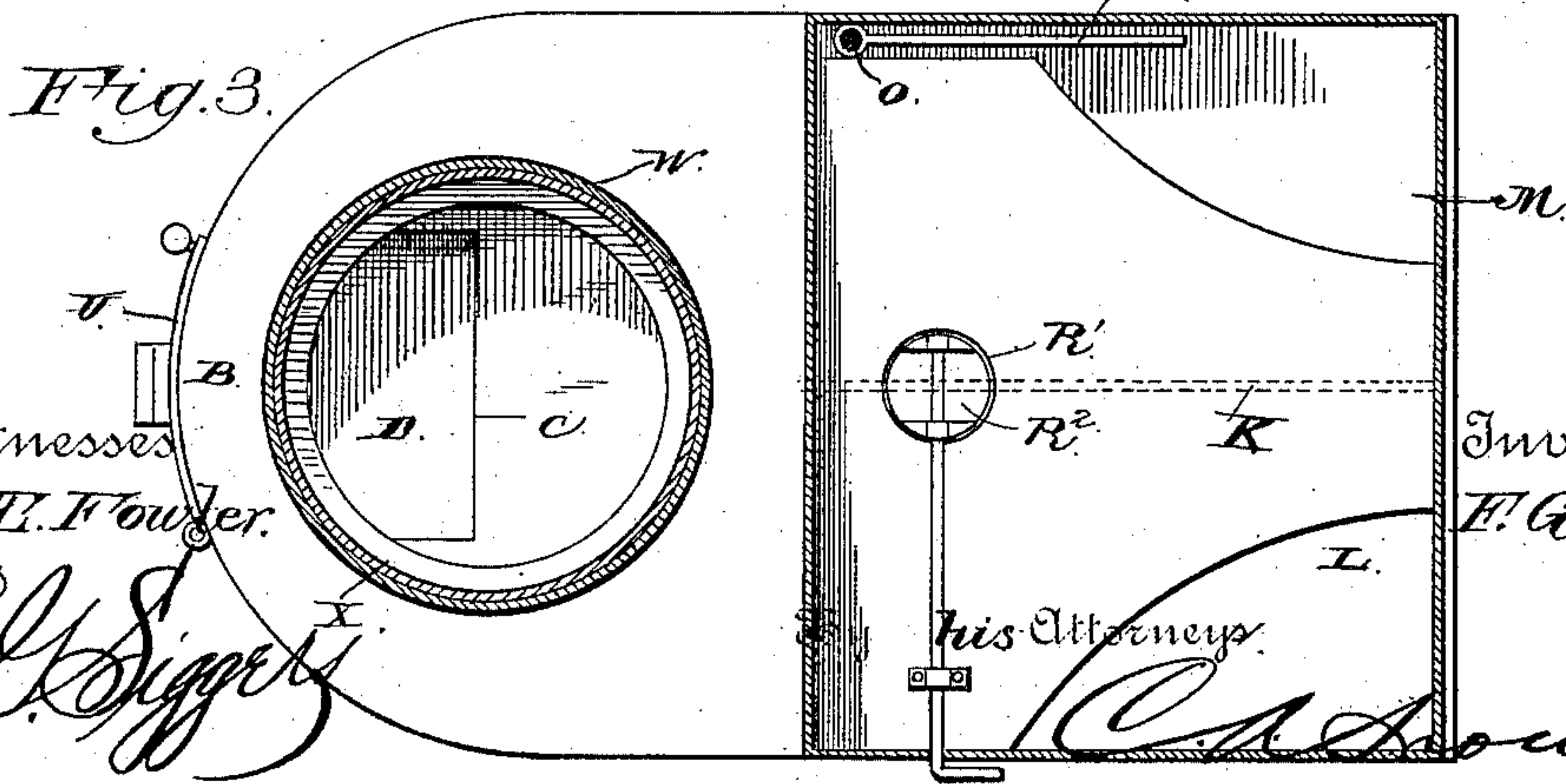
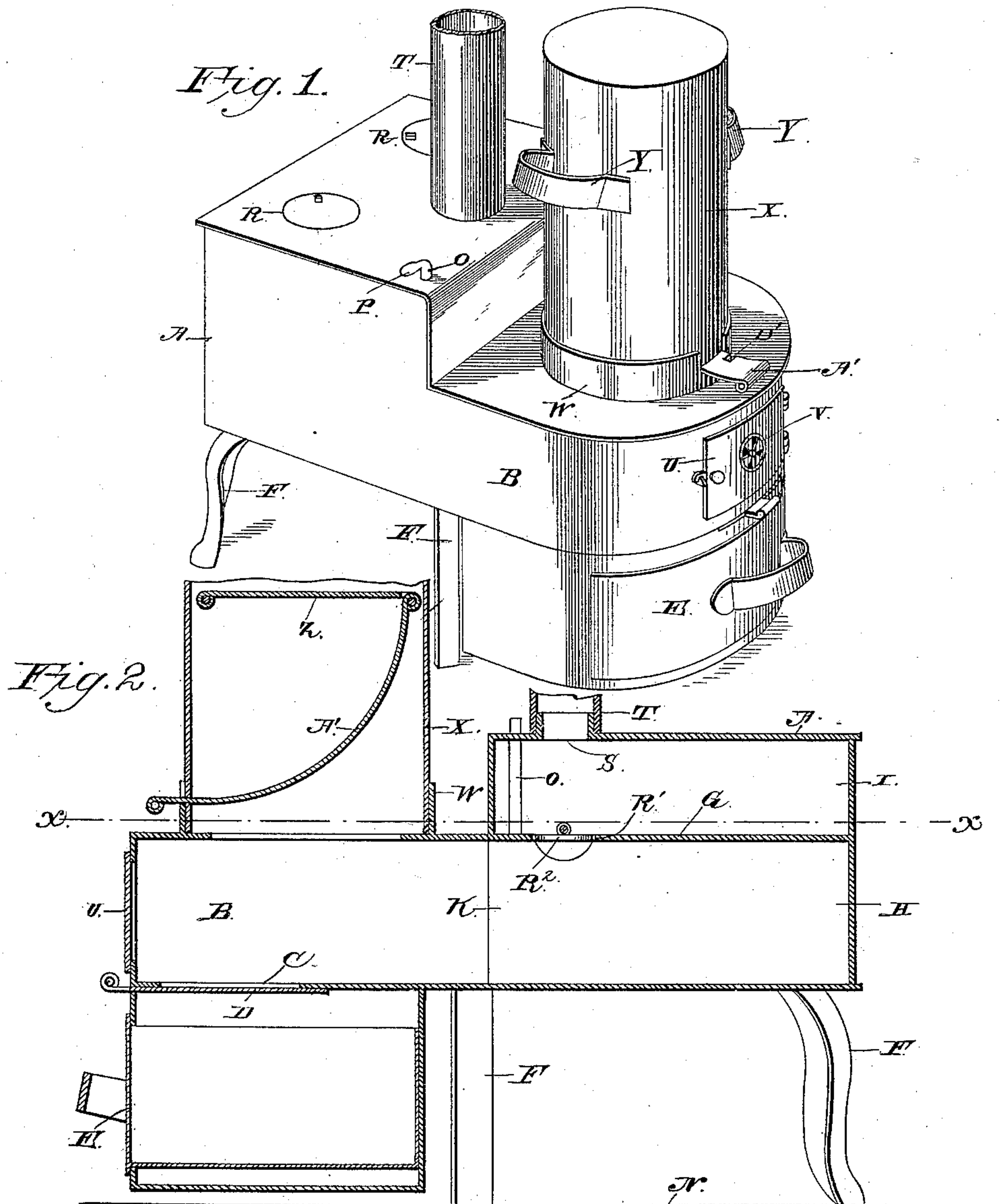


(No Model.)

F. GIRTANNER.
STRAW BURNING STOVE.

No. 378,786.

Patented Feb. 28, 1888.



Witnesses
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UNITED STATES PATENT OFFICE.

FRED GIRTANNER, OF BIG STONE CITY, DAKOTA TERRITORY.

STRAW-BURNING STOVE.

SPECIFICATION forming part of Letters Patent No. 378,786, dated February 28, 1888.

Application filed June 27, 1887. Serial No. 242,670. (No model.)

To all whom it may concern:

Be it known that I, FRED GIRTANNER, a citizen of the United States, residing at Big Stone City, in the county of Grant, Dakota Territory, have invented a new and useful Improvement in Straw-Burning Stoves, of which the following is a specification.

My invention relates to an improvement in straw-burning stoves; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a straw-burning stove embodying my improvements. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a horizontal sectional view taken on the line *x* of Fig. 2.

A represents the main body of the cook-stove, which is rectangular in shape, as shown, (or may be rounded,) and is provided on its lower front side with a forward-projecting fire-box, B, the sides of which are vertical, (or may be inclined,) and the front end of which is rounded, as shown. In the bottom of the fire-box, at the front end thereof, is an opening, C, which is adapted to be closed or uncovered by a slide, D.

E represents a removable ash-pan, which is arranged on the under side of the fire-box and extends nearly to the floor. The stove is supported upon suitable legs, F.

The main body of the stove communicates directly with the rear side of the fire-box, and arranged horizontally in the main body of the stove, about midway between the lower and upper sides thereof, is a diaphragm or plate, G, which divides the stove into a lower compartment or chamber, H, and an upper compartment or chamber, I. The rear corners or rear portions of the diaphragm or plate are cut away, as shown in Fig. 3, in order to establish communication between the upper and lower chambers.

K represents a vertical longitudinal partition-plate, which is arranged under the center of the diaphragm G, and extends from the same to the bottom of the stove, the front end of the said plate being at the front end of the main portion of the stove, and the rear end of said plate extending to the rear side of the stove,

so as to divide the lower compartment or chamber thereof into two parallel flues, L and M. Other chambers may be made by subdividing these chambers in same way as above.

N represents a valve which is arranged at the front end of the flue M, and is provided with an upward-extending operating-rod, O, which projects above the upper side of the stove, and has its upper end bent at right angles to form a handle, P. On the upper side of the main body of the stove are the usual openings, R, for the cooking utensils, and in the upper side of the stove, near its front edge, is an opening, S, for the attachment of the stove-pipe T. Directly underneath the opening S, and in the diaphragm described above, is an opening, R', provided with a valve, R², to give a more direct connection with fire-box B and stove-pipe T.

The front end of the fire-box is provided with a hinged door, U, having a damper, V, and in the upper side of the fire-box is an opening, around which is arranged the vertical collar or flange W.

X represents a vertical feeding drum, which has its upper end closed and its lower end open, and adapted to fit in the collar or flange W and rest on the upper side of the fire-box. Said feeding-drum is provided on opposite sides with handles Y, by means of which it may be removed from the fire-box or placed thereon, and in the lower ends of the feeding-drum is a hinged valve, Z, provided with an adjusting-arm, A', that curves downward and forward therefrom, is provided in one side with a series of notches, D', and passes through an opening in the front side of the feeding-drum, and is thereby adapted to have either of its notches engaged to one side of the said opening, so as to secure the valve at any desired adjustment in the feeding-drum, according to the amount of fuel it is desired to supply to the fire-box.

The operation of my invention is as follows: By partly opening the valve in the feeding-drum straw is fed therefrom into the fire-box, where it is ignited. When the damper N is opened, the flames, smoke, and products of combustion sweep rearward from the fire-box through the flues L and M, and from thence upward over the diaphragm or plate G into

the upper chamber, I, thereby thoroughly heating the stove. The smoke and products of combustion escape through the stove-pipe T. When the damper is closed, the smoke, flame, 5 and products of combustion pass rearward through the flue L only, and from thence upward into and through the upper chamber, I, thereby applying the major portion of the heat to one side of the stove when it is desired to do 10 so. The valve at R' is opened when fires are started, to give desired draft.

The ashes may be removed from the fire-box from time to time by opening the slide C and sweeping the ashes into the ash-pan E. When 15 the latter becomes filled with ashes, it may be removed and discharged of its contents. The damper in the door U enables a sufficient quantity of air to be admitted to the fire-box to promote combustion.

20 Having thus described my invention, I claim—

1. The straw-burning stove having the main portion A, the fire-box extending therefrom and communicating therewith, the horizontal 25 diaphragm G, arranged in the portion A and dividing the same into an upper and lower compartment, said diaphragm having the opening at its rear corners communicating with the said compartments, the vertical longitudinal diaphragm K, dividing the lower com- 30 partment into horizontal flues L and M, the

damper N at the front end of one of the said flues, the damper R² in the front end of diaphragm G, at the center thereof, the top of the stove being provided with the escape flue or 35 opening S, arranged directly above the damper R², substantially as described.

2. A straw-burning stove having the main portion A, provided in its lower side with the longitudinal flues L and M, the chamber I, 40 arranged above the said flues and communicating with the rear ends thereof, the escape-opening in the upper side of the stove to communicate with the stove-pipe, the damper R² 45 in the bottom of the chamber I, directly below the escape-opening, the fire-box arranged on the front side of the main portion A and communicating with the flues L and M, the feeding-drum arranged on the upper side of the fire-box, the slide in the lower side thereof, 50 the removable ash-pan arranged under the fire-box, and the damper N, arranged at the front end of one of the flues, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as 55 my own I have hereto affixed my signature in presence of two witnesses.

FRED GIRTANNER.

Witnesses:

CASPER HATZ,
W. R. MOVIUS..