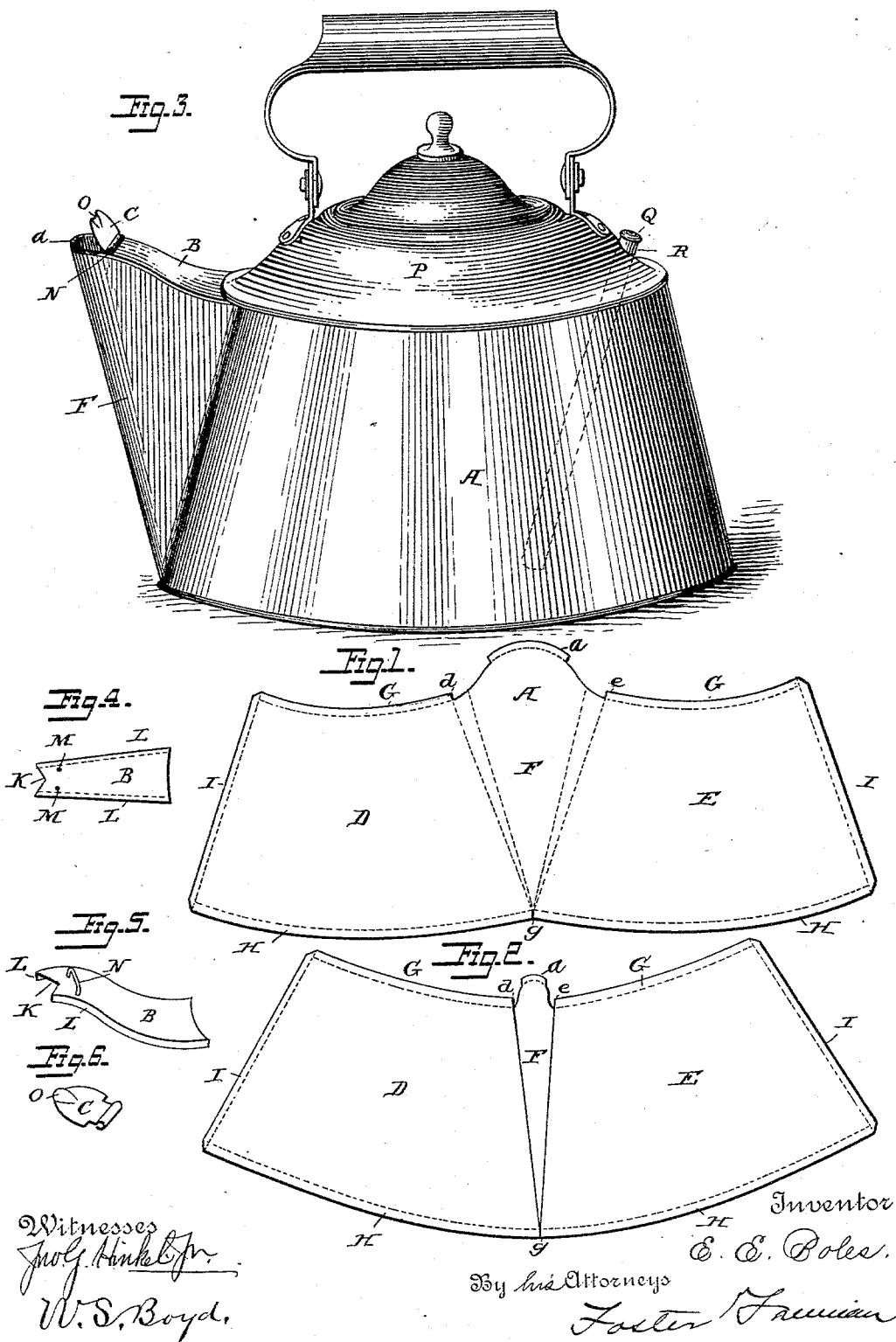


(No Model.)

E. E. BOLES.  
TEA KETTLE.

No. 425,400.

Patented Apr. 15, 1890.



# UNITED STATES PATENT OFFICE.

EDGAR E. BOLES, OF ARKANSAS CITY, KANSAS.

## TEA-KETTLE.

SPECIFICATION forming part of Letters Patent No. 425,400, dated April 15, 1890.

Application filed September 20, 1889. Serial No. 324,507. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR E. BOLES, a citizen of the United States, and a resident of Arkansas City, Cowley county, Kansas, have invented certain new and useful Improvements in Tea-Kettles, of which the following is a specification.

My invention relates to tea-kettles; and it consists in constructing them in such a manner that the spout is formed integral with the body of the vessel, thus avoiding the danger of its melting off, and also in providing the spout with a cover and a valve, whereby the contents may be heated sooner than when exposed to the air and be discharged from the spout in a larger or smaller stream, all of which will be hereinafter more fully set forth.

Referring to the accompanying drawings, Figure 1 represents the blank from which the body and spout are formed. Fig. 2 represents the same with the spout bent into shape. Fig. 3 is a view of the kettle complete. Fig. 4 represents the blank from which the cover of the spout is made. Fig. 5 represents the cover bent into shape, and Fig. 6 is a perspective view of the valve.

In the manufacture of tin or other sheet-metal ware by machinery, where the different parts are subjected to great pressure, the fiber of the metal is broken, which causes the metal to rust and become full of pin-holes, which is not the case with hand-made articles. Another objection that is sometimes urged against machine-made goods is that the dealer must pay for putting the articles together, although he may be so situated that he could do that part of the work himself a great deal cheaper than it can be done by machinery; besides, he could save considerable in the freight if he could purchase the stock in blank instead of the completed article; but in order to compete with machine-made goods upon the market it is necessary that the stock to be worked by hand be prepared so that it can be put together with as little trouble and expense as possible.

In the manufacture of tea-kettles I have found that the different parts can be stamped out into blanks, which can then be taken by the workman and with the ordinary tools

found in a tin-shop be assembled or put together at but a small cost.

In the drawings, in which I have shown the completed article and also the blanks for the parts to which my invention more properly applies, A represents the blank for the body of the kettle, B the blank for the cover for the spout, and C the valve for the same.

The blank A, which may be of any suitable material—as tin, copper, or the like—consists properly of two segmental portions D and E, from which the body or sides of the kettle are formed, and a central portion F, from which the spout is formed. The top and bottom of each of the main portions of the blank are formed or provided with the ordinary locks or seams G and H, by means of which they are secured to the top and bottom of the kettle, and also with the locks I I at their outer ends, which engage with each other when brought together in making the kettle.

The portion F of the blank from which the spout is made is substantially triangular in shape, as shown by the dotted lines *d g* and *e g* of Fig. 1, which unite to form the apex of the triangle at the union of the bottom edges of the portions D and E. The base of the triangle is formed by a compound curve, or rather by two ogee curves, one of which forms the top of each side of the spout, and are united at their outer ends. This portion of the blank is provided at its middle portion only with a seam or flange *a*, which is bent or folded down upon the outside of the spout to avoid a sharp edge at that place, and also to give greater strength and rigidity to the spout at the union of the two ogee curves forming the end of the spout.

The blank for the cover of the spout is of an oblong shape, as shown in Fig. 4, having its outer end narrower than its inner end and provided with a notch or recess K. Its edges are provided with the locks L L, which, when the blank is bent into shape, as shown in Fig. 5, and placed upon the spout, overlap the portion of the spout which is not provided with any seam and extends from the body of the kettle to the end of the seam portion at the end of the spout, and thus affords a good strong joint and brace for the top of the spout. As

the seam or locks along the edges of this cover can be formed much more easily than they could along the curved edges of the spout and then make a much neater job when completed, this feature of my invention is far superior to the constructions heretofore employed, where the body and spout have been made from one piece. The outer end of this cover for the spout is provided with two holes M M, through which the bent ends of a wire or hinge N are secured. To the main portion of this wire N is pivotally secured the automatic valve C, which extends out to the end of the spout and covers the portion of the spout between the notch K in the end of the cover and the end of the spout. The valve is virtually semi-elliptical to correspond with the curved or rounded portion of the spout, and at its free end is formed into an inverted trough or channel O, which will always have a small opening at the end of the spout, by means of which a very small stream can be poured from the spout for filling vials or other small-mouthed vessels, &c., or where but a small quantity of water is needed. As the valve is automatic, a larger stream can be had by tipping the kettle to a greater or less degree, while the notch in the end of the cover will prevent the water from gushing out of the spout too rapidly if the kettle should happen to be tipped a little too much. By placing the hinge of the valve about half an inch or more back from the end of the cover of the spout the steam and water cannot come in contact with it long enough to rust or destroy it, although I prefer to make it out of some non-corrosive material. This construction of the cover for the spout makes the kettle virtually steam-tight, whereby the water will boil with far less heat than would be the case if the entire top of the spout were left open for the entrance of the air, and at the same time the valve, which closes itself when the kettle is in its natural position, will readily open from the pressure of steam from the inside, and thus form a safety-valve. Another advantage arises from the fact that the ordinary breast P, which must necessarily be spun or stamped into shape by special tools and sold in that shape, can be used with a kettle having such a cover for the spout.

If desired, the kettle may be provided with a pipe R, having a low-water alarm Q secured to its upper end, as shown in Fig. 3 of the drawings, to indicate when the kettle is nearly empty and needs replenishing.

Although I have described a construction for tea-kettles which does not require the addition of solder to keep it from leaking, still the joints and seams may be soldered in the usual manner without departing from the spirit of my invention, and I have also described the body as being made out of one piece; but I do not limit myself to making it only of a single piece, as it is evident that two or more pieces could be employed and

be united at their vertical edges by the ordinary locks in the same manner that I have described for uniting the ends when made from a single piece. By making the main portions of the blank segmental the body of the kettle is made tapering from the bottom to the top, whereby a larger area is exposed to the action of the heat, and it takes up less room on the stove when placed near the ordinary pots and kettles, which are generally made smaller at the bottom than at any other point. Different sizes of blanks may be made for different sizes of kettles, and the size of the spout may also be varied by making the base of the triangle F longer or shorter, and the base might also be provided with straight edges united at an angle at the point instead of with the curves.

To construct a tea-kettle embodying my improvements, the different parts are purchased from the manufacturer, who is equipped with the necessary mechanism for cutting them out quickly and accurately, or cut out according to any desired pattern. The spout is then pressed into shape either by hand or by means of a former or die, leaving the points *d* and *e* about one and a half inch apart, which will bring the top and bottom edges of the two main portions D and E into line with each other, forming one segmental body, as shown in Fig. 2, instead of two, as shown in Fig. 1. The locks along the edges and ends of the body are then bent out, and the top or breast and bottom are secured to the body by the ordinary tinnners' tools. The cover for the spout with its valve hinged at the outer end is then placed over the spout and soldered along its edges, and the kettle is complete.

Of course the cover for the spout with the valve secured at the outer end can be applied to spouts that are made separate from the body, or, in other words, the spout as I have shown it, with a cover and valve, may be made separate and be seamed into the body of the kettle at any suitable or convenient place. I also prefer to make the pipe for the low-water alarm out of zinc to prevent its rusting, and especially where it is joined to the top or breast of the kettle.

Having thus described my invention, I claim—

1. A blank for making tea-kettles, consisting of a triangular central portion and the two main portions, one on each side of the central portion, the base of the central portion having a seam or flange at its middle portion only, substantially as described.

2. A blank for making tea-kettles, consisting of the central portion having its base or edge provided with a seam or flange at the middle portion only and the two main portions, one on each side of the central strip, and each provided with a lock at its top and bottom and at its outer end, substantially as described.

3. A blank for making the cover for a tea-

kettle spout, having its sides each provided with a lock and having a notch cut in one end, substantially as described.

4. A blank for making a valve for tea-kettle spouts, semi-elliptical in shape and having an inverted trough formed in one end, substantially as described.

5. In a tea-kettle the spout of which is formed integral with the body and provided with a strengthening-strip at its tip or end only, the combination, with said spout, of a cover having a lock on each side secured to the sides of the spout between the ends of the strengthening-strip and the body of the kettle, substantially as described.

6. In a tea-kettle, the combination, with the spout having a cover therefor provided with a notch at its outer end, of a valve

hinged to the cover and at a distance from the end of the same, substantially as described.

7. In a tea-kettle, the combination, with the spout having a cover therefor, the end of which is notched and provided with two holes near its notched end, of a hinge in said holes and a valve pivotally secured to said hinge, the outer end of which is provided with an inverted trough, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDGAR E. BOLES.

Witnesses:

W. E. DICKSON,  
E. L. MCDOWELL.