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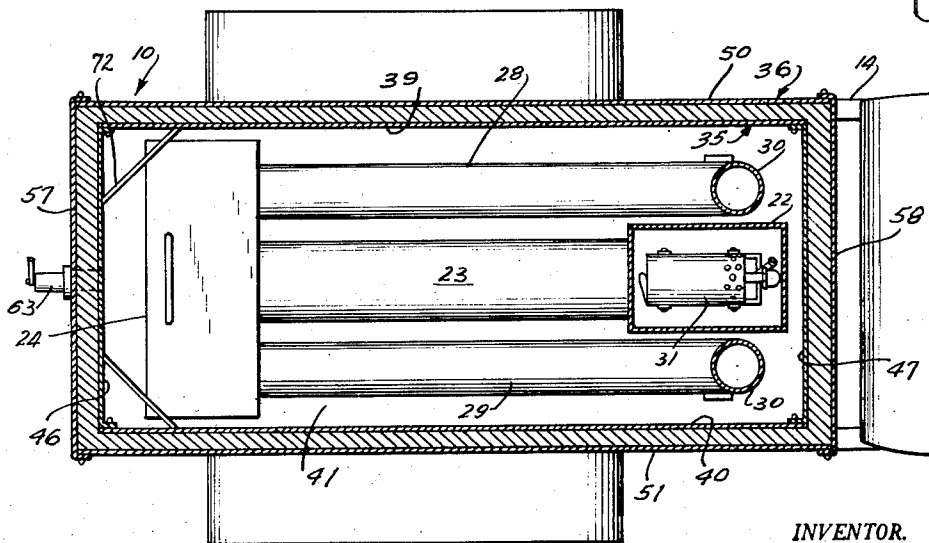
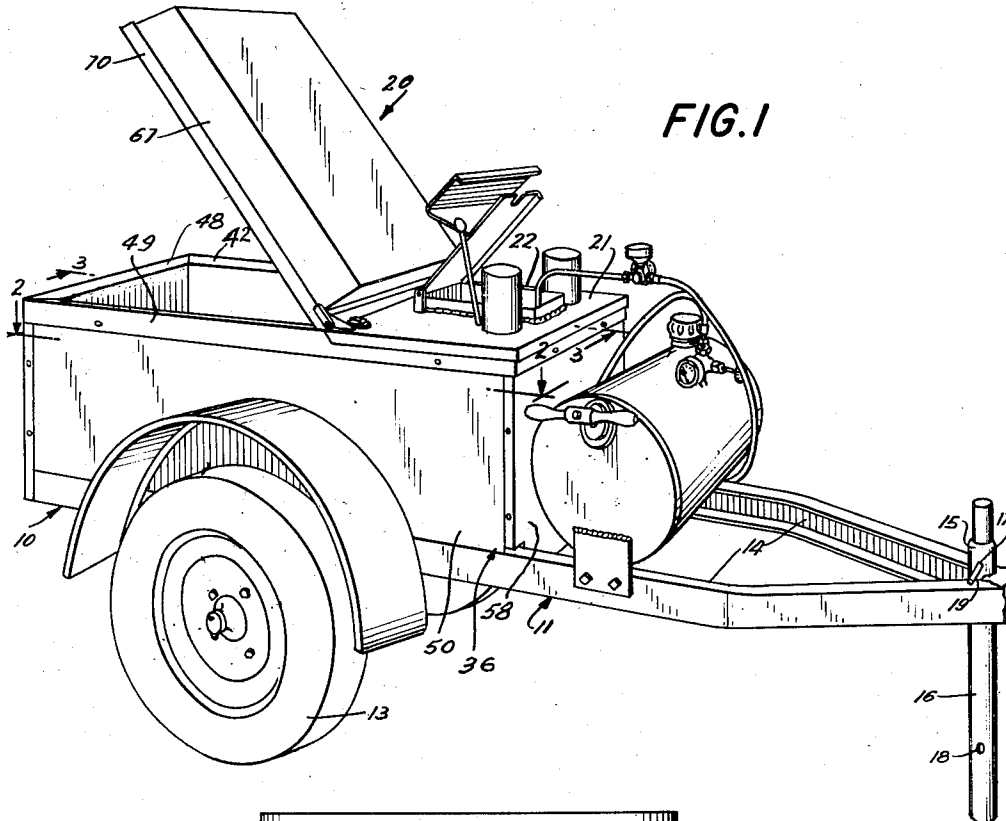
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2,830,577

MELTING KETTLE

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2 Sheets-Sheet 1



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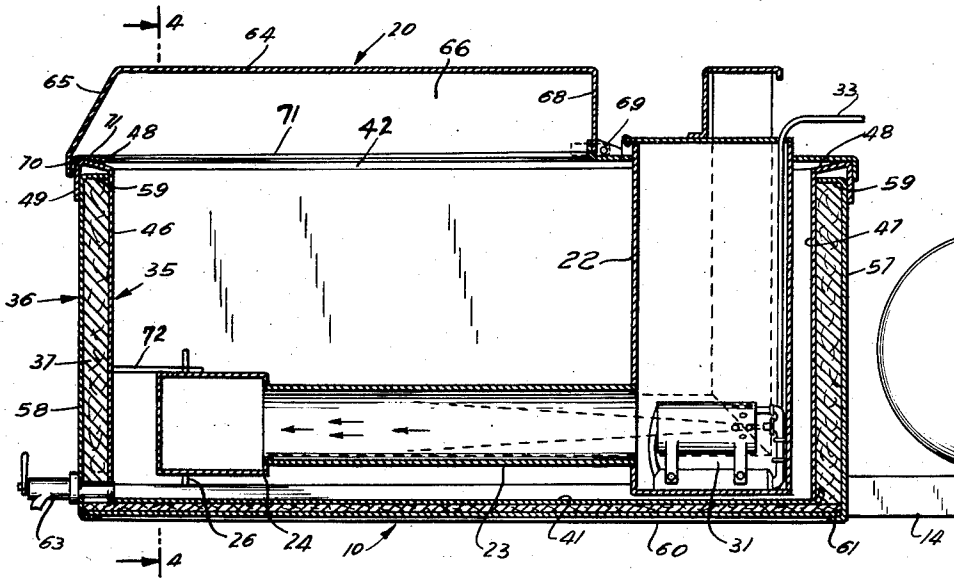


FIG. 3

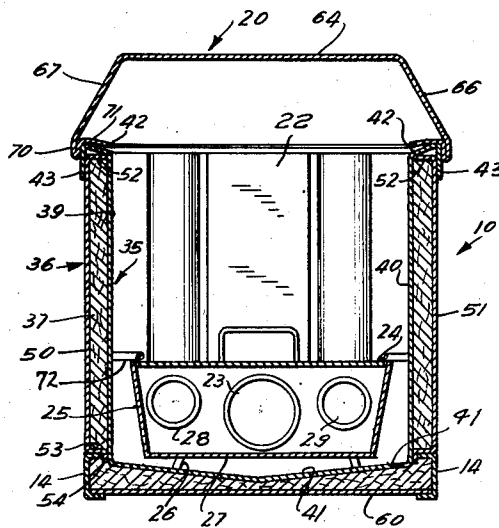


FIG. 4

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1

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MELTING KETTLE

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1 Claim. (Cl. 126—343.5)

This invention relates to a melting device and while not limited thereto is particularly directed to a rollably mounted kettle for melting bituminous materials such as asphalt, tar, pitch, wax and the like or for use in building roads and the like.

An object of the invention is to provide an improved construction of melting kettle which functions to provide greater efficiency in the melting of bituminous materials and which prevents deterioration of the melted materials. A principal feature of the invention is to provide a construction of melting kettle which prevents water and moisture from entering the kettle through the walls thereof and which also functions to return the condensate collecting on the under side of the cover to the kettle. The loss of such condensate renders the bituminous materials brittle and of poor quality. The return of the condensate to the melted materials is, therefore, of great importance.

Another object of the invention is to provide a melting receptacle and cover therefor which are so constructed and arranged as to provide a return flow into the kettle of material accumulating on the cover and which also prevents the cover from adhering to the rim of the receptacle.

Still another object of the invention is to provide means by which the melted material flows toward a discharge outlet.

Still another object of the invention is to provide an improved construction of melting kettle which facilitates the manufacture and assembly thereof and which improves the operation and use of the kettle.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawings in which the preferred embodiment of the invention is illustrated.

In the drawings:

Fig. 1 is a perspective view of a melting kettle constructed in accordance with the invention.

Fig. 2 is a horizontal sectional view taken approximately on line 2—2 of Fig. 1.

Fig. 3 is a longitudinal vertical sectional view taken approximately on line 3—3 of Fig. 1.

Fig. 4 is a vertical sectional view taken approximately on line 4—4 of Fig. 1.

Referring to the drawings the melted kettle comprises a receptacle 10 affixed to a chassis frame 11. The chassis frame 11 is rollably supported on wheels 13 journaled on a cross shaft secured to the chassis frame 11 and extending transversely of the chassis substantially medially of the length of the receptacle. The opposite side rails 14 of the chassis extend inwardly at their forward ends to provide a tapered forward end. A tubular socket 15 is journaled in the tapered forward end of the chassis in which a vertical supporting leg 16 is adjustable for disposing the forward portion of the frame at varying elevation. For this purpose the tubular socket 15 is provided with openings 17 and the vertical leg 16 is provided with a plurality of longitudinally spaced openings

2

18 for receiving therethrough and through the openings in the socket a bar 19 for holding the leg in vertical set position.

The receptacle 10 is provided with a cover 20 which is hinged to a cover panel 21 having a downturned rim extending continuously about the forward and opposite side edges thereof and which telescopically fit the forward wall and opposite side walls of the receptacle adjacent the forward end thereof. Secured to the cover panel 21 is a well 22 of rectangular shape in cross-section and from which extends a tubular flue 23 connected at its rear end with a header 24. The header is of rectangular formation in cross-section having converging end walls 25 and with feet 26 depending from the bottom wall 27 thereof for supporting the header in the receptacle in spaced relation from the bottom wall thereof. Also connected with the header 24 alongside of the flue 23 are branch flues 28 and 29 which extend forwardly from the header and are provided with upwardly directed outlet ends 30 which extend through openings in the cover panel. The cover panel 21 together with the well 22 and the flues 23, 28 and 29 and the header 24 are thus connected together as a unit and may be disposed with the cover panel in supported relation upon the receptacle and the well and flues together with the header located within and spaced from the bottom wall of the receptacle.

The receptacle is adapted to be filled with bituminous material in the form of chunks and small particles thereof which fill the space surrounding the flues and between the same and the bottom, side and end walls of the receptacle. The bituminous material is melted by means of a burner 31 supported upon the bottom wall of the well 22 for projecting a flame jet longitudinally of the flue 23. The gases of combustion pass through the header 24 and through the side flues 28 and 29 and are discharged through the outlet ends 30 thereof. The burner 31 may be of any desired type such as a vaporizing torch type which receives liquid fuel through a conduit 33 connected with a fuel tank 34 supported on the chassis forwardly of the receptacle.

An important feature of the invention is an improved construction of receptacle 10 and hinged cover 20 which functions to provide greater efficiency in the melting of the bituminous material and which prevents deterioration of the melted material. For this purpose the receptacle is provided with inner and outer shells 35 and 36 between which is arranged heat insulating material 37. The inner and outer shells are so constructed and arranged as to prevent any water or moisture entering the kettle through the walls thereof. The hinged cover together with the upper portion of the receptacle are constructed to retain the volatile solvents which vaporize upon heating of the bituminous material from escaping from the kettle and which also provides means by which the solvents will flow back into the receptacle.

The inner shell 35 includes opposite side walls 39 and 40 and a bottom wall 41 which are formed from a length of sheet metal with the bottom wall sloping inwardly from the side edges thereof toward the center. Formed integrally with the side walls 39 and 40 are inwardly and downwardly directed top rims 42 having depending peripheral flanges 43. The inner shell 35 also includes end walls 46 and 47 which are secured to the side walls 39 and 40 and to the bottom wall 41 by screws or other fastening means. The end walls 46 and 47 are similarly provided with top rims 48 which extend downwardly and inwardly and are provided with depending peripheral flanges 49.

The outer shell 36 includes opposite side walls 50 and 51 which are formed with inwardly directed top rims 52 extending longitudinally of the upper edges thereof and which underlie the top rims 42 of the side walls 39 and

40. The side walls 50 and 51 of the outer shell 36 are also formed with inwardly directed bottom rims 53 having depending flanges 54 at the inner edges thereof. The bottom rims 53 seat upon and are secured to the top flanges of the side rails 14 of the chassis frame 11 with the depending flanges 54 abutting against the outer faces of the side walls 39 and 40 of the inner shell 35 and between the same and the top flanges of the side rails 14 of the chassis frame 11. The outer shell 36 also includes end walls 57 and 58 which are similarly provided with inwardly directed top rims 59. The rims 59 underlie the rims 48 of the end walls 46 and 47 with the depending peripheral flanges 49 of said end walls overlying the marginal upper edge portions of the end walls 57 and 58 and being secured thereto by screws or equivalent fastening means. The outer shell 36 also includes a bottom wall 60 which seats on and is secured to the bottom flanges of the side rails 14 of the chassis frame 11 and with the inwardly directed flanges 61 of the end walls 57 and 58 extending under the marginal end portions of the bottom wall 60 and being secured thereto by screws or equivalent fastening means.

The receptacle is provided with an outlet 63 which is connected therewith in alignment with the lowest portion of the bottom wall 41 for draining off the melted material.

The cover 20 includes a top wall and a downwardly and outwardly deflecting front wall 65 and downwardly and outwardly directed side walls 66 and 67 and a vertical rear wall 68 which is hinged to the cover panel 21 by a hinge 69. The front and side walls 65, 66 and 67 are provided with a depending peripheral skirt portion 70 and with a ledge 71 located within the cover and deflecting downwardly and inwardly from the top of said skirt portion. The skirt portion 70 is adapted to fit about the peripheral flanges 49 at the top of the receptacle and the ledge 71 is adapted to seat on the highest portion of the top rims 42 and 48. This arrangement seals the cover on the receptacle so as to prevent the escape of the volatile solvents between the cover and the receptacle which vaporize from the materials during the heating thereof and condense on the under side of the cover. The sloping ledge 71 and rims 42 and 48 also function to return the condensate to the receptacle and the line contact of the ledge of the cover with the rims when the cover is in closed relation prevents sticking of the cover to the rims and eliminates the necessity of prying the cover to open relation.

The receptacle is provided adjacent the rear corners thereof with diagonally disposed bars 72 which overlie

and engage the top of the header 24 to retain the feet 26 of the header in engagement with the bottom wall of the receptacle and prevent upward movement of the header and flues 23, 28 and 29 due to the bouyancy thereof in the melted material in the receptacle.

While the preferred form of the invention has been shown and described herein, it is to be understood that the same is not so limited but shall cover and include any and all modifications of the invention which fall within the purview thereof.

What is claimed is:

In an apparatus of the character described, an open top receptacle for melting materials therein, said receptacle including spaced inner and outer shells between which is arranged heat insulation material, said inner shell having opposite side walls and opposite end walls and an inwardly and downwardly deflecting rim, said rim having its inner edge connected with the upper edge of said side and end walls to extend outwardly therefrom and said rim having a peripheral flange depending from the outer edge thereof, said outer shell having opposite side walls and opposite end walls and an inwardly directed rim at the top, said last mentioned rim extending inwardly beneath the first mentioned rim with said depending flange extending downwardly in covering relation with the upper portion of said side and end walls of said outer shell for preventing the entrance of moisture between said shells at the top thereof, a cover hingedly connected with said receptacle for closing the open top thereof, said cover having a depending skirt extending about at least three sides thereof and fitting about the upper portion of said receptacle, and said cover having a downwardly and inwardly deflecting ledge extending inwardly from the top of said skirt and adapted to seat in narrow contact on the highest portion of said first mentioned rim when the cover is closed thereby providing a seal to prevent the escape of vapors from the apparatus, said inwardly and downwardly deflecting ledge of said cover and said inwardly and downwardly deflecting rim of said receptacle functioning to return the condensate collected on the inside of said cover to said receptacle and preventing adhering of the cover to said rim by the condensate.

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