

(No Model.)

2 Sheets—Sheet 1.

J. J. GRAVES.
RANGE OR STOVE DOOR.

No. 426,442.

Patented Apr. 29, 1890.

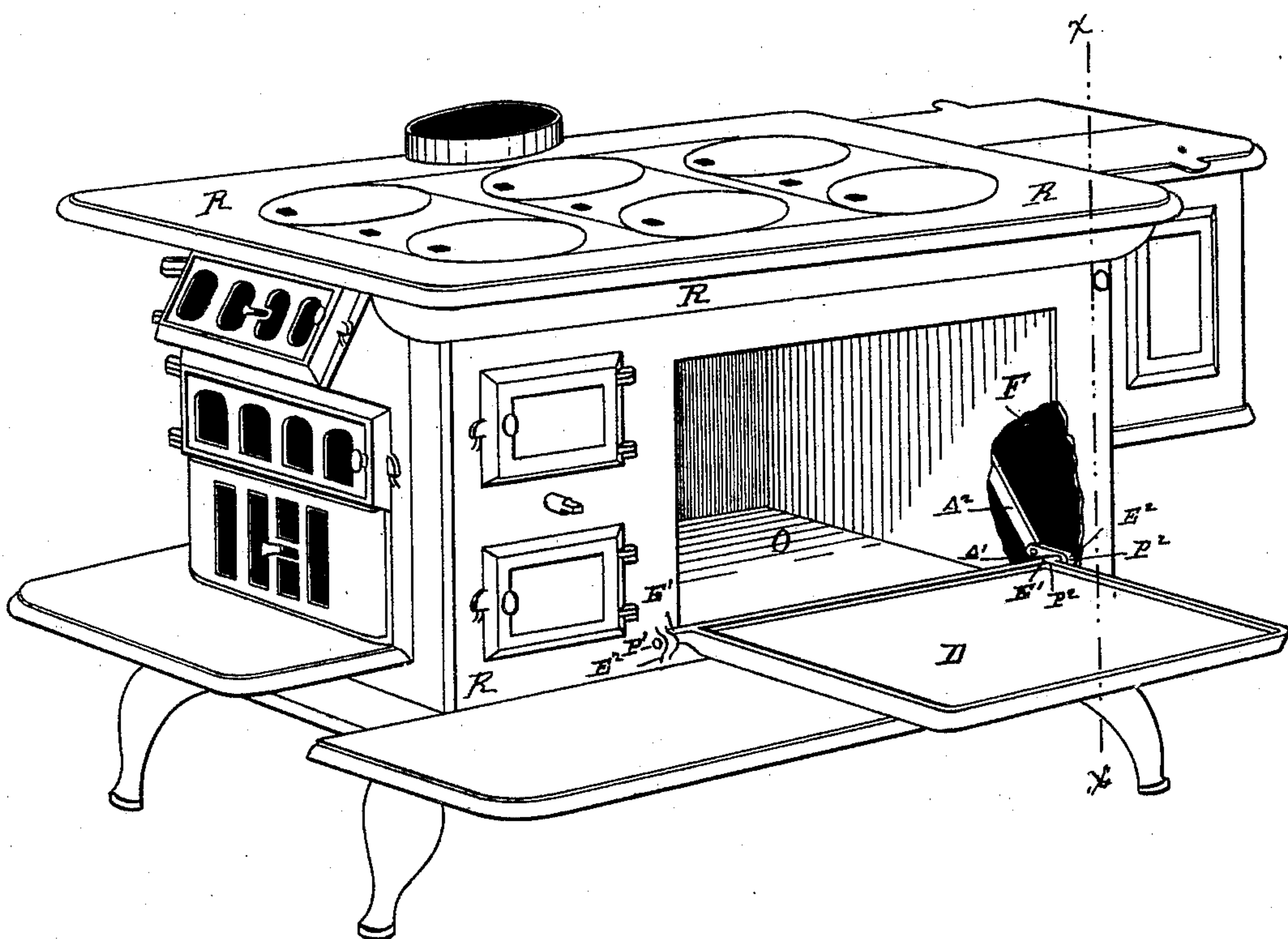


FIG 1

WITNESSES

William A. Sweet

Charles S. Brintnell

INVENTOR

John J. Graves,
by W. C. Hagan atty

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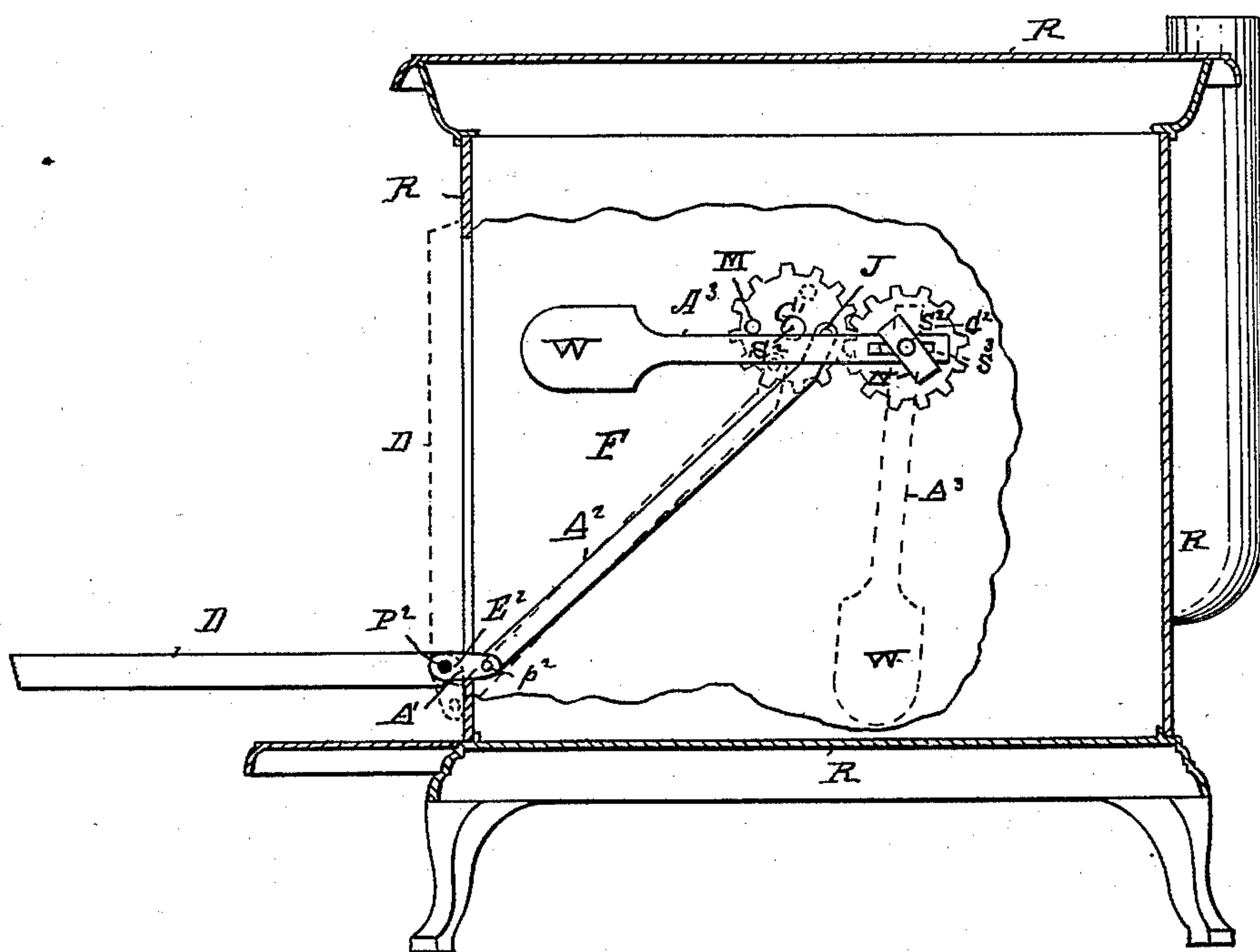


FIG 2

WITNESSES

William A. Sweet

Charles S. Beintroll

INVENTOR

John J. Graves

By W. E. Hagan atty

UNITED STATES PATENT OFFICE.

JOHN J. GRAVES, OF BUFFALO, NEW YORK, ASSIGNOR TO SHERMAN S. JEWETT & CO., OF SAME PLACE.

RANGE OR STOVE DOOR.

SPECIFICATION forming part of Letters Patent No. 426,442, dated April 29, 1890.

Application filed November 8, 1889. Serial No. 329,660. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. GRAVES, of the city of Buffalo, county of Erie, and State of New York, have invented new and useful Improvements in Range or Stove Doors, of which the following is a specification.

My invention relates to improvements upon that class of range or stove doors which are hinged at the bottom, are turned up to close, and are constructed with a counterpoise-balance to prevent their falling down suddenly when opened.

The object of my improvement is to construct the counter-balance in such a manner that it shall not act directly, but through the instrumentality of a gear-connection, by which the momentum attained by the descending counter-balance is regulated and the door is not slammed by the increasing momentum of the counter-balance as it descends.

Accompanying this specification to form a part of it there are two plates of drawings, containing two figures illustrating my invention, with the same designation of parts by letter reference used in both of them.

Of the illustrations, Figure 1 is a perspective of a range with my invention shown as applied thereto, and with a part of the oven-wall where between the latter and the adjoining vertical flue shown as broken out. Fig. 2 shows a cross-section of the range, taken through the latter from front to rear and just outside of the vertical flue-wall on the line xx of Fig. 1, with part of the latter shown as broken out, and with the mechanism containing my invention shown in elevation arranged within the vertical flue, with the oven-door shown as down, the position of the door when closed being shown by a dotted line.

The several parts of the range thus illustrated, and also those containing my invention, are designated by letter reference, and the function of the parts is described as follows:

The letter R designates the body of the range; O, the oven; D, the oven-door, and F the vertical flue at the side of the oven. The oven-door is hinged to the bottom of the range-front beneath the oven by means of hinging-ears E', made on the door, hinging-ears E², made on the range-front, and hinging-pins P'

and P², formed on the hinging-ears of the door, which journal in bearings made in the ears E² on the range-front. The hinging-pin P² where passing through the hinging-ear E² adjacently to the vertical flue F is constructed with an attached arm A', which turns with said hinging-pin.

The letters G' and G² designate two gears that are each provided with a pintle-shaft S² with which to turn, said pintle-shaft having a bearing on its inner end in the wall of the flue F, and these gears are arranged to mesh into each other.

The letter A² designates a pitman or crank rod, that at its outer end connects pivotally at p² with the inner end of the arm A', and said pitman-rod makes a crank-connection on its inner end with the gear-wheel G' by means of the crank or wrist pin J.

The letter A³ designates a counterpoise-arm, that at its outer end is made heavier or weighted, as indicated at W. On its inner end this counterpoise-arm A³ is made with a slot S³, adapted for the passage through said slot of the outwardly-projected end of the shaft S² of the gear-wheel G², the outer end of which shaft is threaded and provided with a nut N, so that said counterpoise-arm may be adjustably secured to turn with said gear-wheel G² and as moved toward or from the center of said gear-wheel and secured by the nut N to vary its counterpoise capacity.

The letter M designates a stop-pin, that is arranged on the side of the gear-wheel G', and is located with reference to the ascent of the counterpoise-arm so that it will in its ascent engage with said pin when the oven-door in its downward movement is in line with the oven-bottom, so the door may be used as a shelf on which vessels within the oven may be drawn out to rest thereon. If desired, however, the arm A³ may be made without the slot and connect directly with the shaft S² of the gear-wheel G² by carefully adjusting the weight of the counterpoise with reference to the gravity force exerted by the oven-door in its descent, and, if desired, the gear-wheel G² may be made without the pin M.

An oven-door thus constructed with the arm A', the gears G' G², the pitman A², and the counterpoise-arm A³ in operation moves

regularly. The momentum of the counterpoise (which increasing as it descends) is regulated by the gear-wheels, and the slamming of the door is prevented.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the range oven-door D, hinged to the range below the oven and
10 having a projecting hinging-pin, of the arm A', secured to said hinging-pin, so as to turn therewith, the gear-wheels G' and G², arranged to mesh into each other and provided with bearings for their shafts to journal in, the
15 pitman A², pivoted at its outer end to the

arm A' and at its inner end making a crank engagement with said gear-wheel G', and the weighted counterbalance-arm A³, made with the slot S³, arranged to receive the shaft of said gear-wheel G³, and the threaded nut N, 20 arranged on the projecting end of said shaft, substantially in the manner as and for the purposes set forth.

Signed at Buffalo, New York, this 25th day of September, 1889, and in the presence of the 25 two witnesses whose names are hereto written.

JOHN J. GRAVES.

Witnesses:

CHAS. F. WALTHER,

ROBT. H. MONTGOMERY.