July 9, 1929. E. M. JONES 1,720,478

INCINERATOR CHARGING OPENING

Filed Oct. 22, 1927

Fig. 1.

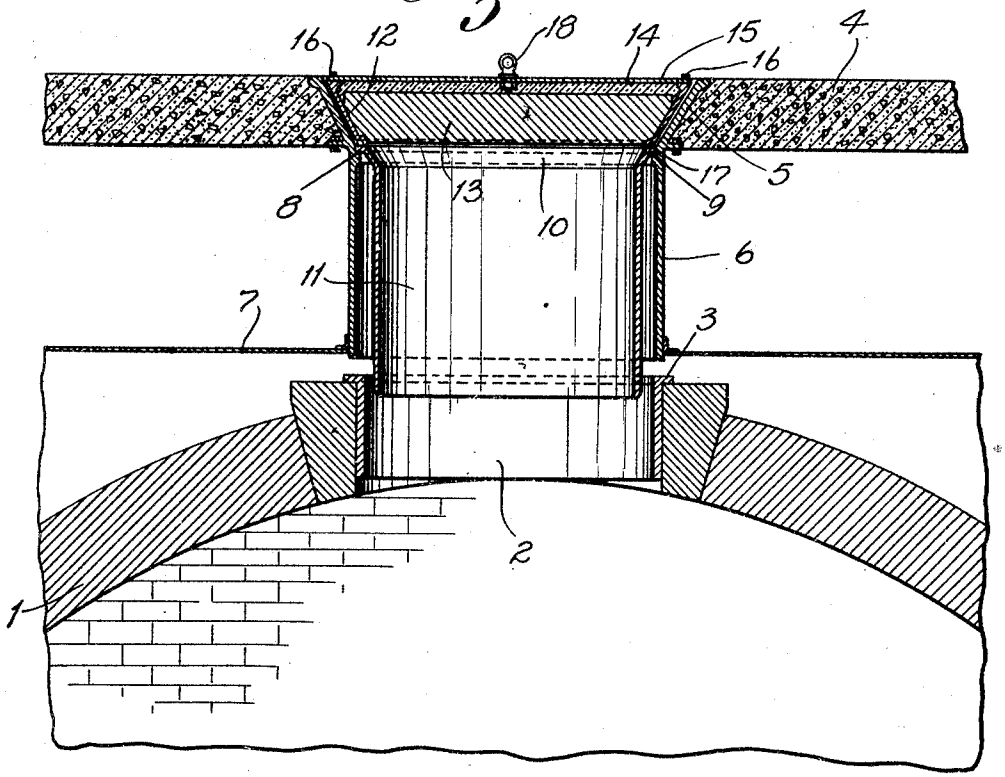
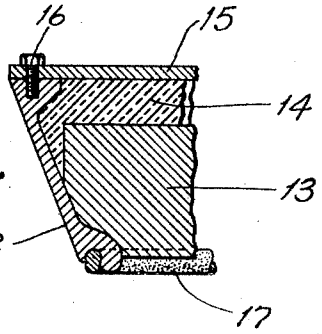


Fig. 2.



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INCINERATOR-CHARGING OPENING.

Application filed October 22, 1927. Serial No. 228,013.

My invention relates to charging openings for garbage and refuse incinerators and has for its principal object a charging opening construction that can be easily and quickly opened and closed, that will accommodate expansion and contraction of the several parts due to temperature changes, and that will prevent escape of gases from the interior of the furnace and ingress of cold air. The invention consists in the incinerator charging opening and in the parts and combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing,

Fig. 1 is a sectional view of a portion of an incinerator having a charging opening embodying my invention; and

Fig. 2 is a detail sectional view of the cover ring of the construction.

The main arch 1 of the incinerator is provided with a circular opening in which is disposed a metal ring 2 having an annular flange 3 at the top that rests on said arch 1. The top of said furnace arch 1 is below the level of a charging floor 4 of concrete or other material onto which are driven the trucks or wagons containing material to be burned. Set in the concrete 4 is the upwardly flaring upper end 5 of a cylindrical casing 6 that extends below the floor, terminating slightly above the top of said bottom ring 2. The furnace cover 7 is about at the level of the bottom of said casing 6.

The said casing 6 has an interior annular ledge 8 just below the flaring mouth portion on which rests an annular rib 9 formed at the top of the flaring mouth portion 10 of a charge chute 11 that extends downwardly into the upper end of the bottom ring. The outside diameter of said charge chute 11 is less than the inside diameter of said bottom ring 2, so that relative expansion and contraction are accommodated.

Disposed in the flaring mouth portion 5 of the casing 6 is a frusto-conical metal shell 12 in which is a body 13 of fire brick or the like, a layer of insulation 14 and, preferably, a top cover plate 15 secured to the shell, as by screws 16, the whole constituting a cover for the top of the casing. In the lower edge of said shell 12 is an annular recess in which is disposed a packing ring 17 of asbestos or other suitable material that bears against the top of the charge chute 11 thereby effectively sealing the charging opening.

The cover shell 12 is slightly smaller in its outside dimensions than the mouth 5 of the casing 6; so that it will not bind in said opening. Secured to the cover plate 15 is an eyebolt 18 by means of which the cover may be raised and lowered.

The above described construction has numerous advantages. It is simple in construction. The cover is easily removed and put back in position. The cover is thoroughly insulated thereby preventing escape of heat from the furnace. The opening is perfectly sealed thereby preventing escape of gases from the furnace and ingress of cold air. The parts that are subject to changes in temperature are left free to accommodate themselves to such changes.

The charge chute 11 which extends into the top of the furnace and hence is subject to expansion and contraction due to heating and cooling of the furnace, fits loosely in the casing 6 and its expansion and contraction does not result in its becoming separated from its mounting, as would happen with a single chute member having its upper end embedded in the floor. Likewise the chute 11 wears out more quickly than other parts and my construction permits easy removal and replacement of the chute.

Obviously numerous changes may be made without departing from my invention, and I do not wish to be limited to the precise construction shown.

What I claim is:

1. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having an annular flange at the top resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing and a truncated conical cover for said mouth of said casing.

2. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having an annular flange at the top resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing and a truncated conical

cover for said mouth of said casing, said cover having a sealing ring in its lower edge resting against the top of said charge chute.

3. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having an annular flange at the top resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring, said charge chute having a flaring mouth and an annular rib at the top thereof resting on said ledge in said casing and a truncated conical cover for said mouth of said casing, said cover having a sealing ring in its lower edge resting against the top of said charge chute.

4. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having a top annular flange resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing and a truncated conical cover for said mouth of said casing, said cover resting on the top of said charge chute and being slightly smaller in its overall dimensions than the mouth portion of said casing.

5. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having a top annular flange resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing, the body portion of said chute being spaced away from the body portion of said casing and a truncated conical cover for said mouth of said casing.

6. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having a top annular flange resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing, the body portion of said chute being spaced away from the body portion of said casing and a truncated conical cover for said mouth of said casing, said cover having a sealing ring in its lower edge resting against the top of said charge chute.

7. In combination with an incinerator having a top arch and an opening therein, a ring disposed in said opening and having a top annular flange resting on the arch, a casing disposed above said ring and having a flaring mouth portion and an interior annular ledge, a support for said casing, a charge chute opening into said bottom ring and having an annular rib resting on said ledge in said casing, the body portion of said chute being spaced away from the body portion of said casing, and the outside diameter of the lower end of said charge chute being less than the inside diameter of said bottom ring.

Signed at St. Louis, Missouri, this 20th day of October, 1927.

EDWARD M. JONES.