J. GRAVES.
Frying-Pan.

No. 217,938. Patented July 29, 1879.

FIG. 1a.

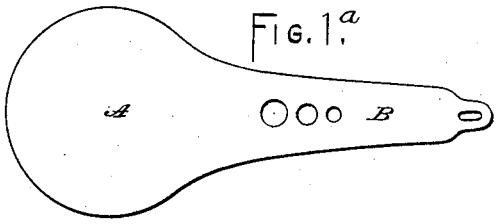

FIG. 1.

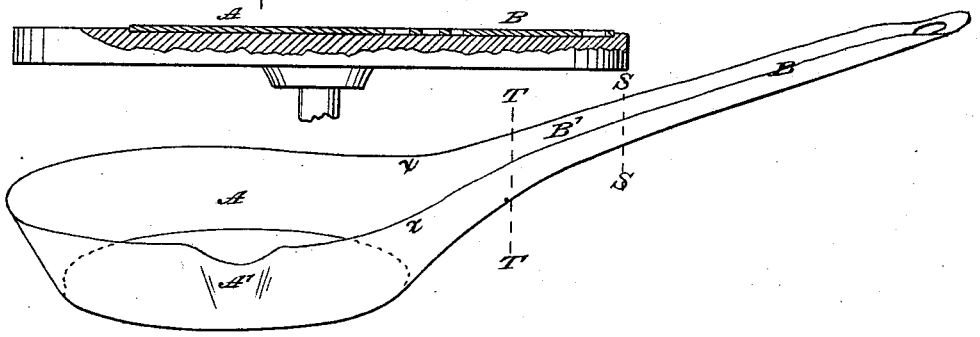

FIG. 2.

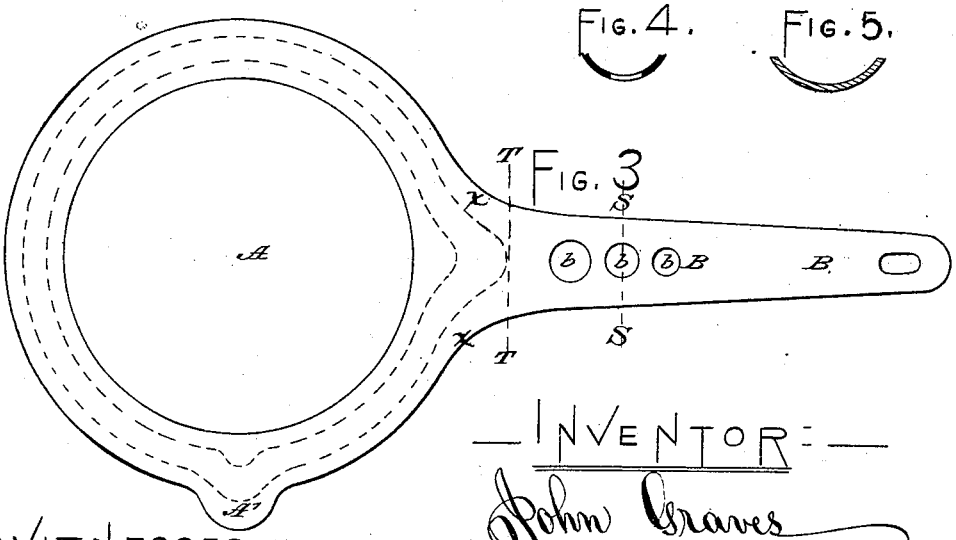

FIG. 4.

FIG. 5.

FIG. 3

INVENTOR:
John Graves
by his attorney
E. B. Bolton

WITNESSES:
Charles C. Stetson
E. B. Bolton

UNITED STATES PATENT OFFICE.

JOHN GRAVES, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES STAMPING COMPANY, OF SAME PLACE.

IMPROVEMENT IN FRYING-PANS.

Specification forming part of Letters Patent No. **217,938**, dated July 29, 1879; application filed February 20, 1879.

To all whom it may concern:

Be it known that I, JOHN GRAVES, of New York city, in the State of New York, have invented certain new and useful Improvements relating to Frying-Pans, of which the following is a specification.

I make from a single piece of sheet-iron, and by a cheap process, a frying-pan stronger, and which I believe will be more enduring, than any before known to me. I extend a corrugation from the handle into the body of the pan, and quite down to the bottom thereof. This greatly strengthens the construction at the point where it is most likely to fail—the junction of the handle with the body. I scour the iron on the face which forms the inside of the frying-pan and the upper hollowed side of the handle before stamping.

Frying-pans have been heretofore produced having qualities approximating mine; but it has always heretofore been considered necessary to scour or finish the interior after it was stamped. Economy requires that this should be done by a circular movement, and it has, therefore, been necessary to make the body of the pan of circular form. In that class of pan the indentation for the nose, when judged necessary, has been produced afterward.

The necessity for scouring the interior in a circular form, or other cause, has prevented corrugating the junction of the handle. I scour the blank beforehand, and produce the dish at one or more impressions with stamping-dies in complete form, with the nose produced complete, and with the junction of the handle of unusual strength by reason of the form given.

I make holes in the handle, along the bottom line, leaving the full strength in the side webs. These holes break the continuity of the metal, and aid to prevent the conduction of heat to the handle without materially weakening it.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation, partly in section, showing the chuck with the blank in a plane condition laid therein ready for polishing. Fig. 1ª shows the blank in face view. The succeeding figures are on a larger scale. Fig. 2 is a perspective view of the pan complete. Fig. 3 is a plan view of the same. Fig. 4 is a cross-section on the line S S in Figs. 2 and 3. Fig. 5 is a cross-section on the line T T in the same figures.

Similar letters of reference indicate like parts in all the figures.

To prepare the material, I cut the plane sheets in the proper contour by dies or otherwise, and having provided a lathe with a horizontal chuck having a shallow recess of the same form, face uppermost, I drop a blank into this recess, supply one or more rubbing-bars with proper rubbing material on the face of the blank, and set the chuck in rapid rotation by any suitable power connected by friction-clutch. I employ two rubbing-bars, which hold the thin metal with firmness in the shallow recess, leaving the face exposed to receive the rubbing action. After whirling it in this manner and properly moving the rubbing-bars to and fro, the chuck may be stopped and the finished plate removed, a new one introduced, and the operation repeated.

The blanks thus thoroughly cleaned and polished on one side are then subjected to pressure between dies properly formed to produce the entire pan. Two or more series of dies may be employed if the metal is bad and liable to burst; but I have in my experiments treated common iron, No. 18, sucessfully.

A is the body, and A′ the spout or lip. B is the handle, and B′ a deep corrugation therein. The corrugation B′ extends the length of the handle, and also with a proper curve extends quite to the bottom of the pan. In the bottom of the handle proper is a series of large holes, *b*.

It will be understood that the body is of a general conical contour, with a flat bottom, and with two irregularities or corrugations extending up and down the generally conical wall. One is the spout A′; the other is the lower portion of the corrugation B′ at the junction of the handle.

The ordinary junctions of the pan with the handle leave the metal at the junction substantially plane, or with only a curvature corresponding to the general contour of the body.

Such construction is weak. My improved pan is strengthened at this important point by the corrugation B′. I effect this without introducing any joints, rivets, folds, or the like, which involve labor and make places difficult to keep thoroughly clean.

Modifications may be made. The edges of the handle may be hemmed. An additional lip may be formed at the opposite side of the pan from the lip A′. Other than round forms may be given to the main body. One or both faces may be tinned.

The important feature of this invention is the corrugation B′ of the handle, which extends the whole length of the handle, and by a proper curve extends completely to the bottom of the body of the pan. The webs or sides of the handle, near the body, flare outward in each direction, as shown at *x*, until they approach the circumference of the pan by a gradual curve. This construction of the webs as a part of the body, and the corrugation B′ running entirely to the bottom of the pan, as shown, renders this part of the device of great strength and endurance, and is the object sought to be attained by this invention.

I claim as my invention—

The polished frying-pan described, consisting of the body A A′ and handle B, with corrugation B′, extending the entire length of the handle and to the bottom of the pan, the webs constructed flaring at *x*, as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 8th day of February, 1879, in the presence of two subscribing witnesses.

JOHN GRAVES.

Witnesses:

E. B. BOLTON,

CHARLES C. STETSON.