PATENT SPECIFICATION

Application Date: March 11, 1937. No. 7142/37. **479,167**

Complete Specification Left: March 30, 1937.

Complete Specification Accepted: Feb. 1, 1938.

PROVISIONAL SPECIFICATION

Improvements relating to Enamelled Sheet Metal Heating and Cooking Vessels

We, ERNEST STEVENS, a British Subject, of Woods Lane, Cradley Heath, in the County of Stafford, and ERNEST STEVENS LIMITED, a Company duly incorporated under the Laws of Great Britain, of the same address, do hereby declare the nature of this invention to be as follows:—

This invention relates to articles, of enamelled sheet metal hollow-ware used for water heating and cooking purposes, such as, for example, stewpans, saucepans, frying pans, round and oval pots, water heating kettles, preserving kettles. Such articles are usually formed with flat bottoms, and when the articles are subjected to excessive heating by a fire, gas burner, or other source of heat normally used for domestic and other culinary purposes, the bottoms are liable to bend in a manner which causes fracture and detachment of parts of the enamelled surfaces, particularly the inner bottom surfaces.

The object of the present invention is to provide improved cooking utensils of the kind above-mentioned, in which the risk of fracture of the enamelled inner bottom surface is minimised.

The invention comprises a utensil having a concavo-convex bottom, the concave surface being the inner one.

The invention also comprises a utensil having a concavo-convex bottom as aforesaid, and having also a peripheral channel around the bottom for supporting the utensil.

Alternatively the invention comprises a utensil as aforesaid having supporting means in the form of a separately made hoop attached to the bottom of the utensil, or a plurality of studs or bosses formed on or attached to the bottom.

In one manner of carrying the invention into effect, the bottom of the sheet metal body part is shaped to a shallow concavo-convex form, the concave surface being the inner one.

Integrally with the side and bottom of the said body part there is also formed an annular peripheral channel the depth of which is slightly greater than that of the centre portion of the bottom. When the utensil is in use it is supported by the underside of this channel. If desired the outside surface of this channel may have attached to it suitably spaced supporting pieces for increasing resistance to wear.

Alternatively we may attach a peripheral hoop to the bottom of the body part to serve as a support, or the support may be provided by a plurality of suitably placed studs or bosses formed on or attached to the bottom of the utensil.

Further we may corrugate the bottom for the purpose of reducing any tendency of the utensil to slip when in use.

The enamelling of the inner and outer surfaces of the utensil is effected in the usual manner.

By our invention we are able to minimise risk of fracture of the enamelled inner bottom surface in a very simple and effective manner.

Dated this 10th day of March, 1937.
MARKS & CLERK.

COMPLETE SPECIFICATION

Improvements relating to Enamelled Sheet Metal Heating and Cooking Vessels

We, ERNEST STEVENS, a British Subject, of Woods Lane, Cradley Heath, in the County of Stafford, and ERNEST STEVENS LIMITED, a Company duly incorporated under the Laws of Great Britain, of the same address, de hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to enamelled sheet metal vessels of the kind used for

water heating and cooking purposes, such as, for example, stewpans, saucepans, frying pans, round and oval pots, water heating kettles, preserving kettles. Such vessels are usually formed with flat bottoms, and when subjected to excessive heating by a fire, gas burner, or other source of heat normally used for domestic and other culinary purposes, the bottoms are liable to bend in a manner which causes fracture and detachment of parts, or chipping, of the enamelled surfaces, particularly the inner bottom surfaces.

The purpose of the present invention is to provide improved vessels of the kind above-mentioned, in which the risk of fracture and detachment of parts of the enamelled inner bottom surface is minimised.

The invention comprises an enamelled vessel having a bottom which is made wholly or mainly of concavo-convex section, the concave surface being the inner one.

The invention also comprises an enamelled vessel having a concavo-convex bottom as aforesaid, and having also a peripheral channel around the bottom for supporting the vessel.

Alternatively the invention comprises an enamelled vessel as aforesaid having supporting means in the form of a separately made hoop attached to the lower portion of the vessel, or a plurality of studs or bosses formed on or attached to the bottom of the vessel.

In the three accompanying sheets of explanatory drawings:—

Figures 1 and 2 are a part sectional side view and an inverted plan respectively of an enamelled pan having its bottom constructed in accordance with the invention.

Figures 3 and 4 and Figures 5 and 6 are views similar to Figures 1 and 2 showing two modified forms of the invention.

In carrying the invention into effect as shown, the bottom *a* of the sheet metal pan *b* is shaped to a shallow concavo-convex form, the concave surface being the inner one.

In the example shown in Figures 1 and 2 we form integrally with the sides and bottom of the pan an annular peripheral channel *c* the depth of which is slightly greater than that of the centre portion of the bottom *a*. When the pan is in use it is supported by the underside of the channel *c*. If desired the outside surface of this channel may have attached to it suitably spaced supporting pieces for increasing resistance to wear. In the example illustrated these take the form of metal strips *f* attached to the underside of the channel. Alternatively sheet metal bosses may be used.

In the modification shown in Figures 3 and 4 we attach a peripheral hoop *d* to the lower portion of the pan to serve as a support, this hoop extending slightly lower than the centre portion of the bottom *a*.

Alternatively the support for the pan *b* may be provided as shown in Figures 5 and 6 by a plurality of suitably placed studs or bosses *e* formed on or attached to the bottom of the pan.

Further we may corrugate the bottom for the purpose of reducing any tendency of the vessel to slip when in use.

For some purposes it may be unnecessary to provide any of the above described means for supporting the vessel, and in such cases they may be omitted.

The enamelling of the inner and outer surfaces of the vessel is effected in the usual manner.

By our invention we are able to minimise risk of fracture and detachment of parts of the enamelled inner bottom surface in a very simple and effective manner.

The application of the invention to other enamelled sheet metal vessels of the kind specified is essentially the same as that above described, the bottom being in all cases made of concavo-convex shape, the concave surface being the inner one.

We are aware that it has been proposed to construct frying pans so as to avoid the tendency to burn in the manner described in the Specification of British Letters Patent No. 287,265.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An enamelled sheet metal vessel of the kind specified having for the purpose described a bottom which is made wholly or mainly of concavo-convex section, the concave surface being the inner one.

2. A vessel as claimed in Claim 1 and having a peripheral channel around the bottom for supporting the vessel.

3. A vessel as claimed in Claim 2 and having wear-resisting pieces attached to the channel.

4. A vessel as claimed in Claim 1 and having supporting means in the form of a separately made hoop attached to the lower portion of the vessel, or a plurality of studs or bosses formed on or attached to the bottom of the vessel.

5. A vessel as claimed in Claim 1, and constructed substantially as described

water heating and cooking purposes, such as, for example, stewpans, saucepans, frying pans, round and oval pots, water heating kettles, preserving kettles. Such vessels are usually formed with flat bottoms, and when subjected to excessive heating by a fire, gas burner, or other source of heat normally used for domestic and other culinary purposes, the bottoms are liable to bend in a manner which causes fracture and detachment of parts, or chipping, of the enamelled surfaces, particularly the inner bottom surfaces.

The purpose of the present invention is to provide improved vessels of the kind above-mentioned, in which the risk of fracture and detachment of parts of the enamelled inner bottom surface is minimised.

The invention comprises an enamelled vessel having a bottom which is made wholly or mainly of concavo-convex section, the concave surface being the inner one.

The invention also comprises an enamelled vessel having a concavo-convex bottom as aforesaid, and having also a peripheral channel around the bottom for supporting the vessel.

Alternatively the invention comprises an enamelled vessel as aforesaid having supporting means in the form of a separately made hoop attached to the lower portion of the vessel, or a plurality of studs or bosses formed on or attached to the bottom of the vessel.

In the three accompanying sheets of explanatory drawings:—

Figures 1 and 2 are a part sectional side view and an inverted plan respectively of an enamelled pan having its bottom constructed in accordance with the invention.

Figures 3 and 4 and Figures 5 and 6 are views similar to Figures 1 and 2 showing two modified forms of the invention.

In carrying the invention into effect as shown, the bottom *a* of the sheet metal pan *b* is shaped to a shallow concavo-convex form, the concave surface being the inner one.

In the example shown in Figures 1 and 2 we form integrally with the sides and bottom of the pan an annular peripheral channel *c* the depth of which is slightly greater than that of the centre portion of the bottom *a*. When the pan is in use it is supported by the underside of the channel *c*. If desired the outside surface of this channel may have attached to it suitably spaced supporting pieces for increasing resistance to wear. In the example illustrated these take the form of metal strips *f* attached to the underside of the channel. Alternatively sheet metal bosses may be used.

In the modification shown in Figures 3 and 4 we attach a peripheral hoop *d* to the lower portion of the pan to serve as a support, this hoop extending slightly lower than the centre portion of the bottom *a*.

Alternatively the support for the pan *b* may be provided as shown in Figures 5 and 6 by a plurality of suitably placed studs or bosses *e* formed on or attached to the bottom of the pan.

Further we may corrugate the bottom for the purpose of reducing any tendency of the vessel to slip when in use.

For some purposes it may be unnecessary to provide any of the above described means for supporting the vessel, and in such cases they may be omitted.

The enamelling of the inner and outer surfaces of the vessel is effected in the usual manner.

By our invention we are able to minimise risk of fracture and detachment of parts of the enamelled inner bottom surface in a very simple and effective manner.

The application of the invention to other enamelled sheet metal vessels of the kind specified is essentially the same as that above described, the bottom being in all cases made of concavo-convex shape, the concave surface being the inner one.

We are aware that it has been proposed to construct frying pans so as to avoid the tendency to burn in the manner described in the Specification of British Letters Patent No. 287,265.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An enamelled sheet metal vessel of the kind specified having for the purpose described a bottom which is made wholly or mainly of concavo-convex section, the concave surface being the inner one.

2. A vessel as claimed in Claim 1 and having a peripheral channel around the bottom for supporting the vessel.

3. A vessel as claimed in Claim 2 and having wear-resisting pieces attached to the channel.

4. A vessel as claimed in Claim 1 and having supporting means in the form of a separately made hoop attached to the lower portion of the vessel, or a plurality of studs or bosses formed on or attached to the bottom of the vessel.

5. A vessel as claimed in Claim 1, and constructed substantially as described

* C L M S *

and as illustrated in Figures 1 and 2, or Figures 3 and 4, or Figures 5 and 6 of the accompanying drawings.

Dated this 25th day of March, 1937.
MARKS & CLERK.

Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1938.

