

No. 891,713.

PATENTED JUNE 23, 1908.

L. MOND.

CHARGING DEVICE FOR FURNACES, RECEIVING VESSELS, OR THE LIKE.

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Fig. 1.

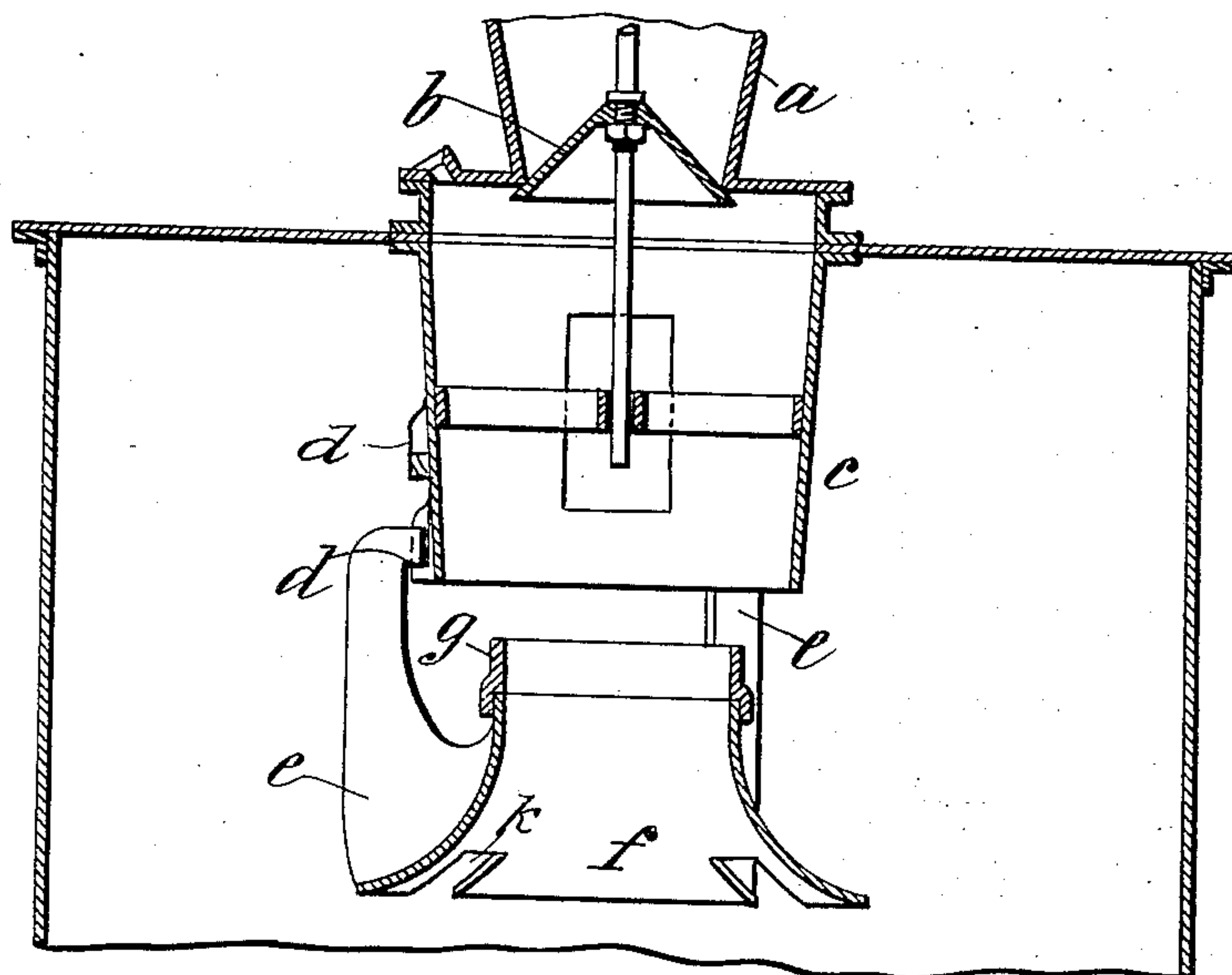
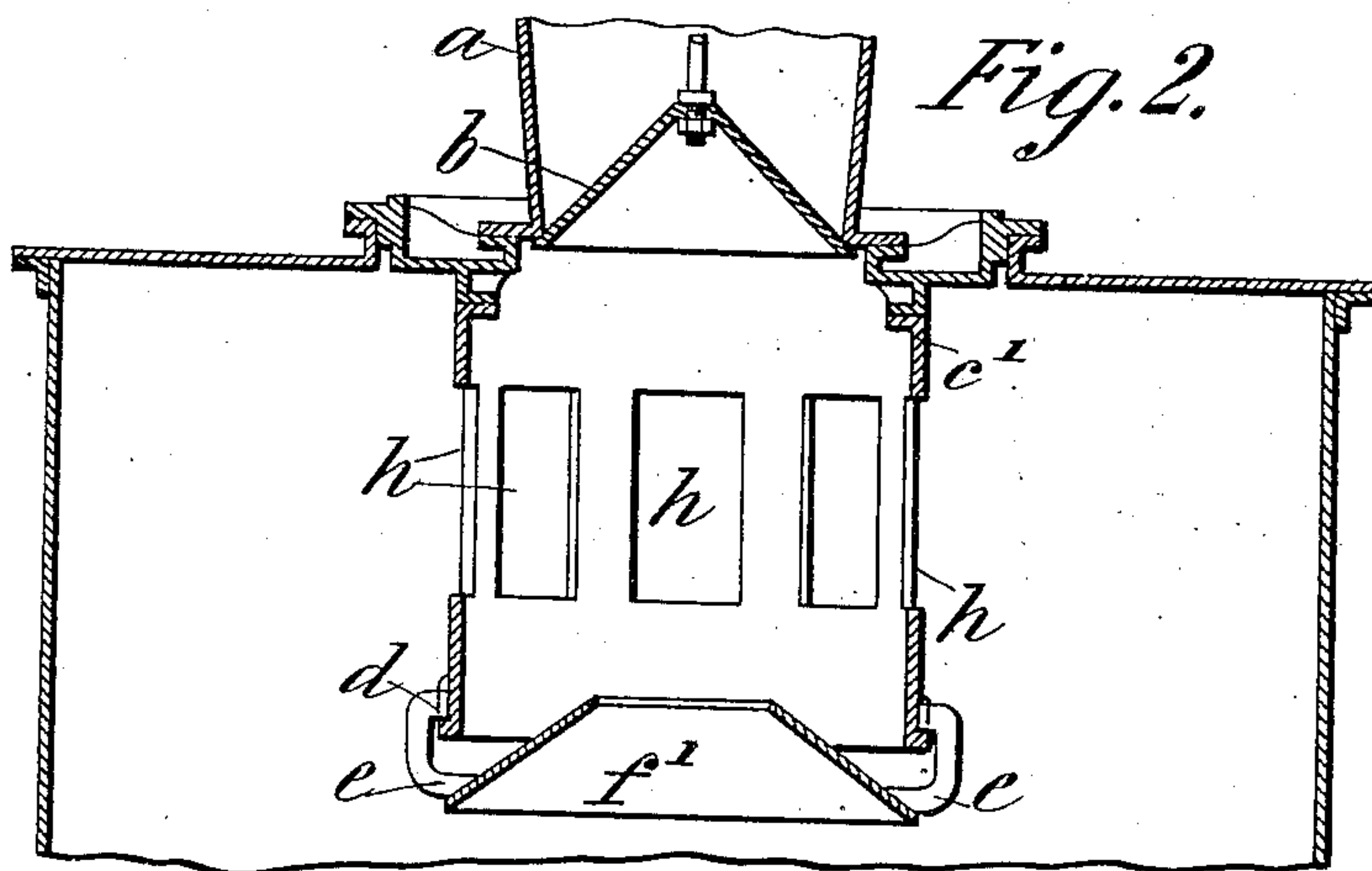


Fig. 2.



Witnesses.

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LUDWIG MOND, OF LONDON, ENGLAND.

CHARGING DEVICE FOR FURNACES, RECEIVING VESSELS, OR THE LIKE.

No. 891,713.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed August 26, 1907. Serial No. 390,251.

To all whom it may concern:

Be it known that I, LUDWIG MOND, F. R. S., a subject of the King of Great Britain, residing at 20 Avenue road, Regents Park, in the county of London, England, manufacturing chemist, have invented a certain new and useful Charging Device for Furnaces, Receiving Vessels, or the Like, of which the following is a specification.

When solid material is charged into a furnace or a receiving vessel it is frequently desirable that it should be so distributed that its surface in the furnace or vessel is approximately level. When the charging apparatus is a hopper or the like, some distributing device is essential to attain this end, and gas producers, for instance, have been designed wherein rotating or otherwise moving distributors receive the fuel from the hopper and scatter it over the surface of that already contained in the producer.

This invention relates to a fixed device for distributing a charge as it enters a furnace, kiln, producer or receiving vessel from a hopper, comprising a tube, the sides of which may be slotted, fixed below the hopper and preferably extending into the furnace or the like and a spreading device consisting of a truncated hollow cone or its equivalent which may have curved surfaces and be provided with serrated edges, fixed below the said tube.

The accompanying drawings illustrate the invention, both figures being part vertical sections through producers showing two forms of the invention.

Referring to Figure 1, beneath the hopper *a* closed at bottom by the ordinary cone valve *b*, is fixed the tube *c* slightly downwardly coned and having at its lower edge brackets or lugs *d* to support arms *e*. The tube *c* may have lateral slots *h*. The arms carry the spreading device or spreader *f* which is a short tube having outwardly curved sides and capable of being lengthened by the extension *g* when it is desired to vary the action of the device. The lower edge of the spreader may be serrated as shown at *k*. When the cone valve *b* is lowered fuel falls against the inner surface of the tube *c*. A considerable portion thereof is deflected through the spreading device *f* while the remainder falls on to the outer surface of the latter to be distributed towards the sides of the producer.

In the form shown in Fig. 2 the tube *c'* is

cylindrical and is slotted as at *h* so that much of the fuel that falls from the hopper in an inclined direction passes directly through these slots. The spreading device *f'* is in this case a short truncated hollow cone. Some of the fuel falls through this cone, while other portions fall on its outer surface and are distributed towards the sides of the producer.

The distance of the spreading device from the bottom of the tube may be adjustable by any suitable means such as by providing more than one set of lugs or brackets *d*, at different heights of the tube, to receive the arms *e*.

Having thus described the nature of my said invention and the best means I know of carrying the same into practical effect I claim:—

1. A device for distributing the charge fed into a furnace, producer or the like, or into a receiving vessel, comprising a hopper, a cone valve adapted to engage the discharge end of said hopper, a tube fixed below the said hopper, and an unobstructed hollow spreader fixed operatively below the said tube, and adapted to simultaneously allow some of the charge to fall centrally through it and to receive some of the charge upon its outer surface.

2. A device for distributing the charge fed into a furnace, producer or the like, or into a receiving vessel, comprising a hopper, a cone valve adapted to engage the discharge end of said hopper, a tube fixed below said hopper and an unobstructed hollow spreader fixed operatively below the said tube and adapted to simultaneously allow some of the charge to fall centrally through it and to receive some of the charge upon its outer surface, with means for adjusting the position of the spreader relatively to the discharge end of said tube.

3. A device for distributing the charge fed into a furnace, producer or the like, or into a receiving vessel, comprising a hopper, a cone valve adapted to engage the discharge end of said hopper, a tube fixed below said hopper, an unobstructed hollow spreader fixed operatively below said tube and adapted to simultaneously allow some of the charge to fall centrally through it and to receive some of the charge upon its outer surface, with means for adjusting the position of the spreader relatively to the discharge end of said tube, and means for altering the action of said spreader.

4. A device for distributing the charge fed into a furnace, producer or the like, or into a receiving vessel, comprising a hopper, a tube fixed below the said hopper, a hollow spreader 5 fixed below the said tube, and a curved outer surface to the said spreader, the said spreader being adapted to allow some of the charge to fall through it and to receive some on the said curved outer surface.
- 10 5. A device for distributing the charge fed into a furnace, producer or the like, or into a receiving vessel, comprising a hopper, a tube fixed below the said hopper, a hollow spreader fixed below the said tube a curved 15 outer surface to the said spreader, and a serrated lower edge to the said spreader, the said spreader being adapted to allow some of the charge to fall through it and to receive some on the said curved outer surface.
- 20 6. A device for distributing the charge fed into a furnace, producer or the like or into a receiving vessel, comprising a hopper, a valve adapted to engage the hopper, a slotted tube fixed below the said hopper and a hollow spreader fixed below the said tube, and adapted 25 to allow some of the charge to fall through it and to receive some of the charge upon its outer surface.
7. A device for distributing the charge fed into a furnace, producer or the like or into a 30 receiving vessel, comprising a hopper, a slotted tube fixed below the said hopper, a hollow spreader fixed below the said tube, a curved outer surface to the said spreader, and a serrated lower edge to the said 35 spreader, the said spreader being adapted to allow some of the charge to fall through it and to receive some on the said curved outer surface.
- In testimony whereof I have signed my 40 name to this specification in the presence of two subscribing witnesses.
- LUDWIG MOND.
- Witnesses:
J. G. MANCE,
A. CEROSOLZ.