

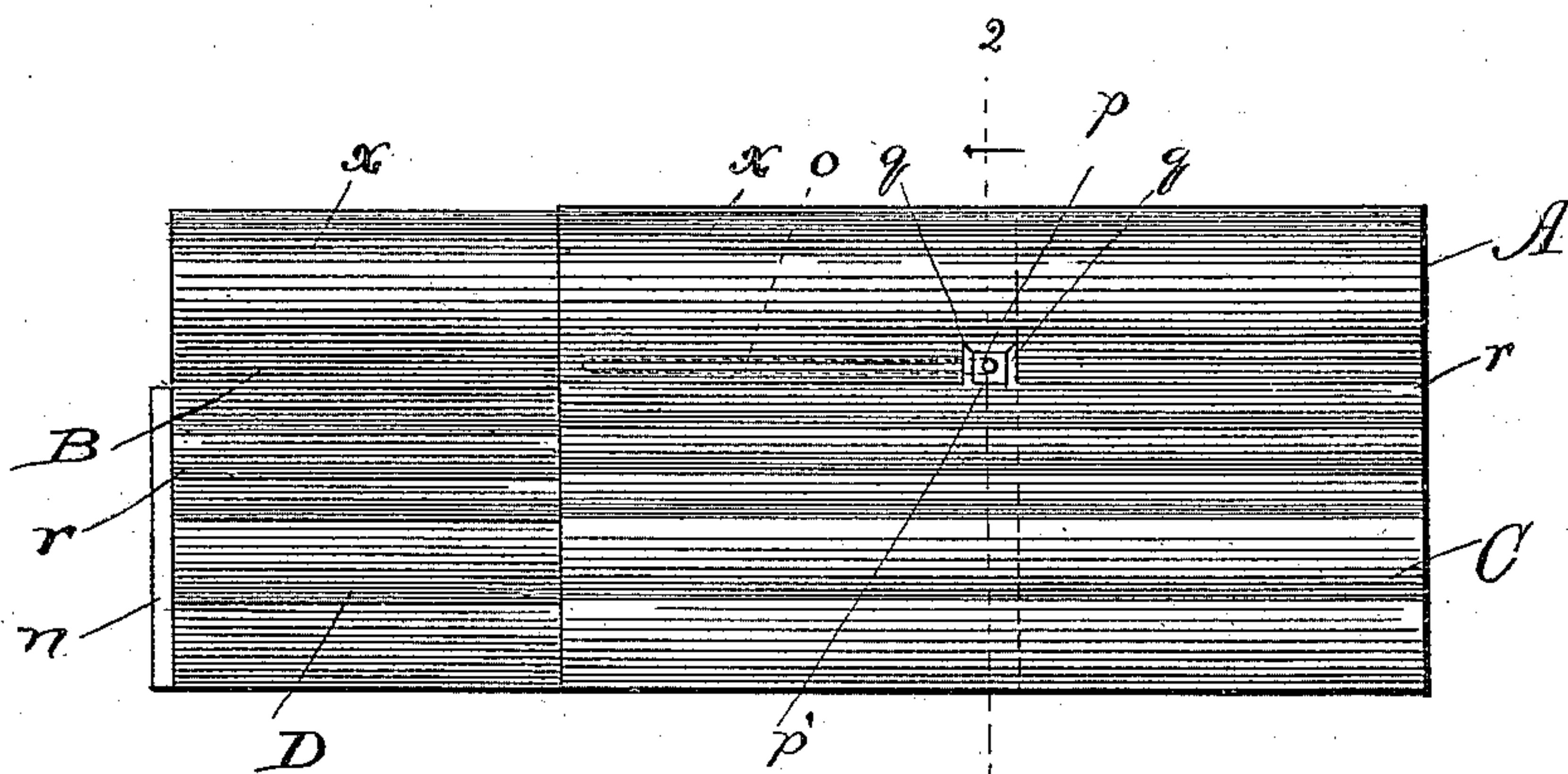
(No Model.)

J. W. KEYES.  
ADJUSTABLE FIRE BACK.

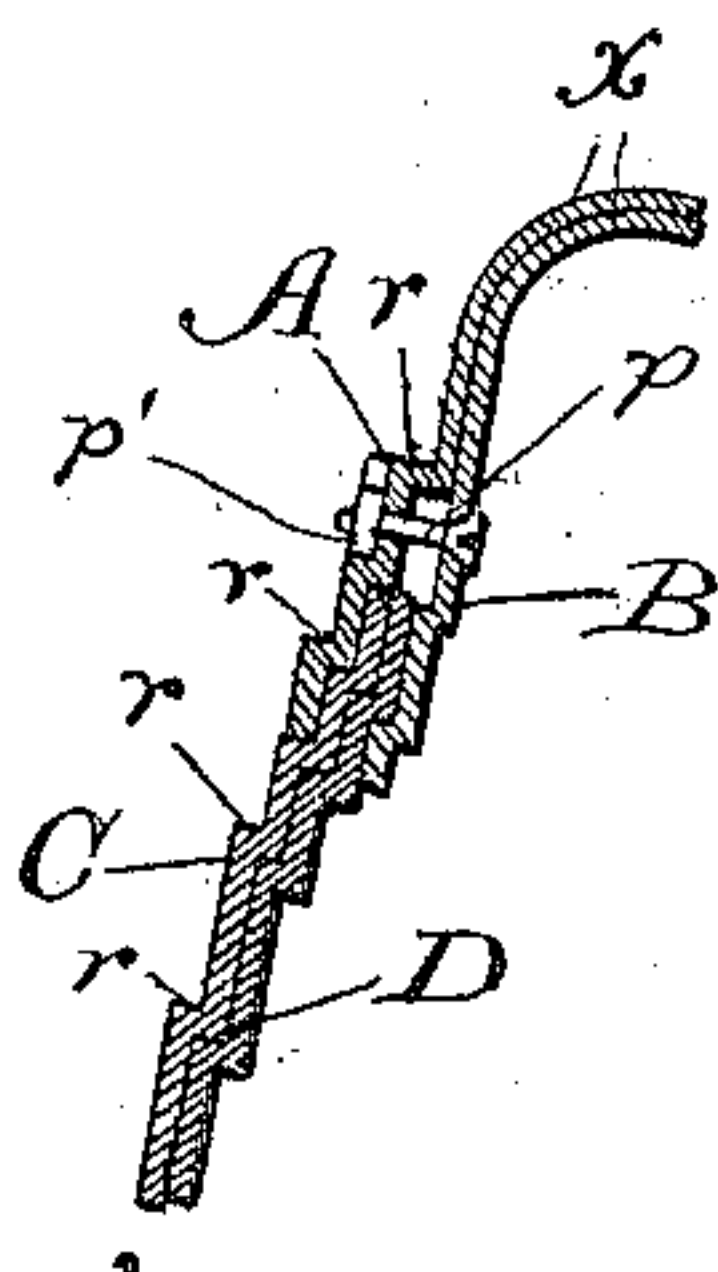
No. 369,533.

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*Fig. 1.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

JOHN W. KEYES, OF CHICAGO, ILLINOIS.

## ADJUSTABLE FIRE-BACK.

SPECIFICATION forming part of Letters Patent No. 369,533, dated September 6, 1887.

Application filed February 14, 1887. Serial No. 227,541. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. KEYES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Adjustable Fire-Backs; and I hereby declare the following to be a full, clear, and exact description of the same.

My improvement relates to the class of metal fire-backs particularly for use in cook-stoves and adjustable to render them adaptable to form the backs of fire-chambers in stoves of different sizes.

It is my object to provide a comparatively simple and very effective construction of adjustable metal fire-back composed of the fewest possible interlocking parts, to render it adjustable both longitudinally and transversely.

My invention consists in the general construction of my improved device; and it also consists in certain details of construction and combinations of parts, all as hereinafter more fully set forth.

In the drawings, Figure 1 represents my improved fire-back in front elevation; and Fig. 2 shows a transverse section of the same, taken on the line 2 of Fig. 1 and viewed in the direction of the arrow.

I prefer to form my improved device in four sections, A B C D, all about of the same length and each corrugated longitudinally to form horizontal, or practically horizontal, ledges *r*, and the upper edges of the sections A and B being curved backward longitudinally, as shown at *x*.

The part A is provided near its longitudinal center with an opening flanked by lugs *q* on its outer surface to form a seat for a nut, *p'*, on a screw-bolt, *p*, passed through a longitudinal slot, *o*, (shown in dotted lines in Fig. 1,) in the section B, near its transverse center, and the opening referred to in the section A, the head of the bolt and the nut clamping together the sections A and B, which are adjusted one upon the other, as shown, to cause the corrugations on both to intermesh or coincide.

The sections C and D are like the sections A and B, except that the former are unprovided with curved edges *x* and that the spaces between the lower ledges, *r*, are wider than those between the upper ones, which corre-

spond with those in the sections A and B; and the section D differs from the section C only in having a transverse strip, *n*, secured edgewise to its outer lateral edge to enter the guide-slot commonly provided in stoves to receive it. This strip *n* may also be provided on the outer edge of the section C.

The sections C and D are adjusted together to cause the corrugations on both to intermesh, and both of the last-named sections are inserted toward their upper edges between the sections A and B toward their lower edges, as shown in Fig. 2, to cause the respectively-adjacent corrugations to intermesh, in which relative positions all these sections are secured or clamped by tightening the single screw-bolt *p*.

To lengthen the fire-back or shorten it upon loosening the bolt *p* the sections A C may be slid longitudinally upon the sections B D, or vice versa, for the desired purpose; and to increase or diminish the size of the device in cross-section the sections C D and A B may be moved transversely with reference to each other, the sections being secured, always after desired adjustment, by tightening the bolt *p* to clamp them together. The several sections are also of course separately adjustable.

It will be seen from the foregoing description that the construction of my improved fire-back renders it readily adjustable to the fire-chambers in stoves of different dimensions, and the horizontal ledges afford lodgments for ashes, which may thus become imposed upon and cover the inner surface of the metal fire-back, and, owing to their non-conductive quality, protect the same from the effect of heat, thereby increasing its durability.

Another important advantage of my improved construction is the simplicity of its securing mechanism, whereby the adjustment may be effected on manipulating a single bolt.

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

1. A fire-back formed in sections corrugated longitudinally to produce upwardly-facing ledges *r* on the surface exposed to the fire, affording lodgment for ashes, and clamped together to cause the corrugations to intermesh, and all adjustable both longitudinally and transversely with relation to each other, substantially as described.



2. A fire-back formed in adjustable sections and comprising, in combination, a corrugated section, A, having a bolt-hole, a corrugated section, B, having a longitudinal slot, *o*, and  
5 coinciding with the section A, a bolt, *p*, extending through the said bolt-hole and slot *o* and provided with a nut, *p'*, and sections C and D, correspondingly corrugated and imposed one upon the other to produce inter-  
10 meshing of the corrugations and clamped between the sections A and B by the said bolt and nut, substantially as and for the purpose set forth.

3. A fire-back formed in longitudinally,  
15 transversely, and separately adjustable sections and comprising a corrugated section, A, having substantially horizontal ledges *r* and a

bolt-hole, a corrugated section, B, having similar ledges *r* and a longitudinal slot, *o*, and coinciding with the section A, a bolt, *p*, extending through the said bolt-hole and slot *o*,  
20 and provided with a nut, *p'*, sections C and D, correspondingly corrugated, and having substantially horizontal ledges *r* and imposed one upon the other and clamped between the sec-  
25 tions A and B to produce intermeshing of the corrugations, and a transverse strip, *n*, on an edge of the section D, substantially as and for the purpose set forth.

JOHN W. KEYES.

In presence of—

J. W. DYRENFORTH,  
GEORGE C. COOK.