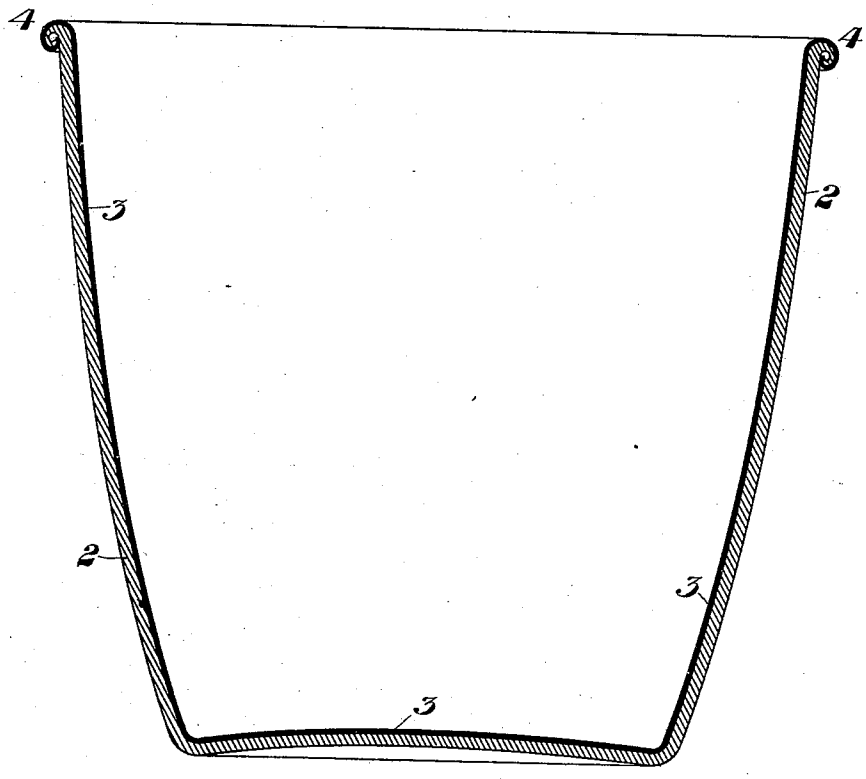
(No Model.)

R. C. COLE.

METHOD OF MAKING CULINARY UTENSILS.

No. 513,762. Patented Jan. 30, 1894.



WITNESSES

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METHOD OF MAKING CULINARY UTENSILS.

SPECIFICATION forming part of Letters Patent No. 513,762, dated January 30, 1894.

Application filed April 5, 1893. Serial No. 469,197. (No specimens.)

To all whom it may concern:

Be it known that I, ROMAINE C. COLE, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Methods of Making Culinary Utensils, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, which represents a vertical sectional view of my improved culinary vessel.

The object of my invention is to manufacture culinary vessels, having a lining of aluminum which is not only non-corrosive, but is also much lighter and at the same time more durable than tin and other metals heretofore used for this purpose.

In lining culinary vessels and other articles with tin, what is known as the plating process is usually employed, in which the tin, in a molten state, is applied to the metallic surface of the vessel with which it unites, the iron or copper surface forming an alloy with the tin. It is impossible, however, to form a coating of aluminum by this process as the aluminum will not form an alloy with iron, steel or copper by being brought in contact therewith when in a molten state. I have discovered, however, that by means of pressure, sheet aluminum and iron or other sheet metal may be united so as to form a strong, light and durable vessel, and that a lining of aluminum may be formed in vessels of steel, iron, copper, and other metals, by first drawing or partially drawing the vessel, and then placing a thin sheet of aluminum, or a blank of sheet aluminum within the drawn vessel or partially drawn blank, and subjecting the two metals, when in contact with each other, to a further drawing operation by which they are joined to and caused to conform one with the other.

I will now describe my invention so that others skilled in the art may employ the same.

In the drawing, 2 represents the body of a culinary utensil of drawn sheet metal having a lining 3 drawn from a sheet of aluminum. The metal body of this vessel, as well as the aluminum lining, are curled together at their upper edges forming the bead 4, which serves to prevent a separation of the lining from the vessel. I first draw the iron, steel or copper vessel 2 from sheet metal by means of suitable dies in the usual manner. By means of similar dies I draw a blank from a thin sheet of aluminum and place this blank within the vessel 2, and then subject the two metals thus placed in contact with each other to a further drawing operation, which causes the vessel 2 and the lining 3 to conform in shape with each other, and causes a mechanical union between the two metals. To prevent separation of the lining from the vessel, the edges may be curved or turned so as to form the bead 4, shown in the drawing. Instead of forming a blank from sheet aluminum, I may insert the aluminum sheet in the partly drawn iron or other shell and draw the metals together in the die or press.

The reason for not placing the sheet of iron or other metal and the sheet of aluminum together and drawing the vessel from the two sheets, is that the aluminum, being softer and more ductile than iron or steel, would be broken or drawn out of shape before the iron or steel is brought to the desired shape. I therefore prefer to draw the iron or steel sheet to very nearly the shape of the vessel before placing the aluminum sheet or partially drawn blank within the same. When the drawing operation is completed, the edge of the vessel is curled or beaded by means of an ordinary beading or edge rolling machine, which locks or secures the lining in its place.

The advantages of my invention are evident, as it enables culinary and other vessels and utensils to be provided with an aluminum lining which possesses many advantages over tin and other materials heretofore used for such purpose.

I am aware that vessels have been plated or lined with tin by coating the interior with molten tin and then spinning the metal so as to planish the surface of the plating. This, however, is a different method from that invented by me, and, as already stated is not applicable to the formation of aluminum linings.

I have invented a method by means of

which an aluminum lining may be formed in culinary vessels, and by means of which I am enabled to produce a new article of manufacture, which is readily distinguishable from all other similar articles. I do not here desire to claim the article of manufacture as it forms the subject matter of another application.

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

The method of manufacturing culinary and other vessels, consisting in partially drawing a vessel, then placing a blank or sheet of aluminum within the same, and drawing the same together; substantially as described.

In testimony whereof I have hereunto set my hand.

ROMAINE C. COLE.

Witnesses:
JAMES S. GREVES,
FRED S. KEMPER.