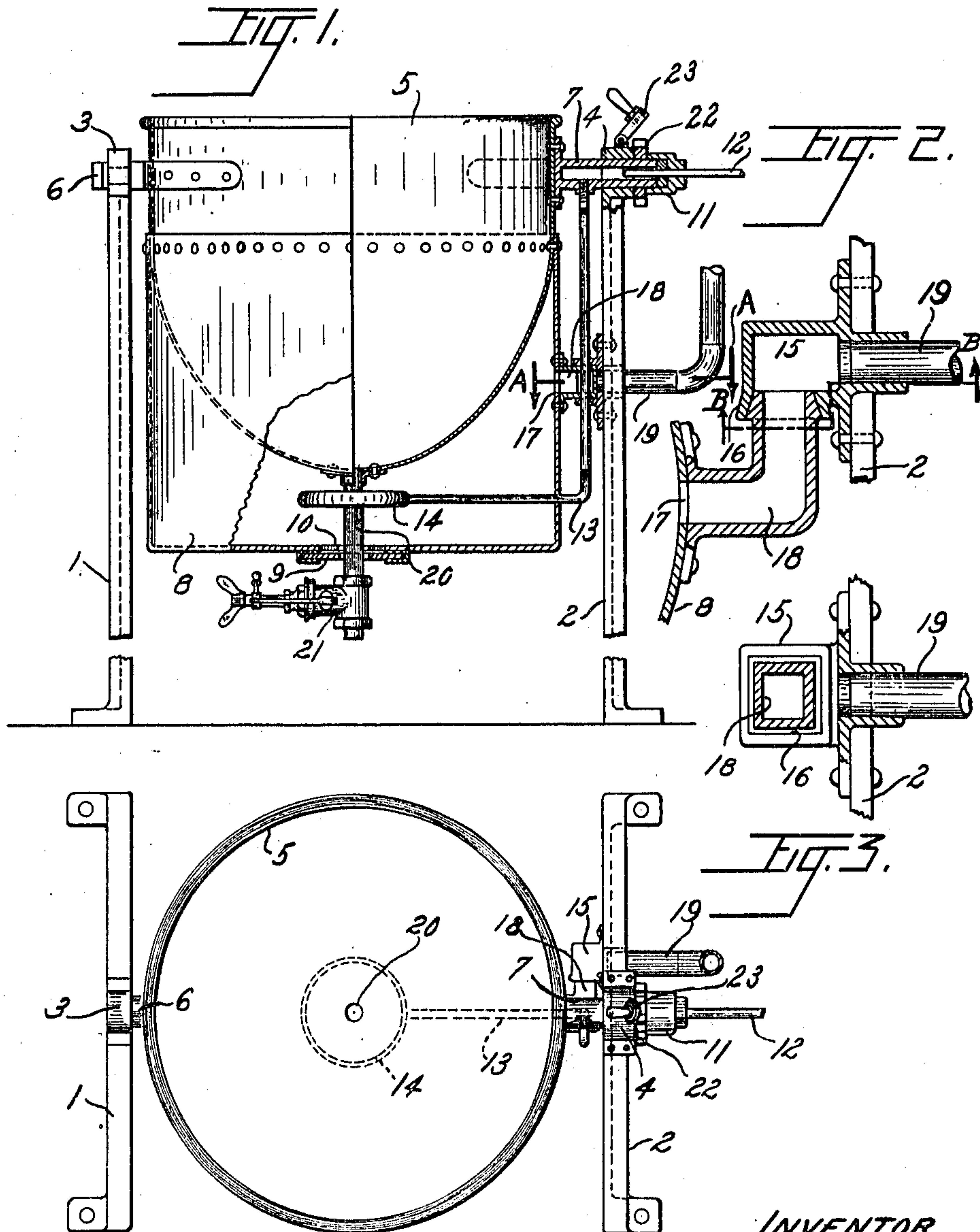


R. J. SAVAGE.
TILTING MIXING KETTLE.
APPLICATION FILED JUNE 7, 1909.

978,491.

Patented Dec. 13, 1910.



WITNESSES
D. S. S. *FIG. 4.*
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TILTING MIXING-KETTLE.

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Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed June 7, 1909. Serial No. 500,688.

To all whom it may concern:

Be it known that I, RICHARD J. SAVAGE, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tilting Mixing-Kettles, of which the following is a complete specification.

The main objects of this invention are to provide an improved construction in mixing kettles and more particularly to provide a combined mixing kettle of the tilting type and an attached furnace therefor; to provide a tilting mixing kettle having a furnace directly connected thereto beneath the same, and adapted to tilt therewith, and thereby avoid the necessity for removing the furnace and disconnecting it from its fuel supply each time the kettle is to be tilted; to provide a tilting mixing kettle with an attached furnace and having a fuel supply adapted to readily adjust itself to the position of the kettle on its support; and to provide a mixing kettle of the tilting type adapted to have its contents either drawn off or poured therefrom and provided with improved mechanism for automatically connecting the furnace with the outlet pipe for the products of combustion when the kettle is brought back to normal position after being tilted.

A specific construction embodying this invention is illustrated in the accompanying drawings, in which:

Figure 1 is a view partly in section and partly in side elevation of a device embodying this invention. Fig. 2 is an enlarged section taken on line A—A of Fig. 1. Fig. 3 is a section taken on line B—B of Fig. 2. Fig. 4 is a top plan view of the device.

In the construction shown in said drawings, the standards or frame members 1 and 2 may be of any desired construction and are provided at their upper ends with bearings 3 and 4 respectively.

The kettle 5, which is preferably formed of copper or other noncorrosive material, is provided near its top with oppositely disposed trunnions 6 and 7 which are journaled in said bearings. Rigidly secured to said kettle, at a point slightly below said trunnions is the furnace or heater jacket 8. Said jacket is preferably riveted at its upper edge to the kettle and is closed at its bottom save for the damper or valve 9 adapted to admit air thereinto. The damper, as shown, is a

revoluble disk having apertures therein adapted when in one position to register with apertures 10 in the bottom of the jacket. Said furnace is adapted to burn gas for heating the kettle, and for the purpose of providing a gas supply which does not have to be disconnected when the kettle is tilted, the trunnion 7 is hollow and connected in the outer end thereof by means of a coupling 11 is the gas supply pipe 12. Said coupling affords a gas tight joint about the pipe and permits the trunnion to be partially rotated with respect to the pipe when tilting the kettle. Leading downwardly from said trunnion 7 and into the lower portion of the furnace jacket 8 is the burner pipe 13, which is provided on its end within said jacket with a burner 14 of any desired construction, which is situated immediately beneath the kettle.

For the purpose of carrying off the products of combustion from the furnace jacket and for providing means for automatically connecting the furnace with and disconnecting it from the outlet pipe for the products of combustion, a hood 15 is rigidly secured on the frame member 2 and is provided with a flaring or bell shaped opening or mouth 16 in its side facing the direction in which the jacket moves when the kettle is being tilted. The jacket is provided in its side adjacent said hood with an opening 17, and secured to the jacket in register with said opening is the pipe elbow 18, which extends laterally from the jacket and then forwardly in alinement with said mouth 16, and is adapted to enter said mouth and fit closely therein, as shown in Fig. 2, when the kettle is in normal position. Connected in said hood is the outlet pipe 19 adapted to carry off the products of combustion.

In the bottom of the kettle is provided a drawoff pipe 20 which extends downwardly through the burner and the damper 9, and is provided at its lower end with a gate valve 21 by means of which it is controlled. Said drawoff pipe is for the purpose of drawing off the contents of the kettle if desired instead of pouring it off.

Rigidly secured on the trunnion 7 is a notched disk or member 22, and a locking lever 23 is pivoted on the bearing 4 and is adapted to engage with said member and hold the kettle in adjusted position.

The operation of the construction shown is as follows: When it is desired to heat

the contents of the kettle, gas is admitted to the burner through the pipe 12, trunnion 7 and the pipe 13. The products of combustion from the burner pass out of the jacket 5 through the aperture 17 into the elbow 18, and thence into the hood 15 and pipe 19. When the kettle is in normal or upright position the elbow 18 projects into the hood 15 and forms a tight joint therewith. When 10 the kettle is tilted the elbow is withdrawn from the hood, and as the kettle swings back to place it again enters the hood. The kettle may be tilted without disconnecting the gas supply or interfering with it in any 15 manner, and inasmuch as the furnace is attached directly to the kettle it does not have to be removed while tilting the kettle to pour out its contents. The drawoff pipe 20 is provided for the purpose of drawing off 20 certain mixtures which are preferably drawn instead of poured. By means of the damper 9 the admission of air to the jacket may be regulated.

While but one specific embodiment of this 25 invention is herein shown it will be understood that numerous details of the construction shown may be varied or omitted without departing from the spirit of this invention.

30 I claim:

1. A tilting mixing kettle, comprising a support, a kettle pivoted on said support, a furnace on the kettle, a pipe adapted to carry off the products of combustion from 35 the furnace, a hood connected with said pipe and having a bell shaped opening, and a pipe leading from the furnace and having its end tapered to fit closely in said opening when the kettle is in normal position.

40 2. A tilting mixing kettle, comprising a pair of standards, a kettle pivoted on the standards, a jacket on the kettle, a burner in the jacket beneath the kettle, a fuel supply pipe leading to the burner, a hood on the inner side of one of the standards and having 45 a laterally opening, outwardly flaring mouth, a pipe leading from the hood, and an elbow opening from the jacket and having a tapered end thereon adapted to enter and fit 50 closely in said mouth when the kettle is in upright position.

3. A tilting mixing kettle, comprising a support, a kettle pivotally mounted on said support and adapted to be tilted, a jacket 55 engaged on said kettle and adapted to be tilted therewith, an outlet pipe, a hood on the support and connected with the pipe,

and an elbow on said jacket adapted to automatically connect with the hood and afford communication between said pipe and jacket 60 when the kettle is returned to normal position.

4. A tilting mixing kettle, comprising a kettle, means pivotally supporting said kettle, a heating jacket on the kettle, an out- 65 let pipe for said jacket, and telescoping means adapted to automatically connect the jacket therewith when the kettle is turned to normal position.

5. A tilting mixing kettle comprising a 70 frame, a kettle pivotally supported thereon, a heating jacket beneath said kettle and supported therefrom, a pipe on said frame, a hood connected with said pipe, and a curved pipe opening from said jacket and adapted 75 when the kettle is swung to normal position to enter said hood and afford communication between the jacket and pipe.

6. A tilting kettle, comprising standards, a kettle, trunnions on said kettle and jour- 80 naled in said standards, one of said trunnions being hollow, a jacket secured on said kettle, a burner therein beneath said kettle, a gas supply pipe, means connecting said pipe with the hollow trunnion and adapting 85 the trunnion to rotate with respect thereto, a pipe leading from the trunnion into the jacket and connected in said burner, a hood carried on one standard, a curved pipe opening from the jacket and adapted to enter the 90 hood when the kettle is in normal position, and a pipe leading from the hood.

7. A tilting kettle, comprising standards, a kettle, trunnions on said kettle, having 95 bearings in said standards and one of which is hollow, a jacket on the under side of said kettle, a burner therein, a pipe leading from said hollow trunnion to said burner, a supply pipe connected in said hollow trunnion, a damper in the bottom of said jacket, a 100 valved controlled drawoff pipe leading downwardly from the bottom of said kettle through said burner and damper, an outlet pipe supported on one of the standards, and interfitting means on the jacket and stand- 105 ard adapted to afford communication between the jacket and the outlet pipe.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

RICHARD J. SAVAGE.

Witnesses:

GIRARD McVICAR,
W. W. WITTHENBURY.