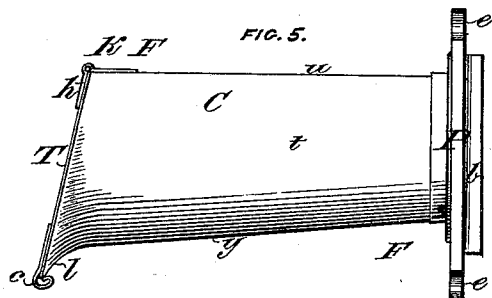
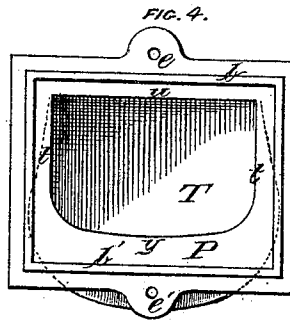
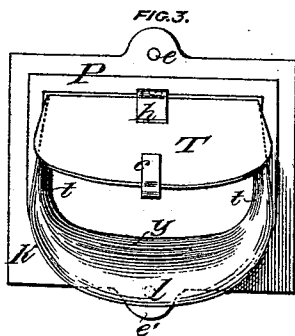
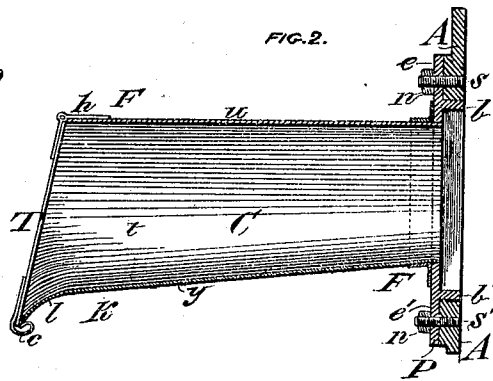
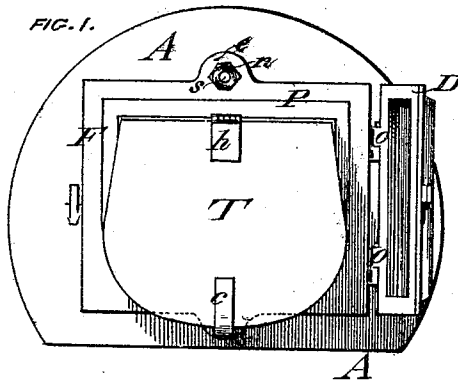


F. X. FISCHER.

STRAW-FEEDERS FOR FURNACES.

No. 178,426.

Patented June 6, 1876.



WITNESSES:

C. J. Wetmore
Algernon W. Austin

INVENTOR:

Frank X. Fischer
Per atty
Lined Varies

UNITED STATES PATENT OFFICE.

FRANK X. FISCHER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN STRAW-FEEDERS FOR FURNACES.

Specification forming part of Letters Patent No. **178,426**, dated June 6, 1876; application filed April 24, 1876.

To all whom it may concern:

Be it known that I, FRANK X. FISCHER, of the city and county of San Francisco, State of California, have invented Improvements in Straw-Feeders for Furnaces, of which the following is a specification:

My invention consists essentially of a tapered metallic nozzle or receiver for feeding straw to furnaces, constructed open at both ends and with straight flat top, but with sides and bottom rounded off at their junction, so as to form a continuous curve, and so arranged as to project outward into a curved lip, in order that, first, a drop-door, provided with spring-catch and hung from this top, may effectually close the opening of this nozzle at one end by catching under this projecting lip; and, secondly, insure a more ready means of guiding the fork in charging the straw for the furnace. Also, at the other end of the nozzle, a plate is attached, provided with eyes and projecting beading or flange, so that the entire device may be readily fastened to a furnace-door plate by fitting these eyes to set-screws with-nuts provided on the same, without detaching the ordinary furnace-door from an open position on its hinges; the object of my invention being to render such nozzle, by these elements of construction, readily adjustable and more easily charged with fuel.

Figures 1 and 2 are respectively a front elevation and longitudinal vertical section of the straw-feeder, provided with the several improvements embodying my invention, and represented fitted in position to a furnace-door plate, arranged for receiving the same. Figs. 3, 4, and 5 are front, end, and side elevations of my improved straw-feeder for furnaces, (Fig. 3 representing a front view with the drop-door partially raised.)

With reference to Figs. 1, 2, 3, 4, and 5 of the drawing, A A is a furnace-door plate, and D a door fitted thereto, and constructed in the usual manner. F F is a straw-feeding apparatus, provided with the several parts embodying my invention, which consists essentially of a peculiarly-formed receiving-chamber C, adjusting-plate P, and outer drop-door with catch c. The receiver C is a tapered-shaped metallic chamber, open at both ends, and constructed with a flat top, *u*, but with sides *t t*

and bottom *y* rounded off at their junction, so as to form a continuous curve. At the larger end *k* of this receiver, these curved sides and bottom project forward gradually, and are bent over outward, so as to form a flange or lip. *l*. From the flat top *u* a door, T, is hung by a hinge, *h*, so as to be made capable of closing this chamber C by fitting onto the edge of this flange *l*, and is secured in this position, when required, by the compression over this flange of a projecting curved spring-catch, *c*, attached to the lower end of this drop-door. To the smaller end of this receiver a metallic plate, P, is fixed by means of strips of angle-iron fitted around and joined to both, either by rivets or screws. This plate P is provided at the top and bottom edges with centrally-arranged projecting eyes *e e'*, for receiving set-screws *s s'*, fixed at the top and bottom respectively of the furnace-door plate, close to the opening thereof. Also a projecting beading or flange, *b b'*, forming a continuation of this plate P, is so constructed as to allow of it fitting closely to the sides, top, and bottom of the furnace-door opening, these eyes, screws, and flange being all so placed that when this plate P, with attached nozzle, is adjusted onto these set-screws by the nuts *n n'*, it may close the furnace-door opening as effectually as the ordinary door D, but such door D, when in an open position on its hinges *o o*, need not be detached for the adjustment of the apparatus described.

By this general arrangement and construction of a straw-feeder for furnaces, the following advantages are obtained: First, by reason of the sides *t t* being rounded, so as to form a continuous curve with the bottom *y*, the straw, when fed, does not settle in the edges or corners, and thus allows of the nozzle being kept clean, and insures a more ready charging of the furnace. Secondly, by reason of the flattened top *u* the drop-door T can be better fitted to the apparatus than when curved at the top, and it also admits of the bottom and sides being flared or bent round outward into the form of a lip, *l*. Thirdly, this lip *l* serves as a guide to the fork used in charging the nozzle with straw, and renders such charging easier and more effective; also, it admits of a spring-catch, *c*, closing the drop-

door T by a gentle pressure, and thus makes a closer chamber of the nozzle than when the door is allowed to rest by its own weight. Fourthly, the plate P, as constructed, allows of a readier adjustment of the device to the furnace, without any detachment of the furnace-door.

I claim as my invention—

The nozzle or receiver C, provided with rounded sides *t t*, and bottom *y*, flat top *u*, lip

l, drop-door T, with catch *c*, and plate P, constructed with eyes *e e'*, and projecting flange *b b'*, in combination with the furnace-door plate A A, provided with set-screws and nuts *s s' n n'*, respectively, arranged as herein shown and set forth.

FRANK X. FISCHER.

Witnesses:

ALFRED C. CRANE,
LIONEL VARICAS.