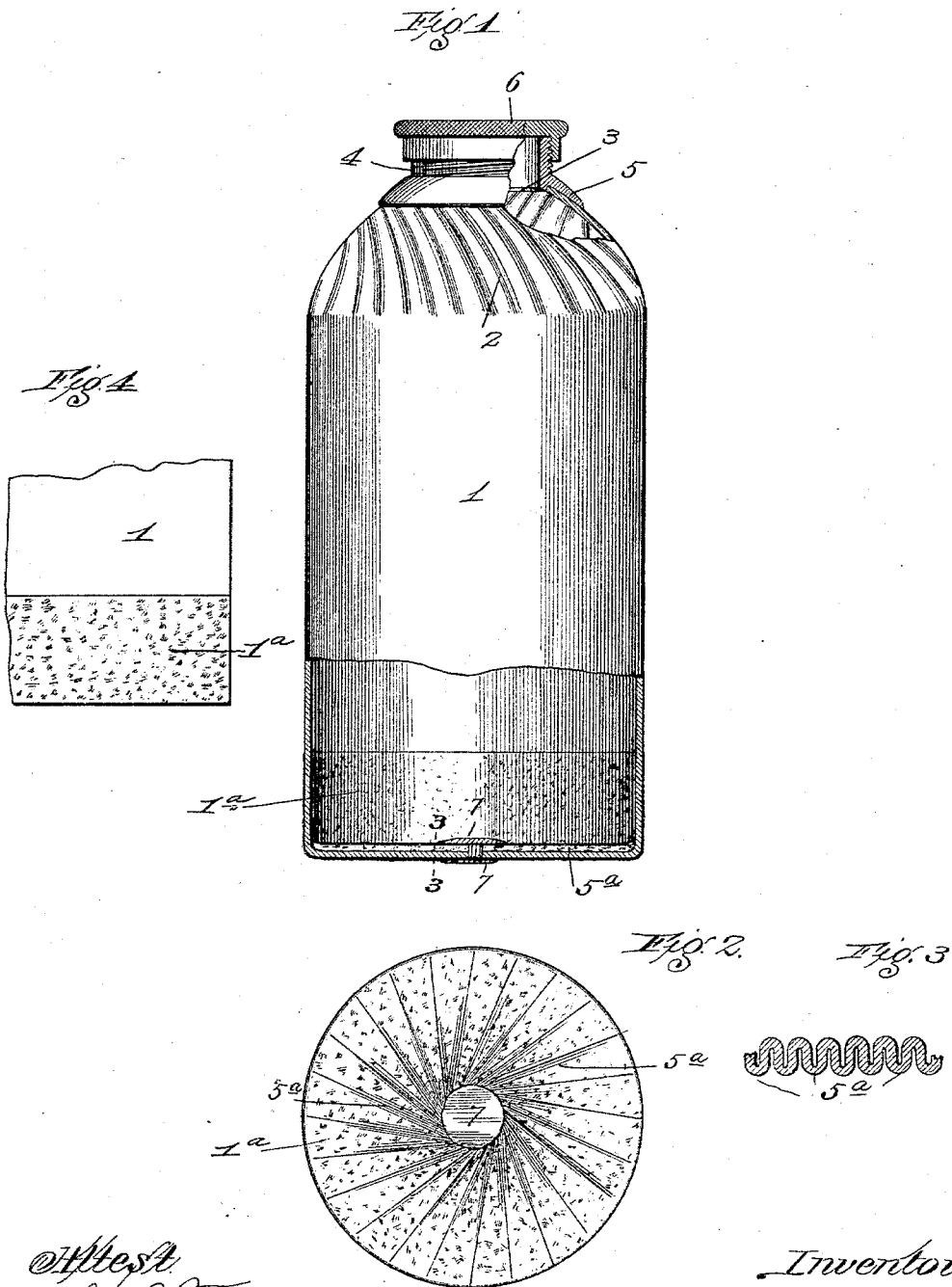


(No Model.)

E. F. O'TOOLE.
SHEET METAL VESSEL.

No. 565,024.

Patented Aug. 4, 1896.



Attest
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UNITED STATES PATENT OFFICE.

EDWARD F. O'TOOLE, OF ST. LOUIS, MISSOURI.

SHEET-METAL VESSEL.

SPECIFICATION forming part of Letters Patent No. 565,024, dated August 4, 1896.

Application filed March 4, 1895. Renewed May 18, 1896. Serial No. 592,073. (No model.) Patented in England July 9, 1895, No. 13,246, and in France July 9, 1895, No. 248,750.

To all whom it may concern:

Be it known that I, EDWARD F. O'TOOLE, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Sheet-Metal Vessels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My present invention relates to sheet-metal vessels, and is supplementary to, and should be read in connection with, United States Patent No. 542,491, granted to me July 9, 1895.

My present invention was patented to me in Great Britain on July 9, 1895, No. 13,246, and in France July 9, 1895, No. 248,750; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a receptacle constructed in accordance with my invention, parts thereof being broken away to more clearly illustrate the same. Fig. 2 is a plan view of the receptacle shown in Fig. 1, the same being inverted. Fig. 3 is an enlarged sectional view taken approximately on the indicated line 3 3 of Fig. 1. Fig. 4 is a plan view of a portion of the blank of which my improved vessel or receptacle is formed.

In the construction of the device, as shown, 1 indicates the body of my improved vessel, the same being a rectangular sheet of metal when in blank form and before the formation of the vessel is begun. Said rectangular piece of sheet metal is bent by any suitable means into any desired form, so that two of the opposite edges thereof will meet and overlap to be joined in any suitable manner. While the rectangular sheet of metal is in blank form, or after it has been bent into the form desired for the body of the vessel, one end thereof is galvanized or plated in any suitable manner, said galvanized end being indicated by the numeral 1^a.

In some instances, where small receptacles are to be formed, tubing that is capable of being bent and worked may be cut in lengths suitable to form the vessels or receptacles. When a body is so formed, the same is positioned in a suitable machine, and a series of spiral or tangent corrugations 2 are started in the periphery of the body and on the non-galvanized end thereof, and grow deeper or

wider toward the end of said body, thus bringing the end of said body together and in the shape of a dome. These corrugations may be formed by being pressed, or by what is commonly known as the "spinning" process. The corrugations are not brought together, but an opening or aperture 3 is left at this end, and an exteriorly-screw-threaded neck 4 is constructed with an integral flange 5, that is fixed upon this dome-shaped end by means of solder or in any suitable manner. A screw-cap 6 is adapted to be mounted upon this neck 4 and tightly close the same.

The lower and galvanized end 1^a of the body has, by any suitable means, a series of spiral or tangent corrugations 5^a formed therein, the same starting on the periphery of said vessel and extending to the end thereof, growing deeper or wider toward said end, thus bringing the lower end of the body together and forming the bottom for said body. By means of solder or analogous material 7 the aperture that remains after the corrugations have been so formed is closed and made water and air tight. However, this solder is not essential, as the corrugations can be brought together to form a water and air tight bottom without its use.

It is essential that the lower end of the receptacle be galvanized or treated to a plating or coating of material by any mechanical, chemical, or electrical means of plating or depositing.

By plating or galvanizing the lower end of the body the surface of the material in said body will not be scratched, broken, or abraded while the corrugations are being formed therein. The surfaces of the corrugations in the vessels so galvanized will not rust or corrode as will vessels not galvanized, the surfaces of which are easily broken and abraded by the machine or means employed in forming the corrugations.

If desired, the bottom of the receptacle may be rounded or dome-shaped, as is the top, but I prefer making said bottom flat or nearly so. The corrugations may also be formed straight and radially instead of spirally and tangent, and the material at the top of the receptacle in which the top corrugations 2 are formed may be galvanized or plated, as is the material at the bottom of the receptacle, though I

find it necessary to galvanize only that part of the material in which the bottom corrugations are formed. By galvanizing or plating only the lower end of the body a receptacle or vessel may be formed that is very much cheaper and lighter and as efficient in every way as is a receptacle or vessel constructed of sheet metal the entire surface of which is galvanized.

As is well known, the wear of a vessel or receptacle is usually upon the lower end thereof, and by galvanizing and corrugating the lower end of vessels or receptacles they can be used much longer than are the vessels and receptacles such as are in common use.

A vessel so constructed is very strong, and is especially adapted for containing oil, molasses, analogous heavy liquids, or any pressure-exerting chemicals.

The surfaces of the ends of the vessel or receptacle being galvanized, said surfaces will not be scratched, broken, or abraded by the machine or implements used in spinning or forming the corrugations. Therefore said vessels or receptacles will be rendered impervious to the action of rust, &c., that will otherwise occur when the surfaces of the vessels or receptacles are broken or abraded.

What I claim is—

1. A sheet-metal vessel, comprising a body having an integral closed corrugated end, the corrugations of which extend from points on the periphery of the vessel to the closed end

thereof, the periphery adjacent said corrugations being smooth, and only said corrugated end and that portion of the periphery which is corrugated being plated, substantially as herein specified.

2. A receptacle for liquids, comprising a body, one end of which is closed by corrugations extending from points on the periphery of the receptacle to the closed end thereof, the periphery adjacent said corrugations being smooth, a body of solder or analogous material for closing the central aperture in the said end, and a plating or coating of suitable material upon only said corrugated end to resist the corrugating implement and action of the liquid.

3. A receptacle for liquids, comprising a body, the ends thereof being closed by spiral or tangent corrugations extending from points on the periphery of the receptacle to the ends thereof, a neck and cap for the corrugations at one end of the receptacle, a body of solder or analogous material for closing the aperture in the base of the receptacle, and a plating or coating of suitable material upon the surfaces of only the ends of the vessel to resist the corrugating implement and action of the liquid.

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

EDWARD F. O'TOOLE.

Witnesses:

PRITCHARD SHORE,
JOHN C. HIGDON.