

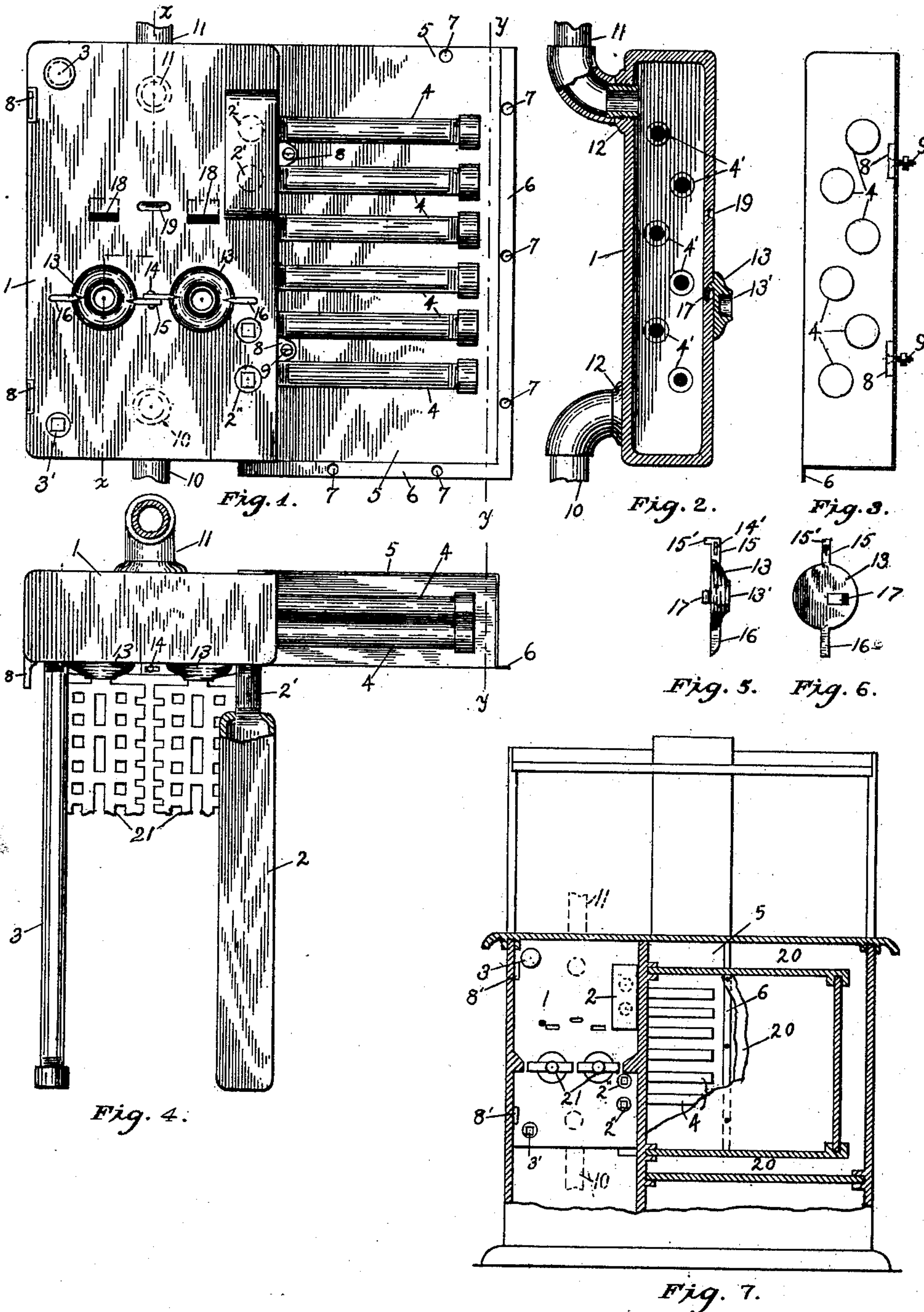
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S. R. STINE.
HOT WATER ATTACHMENT FOR RANGES.

(Application filed Aug. 14, 1902.)

(No Model.)



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SAMUEL R. STINE, OF McVEYTOWN, PENNSYLVANIA.

HOT-WATER ATTACHMENT FOR RANGES.

SPECIFICATION forming part of Letters Patent No. 717,047, dated December 30, 1902.

Application filed August 14, 1902. Serial No. 119,646. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. STINE, a citizen of the United States, residing at McVeytown, in the county of Mifflin and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Water Attachments for Ranges, of which the following is a specification.

This invention relates to hot-water heating attachments to ranges or cooking-stoves; and the objects of the invention are to provide an ample heating-surface, such as will be adequate to furnish hot water to radiators for heating the living apartments of dwellings from the heat of the kitchen-range, to adapt said attachments to ranges as at present constructed, to construct such attachments reversible, so that they may be utilized in right or left hand ranges, and to improve and simplify such water-heating attachments in general.

To these ends the invention consists in the construction, arrangement, and combination of the several parts herein set forth, and illustrated in the drawings, in which—

Figure 1 is an inside elevation of one of my water-heating attachments arranged for use in a right-hand range. Fig. 2 is a view in cross-section of the same, taken on the line $x\ x$ of Fig. 1. Fig. 3 is a cross-section and edge plan view of the device, taken on the line $y\ y$ of Figs. 1 and 4. Fig. 4 is a top plan view of the device, showing it in its proper relation to the grate of a range. Fig. 5 is a detailed view of one of the grate-journal supports. Fig. 6 is an under side view of one of the grate-journal supports, taken at right angles to that of Fig. 5. Fig. 7 is a general view showing one of my water-heating attachments as applied to a right-hand range.

Similar characters of reference denote like and corresponding parts throughout the several views.

Referring to the drawings, 1 denotes a hollow casting used as a header and end piece in the fire-box of a range, the upper and lower ends thereof being exactly alike, so that it may be used in an inverted position for a left-hand range. A water-back 2 has internal connection with the header 1 by a pair of short lengths of pipe, (designated 2' 2'.) When the header is used in the other position, the pipe-holes in the header are closed by plugs 2" 2". A pipe 3, having one end closed, ex-

tends parallel of the water-back 2 and has similar internal connection with the header 1 at a front corner. The pipe-hole for the pipe 3 is closed by a plug 3' when the header is in an inverted position. A series of pipes 4, arranged in staggering positions, have similar internal connection with the header 1 by being screw-threaded to its walls at the openings 4' 4', &c. This series of pipes is arranged to extend into the smoke-flue of the range, and they are covered or inclosed within a sheet-metal covering (designated 5) having a flange 6, with bolt and rivet-holes 7, by means of which rivet-holes it is adapted to be attached to the metal back of the range on which it is to be used.

Where my device is to be adapted to ranges already in use, parts of the back 20 of the range may have to be broken or chiseled away, so that the draft or flue of the range may have a free connection with the open space within the covering 5 aforesaid. The upper edge of the covering 5 is arranged to rest against the top plate of the range or to be bolted fast to the protruding smoke-flue, according to the construction of the range.

The water is supplied to the header and its connections through the pipe 10 and is delivered to the radiators for the purpose of heating apartments through the pipe 11, both connecting with the header 1 through bushings 12 12. It is understood, of course, that a circulation may be kept up by the unequal heating of the water, as is usual in such appliances.

The pair of journal-supports 13 13 for supporting the journals of the grate members 21 are attachable by hooking into the pockets 18 18, each of said journal-supports being provided with a hook 17, the said hook being narrower than the pocket into which it is to be hooked, this construction allowing of a lateral motion whereby the journal-supports may be adjusted in width according to the requirements in the grates of different ranges. Each header is provided with four of said pockets 18 in order to provide for the changes required in the inverted position, said pockets of course extending only partially through the side walls thereof, and the unused pockets are then in an inverted position when the header is in use. Projecting shields 15 and 16 are provided on the journal-supports 13 in order to make a more perfect connection with

the grate members 21, and the projections 15 are provided with slots 14' to accommodate a securing-bolt 14, which is designed to hold the journal members together. A lip 15' on the projection 15 of each journal is arranged to extend into a recess 19 in the walls of the header, whereby additional support is given to the journal-supports, so that the weight of the grate is sustained by the hooks 17, taken in connection with the lips 15'.

It is understood, of course, that the construction under the journal-supports shown in Fig. 1 is similar, but the reverse, of the pockets 18 18 and recess 19 shown in the same figure.

In attaching the device to a common range that part of the back at the end of the fire-box is removed and the header of my device set therein and secured by means of bolts, such as 9 9, extending through lugs 8 8, which are provided on the header, holes being drilled through such parts of the range as are required to make said bolt connections. The metal covering 5, which is used as a sort of extension of the flue of the range for the purpose of accommodating the heating-pipes 4 4, &c., may, as is apparent, be greatly modified to suit the particular case; but, as is evident, a part of the back walls of the range adjacent to the smoke-flue must be removed and the sheet-metal covering made of such shape as to inclose the water-tubes, which may also be varied in number and length, and close up the side walls, so as not to impair the use of air drafts and passages about the oven of the range.

Where it is intended to attach my device to newly-constructed ranges, plates may be attached to the back of the range, which may be removable for the purpose of accommodating my device. The bolt-holes for securing the plates may in such cases be substituted for bolt-holes securing the lugs and metal covering of my device. In this way a range manufacturer may make suitable provision for having my attachment connected to ranges at very little additional expense, whether the range be of right or left hand pattern.

Many of the parts may be varied without departing from the general spirit of the invention.

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

1. In a water-heating attachment for ranges a header having a hollow interior and adapted to fit into and close the inner end of the fire-box of a range; a series of heating-tubes projecting from one side of the said header, a metal covering adapted to be clamped against the back of the range inclosing said tubes, together with water-back-connecting holes and pipe-connecting holes on either end of the inner wall of said header, whereby the same is reversible to accommodate a right or a left hand range, substantially as specified.

2. In a range having a water-back of the

kind described the combination with the said water-back of a header having a hollow interior, a pair of pipe connections leading from said water-back to the interior of said header, an upper pipe arranged to lead water from the interior of said header, a lower pipe arranged to lead water to the interior thereof; a pair of grate-journal supports; two pairs of pockets on the inner wall of said header and hooks on the said supports by which the said supports are adapted to be secured to the header by either pair of pockets aforesaid, according as the said header is used with one or the other end up, substantially as and for the purpose specified.

3. The herein-described water-heating attachment for ranges, comprised in a reversible, hollow header adapted to be fitted in the end of the fire-box of a range; a series of heating-tubes leading to the interior of said header, adapted to extend into the smoke-flue of the range; an exterior pipe connection with either end of the said header, and a series of pipe-connection holes on the inner side of said header whereby the water-back and a heating-tube may be attached to the end uppermost of said header, and plugs for closing the pipe-holes which are lowermost on the header, substantially as specified.

4. In a water-heating attachment for ranges, a header constructed to close one end of the fire-box of a common range, the said header being hollow and having water-pipes leading into and out of the interior thereof; a series of water-heating tubes connecting with the interior thereof and extending into the smoke-flue of the range; a water-back having a pair of pipe connections with the said header; a heating-tube parallel to said water-back and extending along the front of the fire-box of the range; a pair of detachable grate-journal supports and means for attaching the same to the header aforesaid, and the said header provided with upper and lower pipe-connecting holes for water-back and heating-tube, and upper and lower grate-supports whereby the header is reversible for a right or a left hand range, substantially as specified.

5. In a water-heating attachment for ranges a hollow header insertible within the inner end of the fire-box, the said header having an exterior pipe connection on either end, a series of heating-pipes extending from one side thereof into the smoke-flue of the range, and a water-back connectible in several positions, with pipe connections on the inner side thereof, together with means for attaching the same to the back walls of a range, with one or the other end up, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

SAML. R. STINE.

Witnesses:

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