(No Model.)

# M. D. JUDKINS.

## FIRE BACK FOR COOKING AND OTHER STOVES.

No. 343,243. Patented June 8, 1886.

*Fig. 1.*

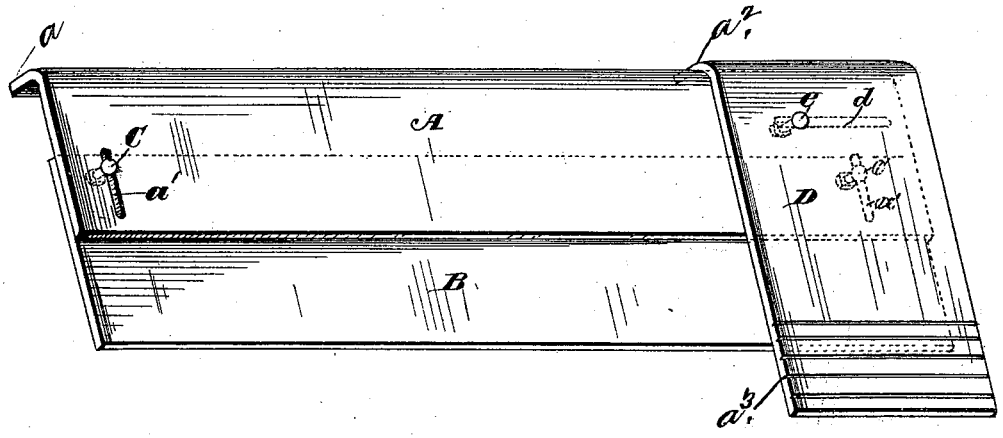
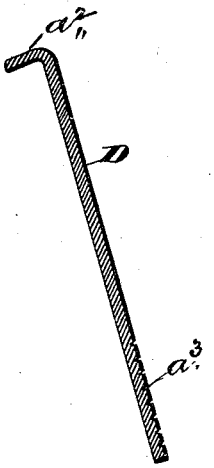



*Fig. 2.*




Witnesses.
Robert Burnett.
Charles D. Wilder

Inventor.
Mark D. Judkins.
By C. A. Watson & Co
Attys.

# UNITED STATES PATENT OFFICE.

MARK D. JUDKINS, OF OSAKIS, MINNESOTA.

## FIRE-BACK FOR COOKING AND OTHER STOVES.

SPECIFICATION forming part of Letters Patent No. 343,243, dated June 8, 1886.

Application filed January 23, 1885. Serial No. 153,780. (No model.)

*To all whom it may concern:*

Be it known that I, MARK D. JUDKINS, a citizen of the United States, residing at Osakis, in the county of Douglas and State of Minnesota, have invented certain new and useful Improvements in Fire-Backs for Cooking and other Stoves, of which the following is a specification, reference being had to the accompanying drawings.

It is well known that the fire-backs of stoves, especially cooking-stoves, need renewing much more frequently than any other portions, as, receiving the full force of the fire, they are comparatively quickly burned out or so warped as to impair their efficiency. Owing to the great number of variations of size of such stoves it is often difficult to readily obtain a new back sized to fit a particular size or pattern of stove; hence to avoid such difficulty and furnish a back which readily may be made to fit any size of stove, even by one not skilled in the art of making or repairing stoves, two plans have been suggested: first, that such backs be made of sections to be joined together to form a large back to be afterward trimmed or cut to form a smaller back. In such form, as hitherto proposed, the back is composed of three pieces, a central piece and two wings, with devices for non-adjustably uniting them, these sections, when united, forming a large-size back, the central piece being provided with breaking-grooves, by which its length could be adjusted to the height desired for the fire-back, while the end pieces or wings were provided with breaking-grooves upon their lower edges and upon their ends. The fitting of such a back required much labor, the cutting away of the surplus metal along the line of the bottom of the three sections and from the ends of the two sections, the only advantage being that the cutting away is aided by the breaking-grooves formed therein. Such, however, is in no sense an adjustable back. It has been suggested, second, that the back should be composed of sections adjustably secured together relatively to each other, and it is to such class that my invention particularly relates. In a form hitherto devised for the embodiment of such suggestion the back is composed of four sections, a large central body with a wing at either end adjustably secured thereto, so that the back may be lengthened or shortened to fit the stove. Evidently formed for a medium-sized stove, the body and wings are provided with breaking-grooves along the bottom, that they may be readily cut to adapt their height to a smaller stove. To adapt them to a larger stove, a bottom piece is adjustably connected to them having breaking-grooves at both ends, so that its length may be made uniform with that of the other sections. In this form, then, there are four pieces all provided with breaking-grooves, necessitating a large amount of chipping and cutting to bring the back to a desired smaller size.

The object of my invention, therefore, is to furnish an adjustable fire-back composed of as few sections as possible, and which may be fitted together and adjusted as to size with a minimum of cutting away of the surplus metal. To these ends I construct it of three sections only, two longitudinal and one vertical, the two former forming the body of the back. They are adjustably secured together by fastening devices passing through a portion of each overlapping the other, that their width may be varied to give the height of fire-back requisite for a given size. Preferably their length should be equal or nearly equal to the smallest size of the pattern of stove with which they are to be used. Adjustably secured thereto and overlapping at one end is an extension-plate of a height equal to the greatest height which may be given to the two joined longitudinal sections. The movement of this extension longitudinally upon the body-sections determines the length to be given the entire back. At its lower end this extension is formed with breaking-grooves, by which its height may be made to conform to that desired for the back. This will be better understood by reference to the drawings, in which—

Figure 1 is a perspective view of a sectional adjustable fire-back embodying my invention; Fig. 2, a section of the extension-plate D of Fig. 1 detached.

The body of the back is composed of the two longitudinal sections A B, overlapping each other along one side. The top section, A, may be formed with the ordinary rearwardly-curved projection, as shown. In one of these sections

are formed two or more slots, *a*, of a length equal to the greatest degree of adjustment desired of A and B relatively to each other. Bolts C pass through such slots and take in suitable perforations in the other section. Nuts turned down upon the threaded ends of the bolts hold the sections firmly together in the position given them. By these means the height of the back A B may be readily adjusted to any size within the limit of the adjustment of the parts.

Preferably the length of the sections A B should be equal or about equal to the length of the fire-back desired for the smaller size of a given pattern of stove, or for the smaller size of a given group of sizes. To provide for enlarged length to meet the requirements of larger sizes, a single extension-piece, D, is used. This is secured to and overlaps one end of the sections A B, the means of securement being similar, consisting of the bolt *e*, seated in one part and extending through slot *d* in the other part. The length of such extension should be equal to the greatest height which can be given to the body composed of the sections A B. To enable it to be brought down to a size corresponding to less height thereof, its end is provided with a series of breaking-grooves, $a^3$.

In use the sections A B are first adjusted to the requisite height for the particular size to be fitted. The extension D is then adjusted to give the requisite length to the back. The surplus end (if any) of D is then broken off at the appropriate groove; or such breaking off may be done before the assemblage and adjustment of the parts, the height desired for the back having first been ascertained.

This construction, it will be seen, furnishes a sectional back capable of adjustment in every dimension necessary to enable it to fit different-sized stoves, and composed of only three pieces, economical in construction readily assembled and adjusted, and involving the chipping or cutting away of metal from one section only, and that the smallest section and from the smallest dimension of that section, so that such cutting and the labor and skill involved in adjusting the back are reduced to a minimum.

As recited in the preamble to this specification, I am aware that it is not broadly new to form a stove-back of sections adjustably secured together, and that it is not new to construct such a back of four sections, a main body-section, an end or wing extension at either end thereof, and a depending bottom extension adjustably secured to the main section. I am also aware that a back has been made of two sections adjustably united at one end of each, so as to be horizontally adjustable, and having an apron or bottom extension, which may be non-adjustably secured thereto when necessary, the latter being provided with breaking-grooves; hence such I do not claim; but

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

In a stove-back, the combination, with two plain horizontal body-sections adjustably secured together, of a single vertical end section overlapping both body-sections at one end thereof and adjustably secured thereto, and of a length equal to the greatest width permitted to the body-sections by their adjustable fastenings, and provided with breaking-grooves across the lower end of its face only, substantially as and for the purposes hereinbefore set forth.

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

MARK D. JUDKINS.

Witnesses:
RASMUS FLORE,
WM. P. LONG.