J. INGRAM.

Range.

No. 31,083. Patented Jan. 8, 1861.

Fig. 3

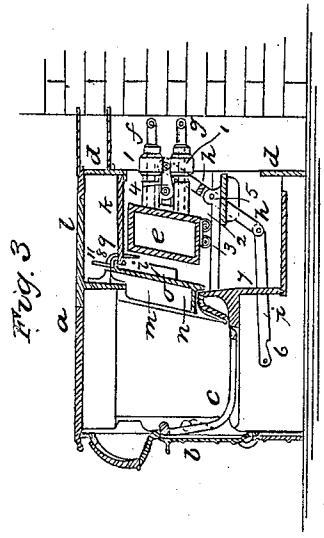


Fig. 5.

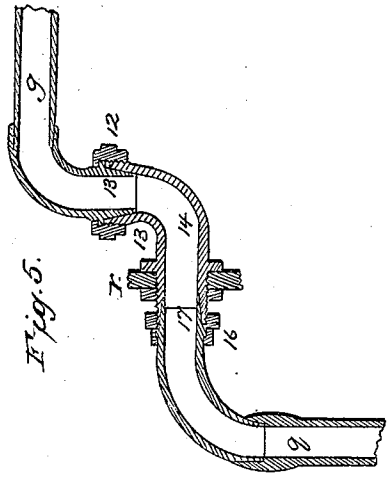


Fig. 2

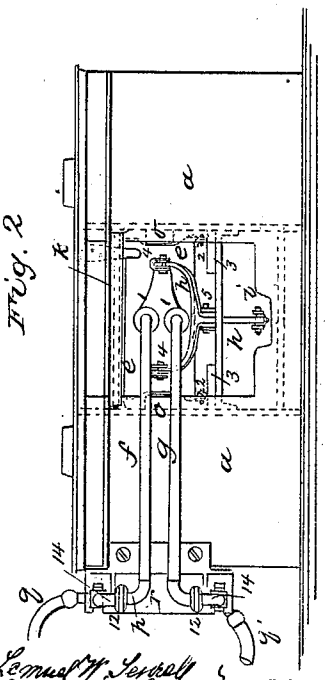


Fig. 1

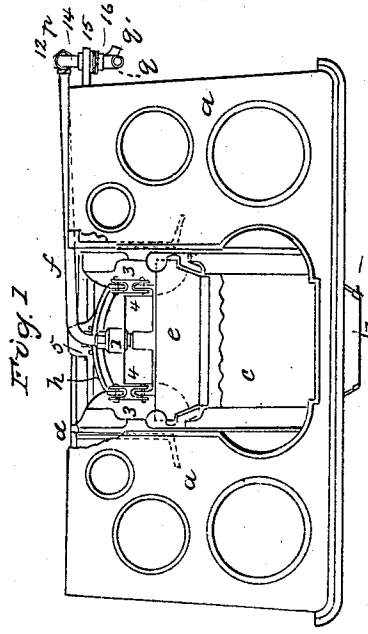
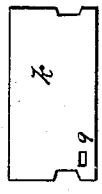


Fig. 4



Witnesses:
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Chas H. Smith } Attest

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UNITED STATES PATENT OFFICE.

JAMES INGRAM, OF NEW YORK, N. Y.

WATER-BACK FOR COOKING-RANGES.

Specification of Letters Patent No. 31,083, dated January 8, 1861.

To all whom it may concern:

Be it known that I, JAMES INGRAM, of the city and State of New York, have invented and made certain new and useful Improvements in Fitting Water-Backs for Cooking-Ranges, &c.; and I do hereby declare that the following is a full, clear, and exact description of the nature of my said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a plan of a cooking range with a portion of the top plates removed to show the water back in place, up to the fire; Fig. 2 is an elevation at the back of the range, and Fig. 3 is a cross section of the range with the brick or soapstone intervening between the water back and the fire.

Similar marks of reference indicate the same parts.

My present invention is an improvement upon Letters Patent granted to me February 16th, 1858, and consists in an improved manner of mounting, fitting, and actuating the water back, whereby the same can be moved with greater facility than in my said previous patent and greater convenience is furnished for introducing the soapstone or fire brick or removing the same so as to bring the water back to its place against the fire. In my aforesaid patent the movement of the water back was allowed for by the spring of the pipes; but I soon discovered that too much power was required for moving the back against the stiffness of the pipes. I therefore provided hollow or faucet hinges on which to move said water back, in order that the said hinges might allow for the turning of the water back up to or away from the fire; and to compel the servant or other person who moves the water back to give the proper amount of motion to bring the water back up to its place I provide a pendent finger that prevents the covering plate going on until the back is properly in place.

In the drawing *a* is the top, *b*, the front and *d* the back of any ordinary range or stove; *c*, is the fire place, and *e*, is the water back.

f and *g* are the circulating water pipes connected to the water back by the couplings 1, 1, and attached at the other ends to the lead or other pipes by the faucet or hollow hinges *p*, *p'*, as hereafter set forth, so that the water back can be moved up to the fire as in Fig. 1, or away from the same as in Fig. 3. The weight of the water back rests on the rollers 2, that run on the flanges 3, that project from the side plates of the stove or range, so that said water back moves with but little power. *h*, is a lever that I employ for moving said water back; said lever is set on a fulcrum 5, and connected to the water back by the links 4, 4—the upper part of the lever being formed as a fork to pass the pipes *f* and *g* and the joints being quite loose, so as to allow for the swinging movement of the water back.

i, is a sliding bar passing through a hole in the plate 7, and having a notch at 6, to drop behind said plate 7 and keep the water back forward when said sliding bar is pushed in. A hole at the end of this bar *i*, serves for receiving a poker by which it is moved.

k is a plate setting over the water back (see Fig. 3 and plan Fig. 4) to exclude dust and heat from the chamber in which it moves and *l*, is a plate setting into the top plate *a*, and level with the surface thereof and 10, is a flange pendent from said plate, which flange sets down to the top of the water back and has a projecting finger 8, passing through a mortise 9 in the plate *k*, the object of this finger being to insure the water back being properly forward or sufficiently back, or else the end of this finger resting on the water back would prevent the plate *l*, going down to its place, thus insuring a proper movement of the water back even in the most careless or inexperienced hands.

Whenever any cause occurs, such as the breaking of a pipe or the failure of supply of water, that renders it necessary to remove the water back from the fire to prevent its being burned out or damaged, or whenever the hot water is not needed such as on ironing days, and risk exists of a hot fire forming steam in the water back, and in the hot water boiler causing it to collapse or splitting the back by the cold water rushing in, then the water back is moved away from the fire as before explained and a soapstone or fire brick *m*, introduced.

The necessity for and the benefits resulting from this movable water back will be more fully apparent from a reference to my aforesaid patent on which the present is an improvement. Difficulty arose in the handling of the fire brick or soapstone set forth

in my said patent. I have therefore provided a metal frame *n*, to receive this soapstone or fire brick, and in order that it may set up closely to its place I provide a lug *o*, on each side that has a curved upper surface, see Fig. 3, that takes the side flanges of the frame *n*, and causes the brick to assume the inclined position shown. The ends of the water back are partially removed or notched as seen in Fig. 2, to pass these lugs *o*, *o*. A handle is provided at the center of the upper edge of the frame *n*, by which the same may be lifted out of or lowered into place. (See Fig. 3, at 11.)

The couplings *p*, forming hollow faucet hinges on which the water back turns, are attached to a plate *r*, on the range by a clamping nut 15, and the plate *r*, is slotted where the coupling is attached so that the water back can be adjusted. The ends of each pipe *f*, or *g* terminate in a thimble 13, ground into the socket 14, similar to a cock or faucet plug, and 12, is a screw coupling retaining the same in place. At this point the pipes *f g* and water back turn with facility, and the joint is kept perfectly tight, the socket 14 remaining stationary. Fig. 5 shows a section of one of these couplings *p* as in one plane; the sockets 14, passing through the plate *r*, and being attached thereto by the nuts 15, also receive the necks 16, of the pipes *q*, *q'*, for the circulating hot water to the boiler as usual.

The advantages of my improved mode of fitting water backs to ranges &c. will be fully apparent, and the practical operation of the same has been fully and satisfactorily tested.

What I claim and desire to secure by Letters Patent is—

1. The movable water back *e*, when sustained by the rollers 2, 2, and actuated by the lever *h*, and rod *i* as and for the purposes specified.

2. The arrangement of the movable plate *l*, and finger 8, relatively with the movable water back *e*, for the purposes and as specified.

3. The hollow or faucet hinges (*p*, *p*,) combined with a movable water back whereby the said water back can be turned toward or away from the fire without bending or springing the pipes as set forth.

In witness whereof I have hereunto set my signature this ninth day of June, 1860.

JAMES INGRAM.

Witnesses:

LEMUEL W. SERRELL,

CHAS. H. SMITH.