(No Model.)

W. BRADEL.

MANUFACTURE OF SPOONS.

No. 344,517. Patented June 29, 1886.

Fig. 1.

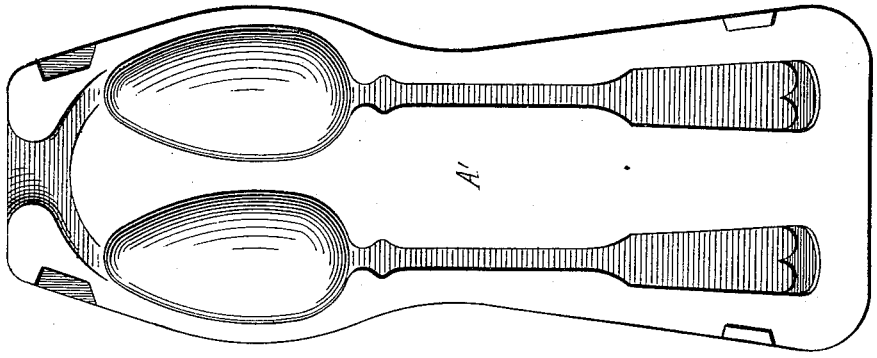


Fig. 3.

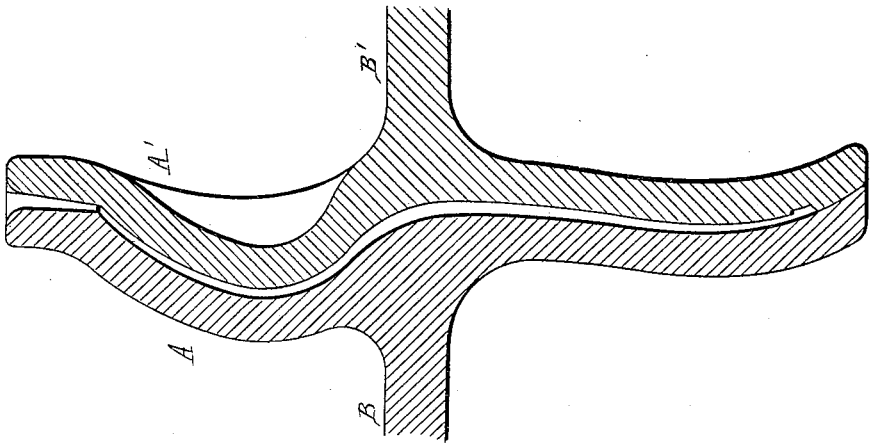


Fig. 2.

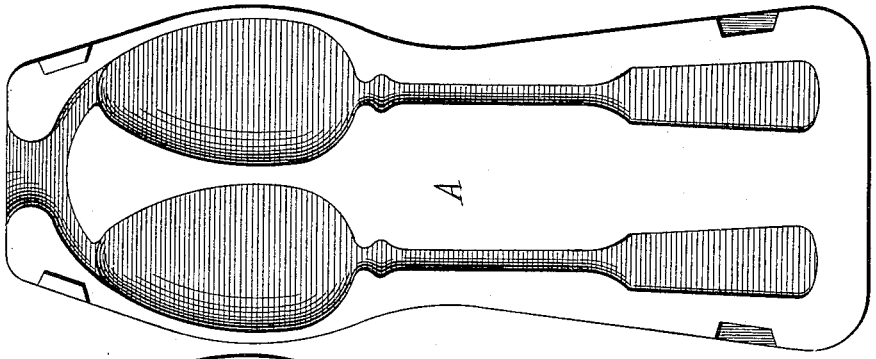
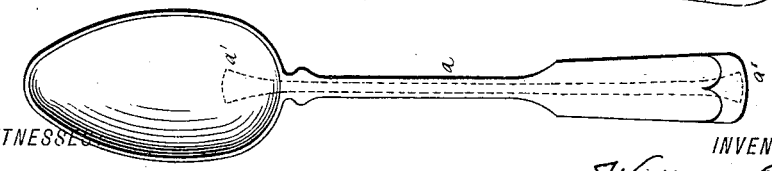


Fig. 5.

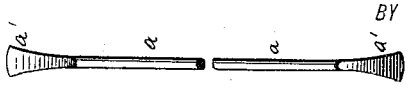


WITNESSES:

Fol. N. Rosenbaum.

Sidney Mann

Fig. 4.



INVENTOR

William Bradel

BY Goepel & Raegener

his ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM BRADEL, OF NEW YORK, N. Y., ASSIGNOR TO THEODORE SCHMITZ, OF SAME PLACE.

MANUFACTURE OF SPOONS.

SPECIFICATION forming part of Letters Patent No. 344,517, dated June 29, 1886.

Application filed February 26, 1886. Serial No. 193,279. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BRADEL, of the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Spoons and Forks, of which the following is a specification.

This invention relates to the manufacture of that class of spoons or forks which are cast of tin or other metal and re-enforced in the handle by a wire shank that extends from the tip of the handle through the shank into the bowl of the same; and the invention consists of a process of making spoons and forks by inserting a tinned-steel shank into an upright mold, heating the mold, pouring in the tin or other metal at the upper end of the mold, and cooling the mold from the bottom upward, so as to permit the escape of the air at the upper end and produce the intimate union of the cast metal with the tinned-wire shank of the handle.

In the accompanying drawings, Figures 1 and 2 represent front elevations of the two halves of a mold used in my improved process of making spoons and forks. Fig. 3 is a vertical transverse section of said mold. Fig. 4 is a side view of the tinned wire shank used for re-enforcing the handles of the spoons and forks; and Fig. 5 is a front view of a spoon made by my improved process.

Similar letters of reference indicate corresponding parts.

In carrying out my invention the re-enforcing-shanks *a a* of steel wire are flattened at the ends *a'*, and are then bent in a press to the proper degree of curvature that corresponds exactly to the curvature of the handle of the spoon or fork. The steel shanks *a* are then coated with tin in the usual manner and inserted into a double mold of the usual construction, (shown in Figs. 1, 2, and 3,) the mold-sections A A' of which are provided with handles B B'. After the wire shanks *a* have been inserted in the mold, the same is heated in any suitable manner, preferably by dipping its lower end into the liquid tin, alloy of tin, or other metal from which the spoon or fork is to be made, whereby the mold and the wire shanks placed in the same are raised to a temperature nearly equal to that of the molten metal. The metal is then poured in at the gate at the upper end of the mold while the mold is supported in upright position, the metal passing downward to the lower part of the mold surrounding entirely the wire shanks, which latter "float" in the molten metal, so as to be uniformly covered by the same. The heat of the mold and the heat of the cast metal melts the tin coating of the wire shanks and unites intimately with the tin or other metal cast around the same. The mold is then gradually cooled from the bottom upward, either by means of wet rags or by submerging it in cold water, by which the air-bubbles contained in the metal are compelled to pass from the lower part of the mold in upward direction until they escape at the gate at the upper part of the mold, which cooling has the advantage that no cavities are formed around the re-enforcing wire shanks, and that the intimate molding together of the cast metal and the wire shanks is obtained. A spoon or fork thus produced has, when dropped, the ring of a solid metal spoon or fork, while it possesses by the re-enforcing wire shank of its handle greater strength and durability than the common tin spoons heretofore in use, that are only re-enforced by a short wire in the shank of the handle.

I do not claim in this application a spoon or fork provided with a re-enforcing wire shank extending from the tip of the handle to a point below the connection of the handle with the bowl, as this forms the subject-matter of a separate application filed January 2, 1883, Serial No. 116,292.

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

The process herein described of making spoons or forks, which consists of the following steps: first, inserting into the mold a tinned-wire shank the curvature of which corresponds to the curvature of the handle of the spoon or fork; secondly, heating the mold; thirdly, pouring the molten metal into the heated mold, so that the cast metal surrounds the wire shank and unites intimately with the tin coating of the same; and, lastly, cooling the mold from the bottom upward, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

WILLIAM BRADEL.

Witnesses:

PAUL GOEPEL,

SIDNEY MANN.