanged opening of the vessel until the flange of the strainer comes in contact with the flange of the body of the vessel, and all that is required to do then to complete the process is to press the inwardly-projecting portion of the clamping-clip down over the end of the spout and strainer, which can be very easily done by ordinary tools, as there is only the one thickness of metal to bend, and as the spout and strainer are as one piece and the clip is readily held in its place there is no danger or liability of any of the parts slipping or getting out of place in the process of completing the work.

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

In an enameled vessel, the combination, with a body provided with an inwardly-flanged opening, of a clamping-clip secured within the flange of the opening and a spout secured within the clamping-clip, the inner end of said spout being flanged and provided with a flanged strainer, the flange of the strainer overlapping the flange of the spout and when in position in the vessel lying against the flange of the opening in the vessel, and the inner portion of the clamping-clip being bent over the end of the spout and strainer and rigidly securing them to the body of the vessel, the whole being covered with a coating of enamel, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE W. KNAPP.

Witnesses:

JNO. T. MADDOX,
CHAS. B. MANN.