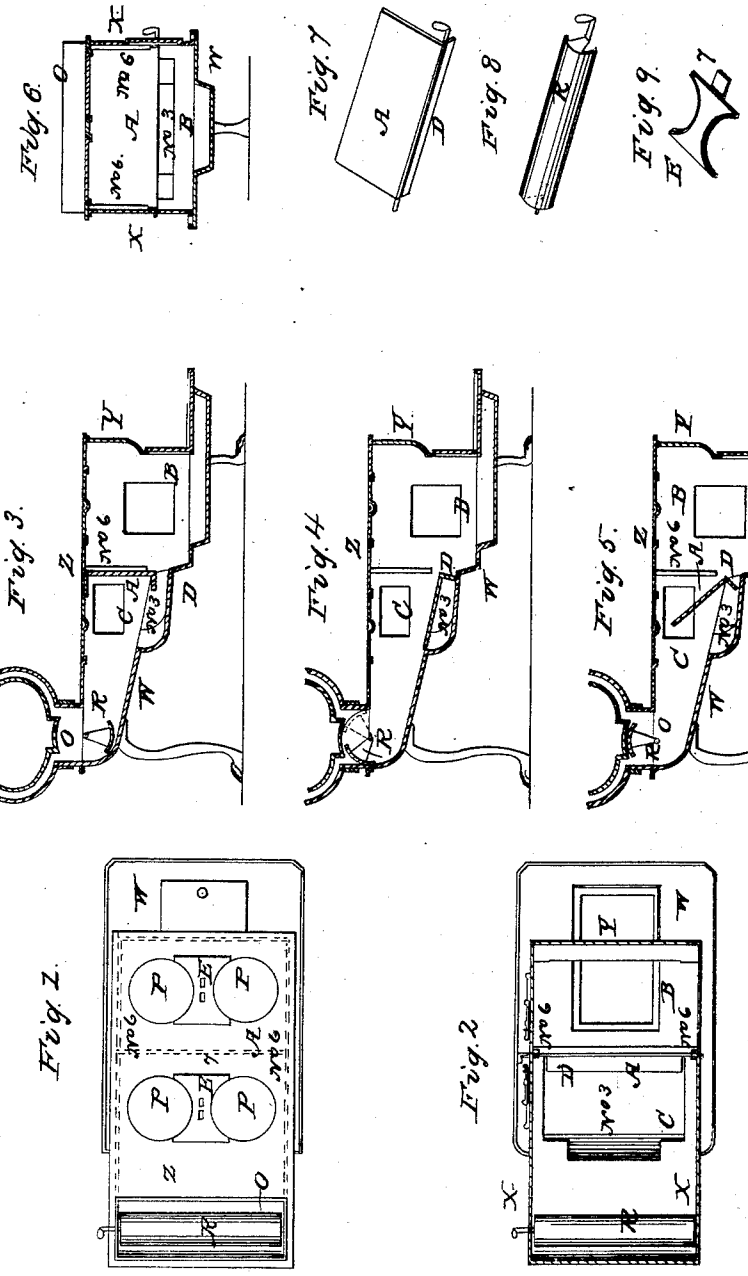
J. P. SHERWOOD.

Damper.

No. 11,794. Patented Oct. 10, 1854



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UNITED STATES PATENT OFFICE.

JOHN P. SHERWOOD, OF FORT EDWARD, NEW YORK.

DAMPER FOR OVENS.

Specification of Letters Patent No. 11,794, dated October 10, 1854.

To all whom it may concern:

Be it known that I, JOHN P. SHERWOOD, of Fort Edward, in the county of Washington and State of New York, have invented certain new and useful Improvements in the Construction of Stoves; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, which forms part of this specification and which represents several views of my stove, and in which—

Figure 1, is a top view; Fig. 2 a similar view with the top plate removed; Figs. 3, 4, and 5, are sectional views, showing the revolving damper in different positions; Fig. 6, a transverse section at the line *x x* of Fig. 3; Fig. 7, a view in perspective of the graduating plate; Fig. 8 a similar view of the revolving damper, and Fig. 9, a similar view of the partition plate of the pot holes.

My improvements consist first of a graduating plate by whose action the flame is caused to impinge with greater or less force as may be required against the bottoms of the culinary vessels applied to the stove, and by which also the capacity of the stove may be increased or diminished as required to adapt it to the exigencies of the occasion or to the requirements of the different seasons of the year. Second in an improved graduating damper or register by whose action the quantity of heat applied to the oven may be regulated and its direction changed as may be required. The stove represented in the accompanying drawing has both of these improvements applied to it; it is composed mainly of a bottom plate W, of side plates X of a front plate Y, of a top plate Z and of an oven which is applied to the exit hole O at the hinder extremity of the top plate. The top plate Z is perforated with suitable pot holes P which are arranged in pairs, the holes of each pair being separated by a removable partition E, to convert the pair into a large oval hole for the reception of large boilers. There are two fire boxes of unequal size only one of which is used at a time. The main fire box B is situated at the front of the stove beneath the front pot holes. The smaller fire box C is situated beneath the hinder pair of pot holes, it being an enlargement of the flue which conveys the flame from the main fire box to the back end of the stove. That portion of the bottom plate beneath this second fire box is recessed as at No. 3 and the two fire boxes are separated by the graduating plate A. This plate extends crosswise from one side plate to the other, it is pivoted to the side plates at it lower edge and when turned up as at Fig. 3 it shuts against jambs No. 6 cast fast to the side plates X. This graduating plate has a flange D projecting from its lower edge which when the plate is turned down closes the communication between the front extremity of the recess No. 3 and the main fire box; when however the graduating plate is turned up this flange turning backwards and upward in the recess opens the communication of the latter with the fire box. One or both the pivots of the graduating plate extend through the side plates and are formed into handles by means of which the graduating plate can be set and made fast in any desired position. The partition plate E which separates the hinder pair of pot holes can be turned either side foremost at pleasure, one of its sides has a lip 7 Fig. 9 cast fast to it of such size that when the graduating plate is turned up as at Fig. 3, and the partition plate is inserted in place lip side foremost, the lip will bear against the adjacent side of the graduating plate and secure it firmly in its erect position.

When the main fire box is in use the graduating plate A is employed to regulate the heat of the vessels in the hinder pair of pot holes. If it be turned up the whole of the flame from the main fire box will be drawn toward the back of the stove beneath the lower edge of the plate through the recess and consequently will act but slightly upon the pots. If this plate be turned down as at Fig. 4, the flame will be disseminated throughout a large space and although acting with greater efficiency upon the pot than when the graduating plate is erect is still far from exerting its utmost effect. If however the plate be set in an inclined position as at Fig. 5, the flame will be directed upward and will impinge with its full force against the bottoms of the pots.

When the stove is to be used for summer cooking, or when it is not necessary to urge it to its utmost capacity, the main fire box is not used. In such cases the graduating plate is turned up as at Fig. 3 and is secured in its erect position by the lip of the partition plate E; the fire is now made in the

second fire box the draft of air being supplied beneath the lower edge of the graduating plate at the front end of the recess No. 3 which is left open by the horizontal position of the flange D. It will be perceived that the graduating plate thus supplies the means of graduating or regulating the heat of the stove according to the work to be done, and also of regulating the heat when the stove is working to its full capacity.

My improved graduating damper R for the oven has the form of a stave of a hollow cylinder which is pivoted in the line of its axis in the flue O to which the oven is applied. When this damper is turned down as at Fig. 3 it allows the currents of flame and smoke to impinge directly against the bottom of the oven and to take their own courses in dividing to pass up the front and back flues. When the damper is turned hollow side down as at Fig. 5 it prevents the flame from striking the bottom of the oven and causes it to divide and pass up through the front and back flues. If the damper is turned from this position partially backward it prevents the free passage of flame through the back oven flue; if turned forwards it prevents the free passage of flame through the flue in the front of the oven; in either of these two cases, therefore, that side toward which the damper is turned will not be heated as hot as the other. The pivots of the damper extend through the side plates of the stove and are formed into handles by means of which the damper can be moved and made fast in any desired position.

The graduating damper thus described enables the user to heat either side of the oven hotter than the other, at will, or to keep the heat from the bottom of the oven in case it becomes too hot. It is of great advantage in baking as it enables the user to direct the heat to the place where it is most wanted.

Having thus described my improved stove what I claim therein as new and desire to secure by Letters Patent is—

The arrangement herein described of the revolving damper whereby the heat of the oven can be tempered and regulated as herein specified.

In testimony whereof I have hereunto subscribed my name.

JOHN P. SHERWOOD.

Witnesses:

JOHN L. SMITH,

HER. H. HEATH.