

(No Model)

D. T. CROCKETT.
KETTLE FOR MELTING GUMS.

No. 463,828.

Patented Nov. 24, 1891.

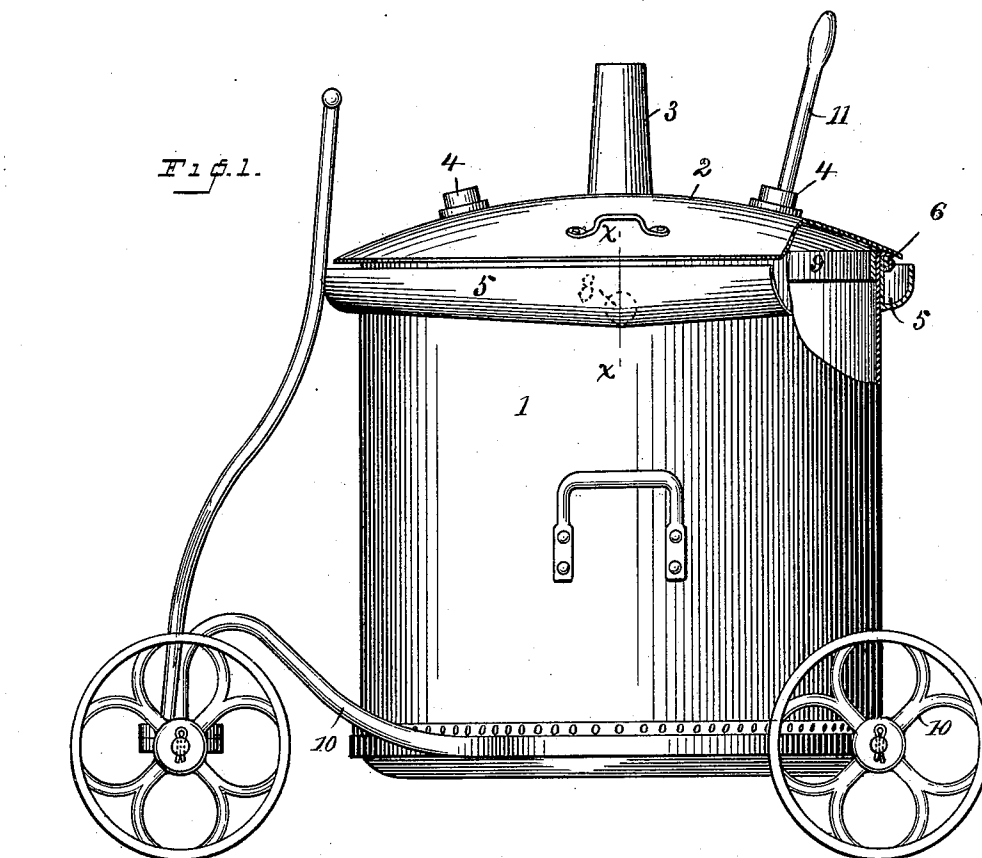


Fig. 2.

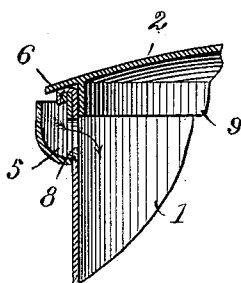
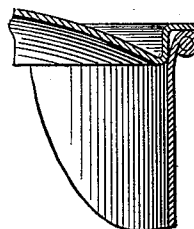


Fig. 3.



WITNESSES

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DAVID T. CROCKETT, OF BRIDGEPORT, CONNECTICUT.

KETTLE FOR MELTING GUMS.

SPECIFICATION forming part of Letters Patent No. 463,828, dated November 24, 1891.

Application filed October 25, 1890. Serial No. 369,337. (No model.)

To all whom it may concern:

Be it known that I, DAVID T. CROCKETT, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Kettles for Melting Gums; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a kettle for melting gums which shall prevent the serious waste of pure gum that has been unavoidable with the kettles heretofore in use. With this end in view I have devised the novel kettle of which the following description, in connection with the accompanying drawings, is a specification, numerals being used to denote the several parts.

Figure 1 is an elevation of my novel kettle in place upon a truck, a portion of the cover, rim, and flange being broken away; Fig. 2, a detail sectional view on the line *x x* in Fig. 1, and Fig. 3 is a similar view illustrating the construction of the kettles for melting gums now in common use.

My invention is adapted to all the various uses in the arts where it is required to melt gums, and is especially adapted for use in the manufacture of varnish.

1 denotes the kettle, and 2 a cover therefor, having the usual pipe 3 at the center for the escape of gases, and stirring-holes 4 on opposite sides thereof. In treating the ordinary gums of commerce a heat of from 500° to 800° Fahrenheit is required to reduce them to liquid form. In doing this gases are liberated from the gums and quite a percentage of the oils of the gums is volatilized. I preferably use in practice a convex cover, which acts to condense upon its inner side a large proportion of the volatilized matter. A great deal of volatilized matter, however, escapes through the central pipe for gases and through the stirring-holes and is condensed upon the outer side of the cover, and a very much larger quantity of pure gum is forced over the edge of the kettle under the cover and has heretofore been allowed to run down the outer side of the kettle, and so has been wholly wasted, in addition to which there is constant danger

that the escaping gum will take fire. It has therefore been necessary to watch the kettle constantly and to wipe off the gum which ran down the outer side with burlaps. This has made the operation of melting gums quite expensive, as the kettle required constant watching and all the matter that boiled over or that condensed upon the outer side of the cover was wasted. In order to prevent the volatilized gum which condensed upon the outer side of the cover from running down the outside of the kettle, the covers to the kettles were made with channels around their outer edges, as shown in Fig. 3. This prevented the condensed gum from running down the outside of the kettle, but did not save any of it, for the reason that these gums cannot be remelted when they have once been allowed to harden. The practice has been, therefore, to let the condensed gum accumulate upon the cover until it became so heavy as to be inconvenient to handle, when it was dug out with chisels and thrown away, so that all of this gum was lost in addition to that which ran down the outside of the kettle. At the present time the gums used in the manufacture of varnish range from thirteen to seventy cents a pound, a fair average being twenty-five cents a pound. A hundred pounds of gum, costing approximately twenty-five dollars, is expected to produce seven and one-half gallons of liquid gum.

It has been demonstrated by actual experiment that the loss of gum when melted in the ordinary kettles amounts to a full half-gallon for every hundred pounds melted. My invention saves all the gum that boils over the edge of the kettle and all that condenses upon the outside of the cover, thereby keeping the outside of the kettle and cover clean, doing away with the necessity for closely watching the kettle during the operation of melting, and saving a full half-gallon of pure melted gum for every hundred pounds of crude gums melted. In order to accomplish this result, I place outside of the rim of the kettle near the top a metallic trough 5. This trough is preferably made substantially U-shaped, as shown at the right in Fig. 1, the inner side being carried up higher than the outer side and being inclosed by a strong metallic band 6, the rim of the kettle being then

turned over outward and bent downward again outside of the band, as is clearly shown in Fig. 2. As has already been stated melted gum that has escaped from the kettle must go to waste unless it is saved while in a liquid condition. In order to accomplish this result, I make the bottom of the trough highest at one or two, preferably two, points, from which points it inclines downward slightly in both directions. At the lowest points I form openings 8 into the kettle. (See Fig. 2, also dotted lines in Fig. 1.) The cover, as already stated, is made convex, and is provided with a rim 9, just fitting within the rim of the kettle. The outer edge of the cover extends outward far enough so that the gum which condenses upon the outside of the cover will drop into the trough and pass into the kettle at openings 8. It will thus be seen that by the use of my novel kettle waste is practically prevented. The gases and acids of the gum which are vaporized pass off through the central pipe and the stirring-holes; but all the gum that boils over the rim of the kettle and over the top of the stirring-holes and the central pipe and all the vaporized gum that condenses upon the outside of the cover passes back into the kettle at openings 8.

10 denotes a truck of suitable construction, by which the kettles are moved about in use, and 11 a stirrer, by which the gums are agitated during the process of melting.

Having thus described my invention, I claim—

A kettle provided at its top with an exterior trough, the bottom of which is made highest at certain points and inclines downward in both directions to other points at which openings are made into the kettle, combined with a convex or downwardly and outwardly inclined cover having a pipe for the escape of gases, and a flange fitting within the rim of the kettle, the periphery or outer rim of said cover extending beyond the kettle, but being within the outer circumference of said trough, whereby material which condenses on the outside of the said cover will be received by said trough and will be drained back into the kettle, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID T. CROCKETT.

Witnesses:

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