(No Model.)

L. M. DEVORE & W. GREENE.

STOVE BACK.

No. 381,535. Patented Apr. 24, 1888.

Fig. 1.

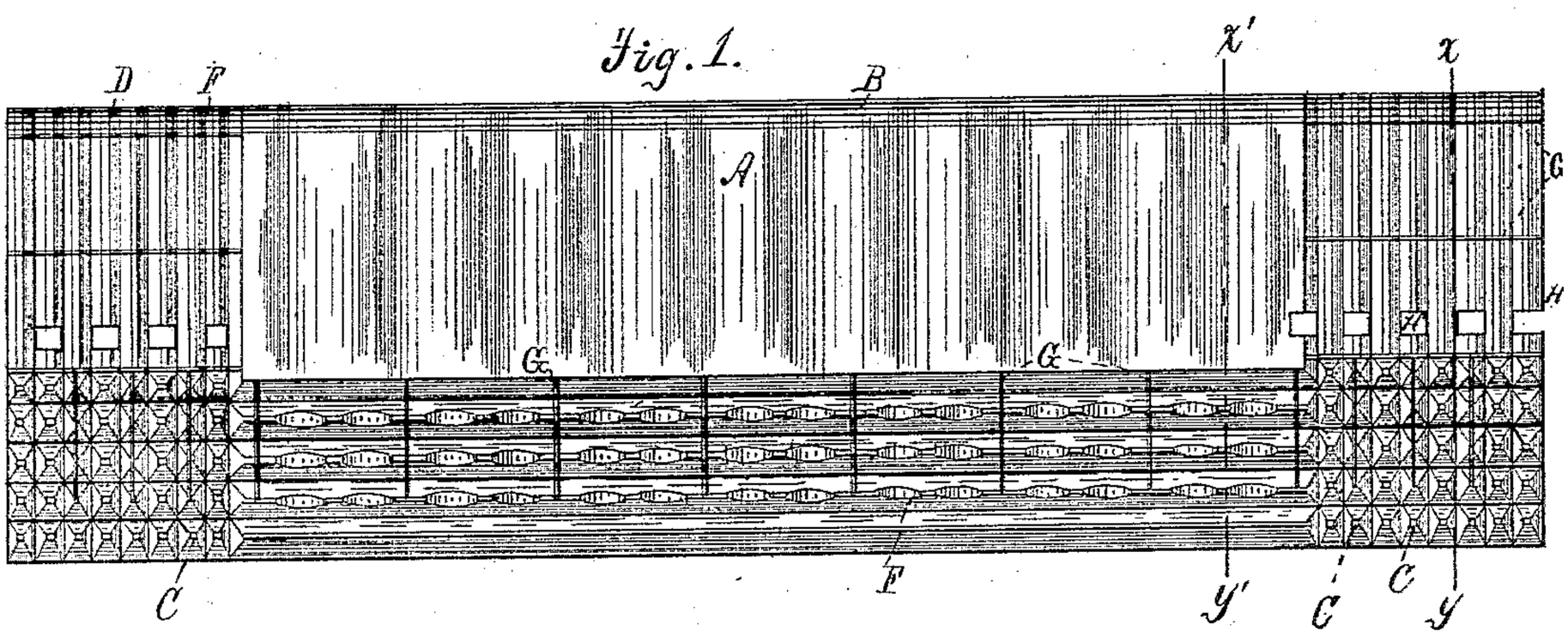


Fig. 2.

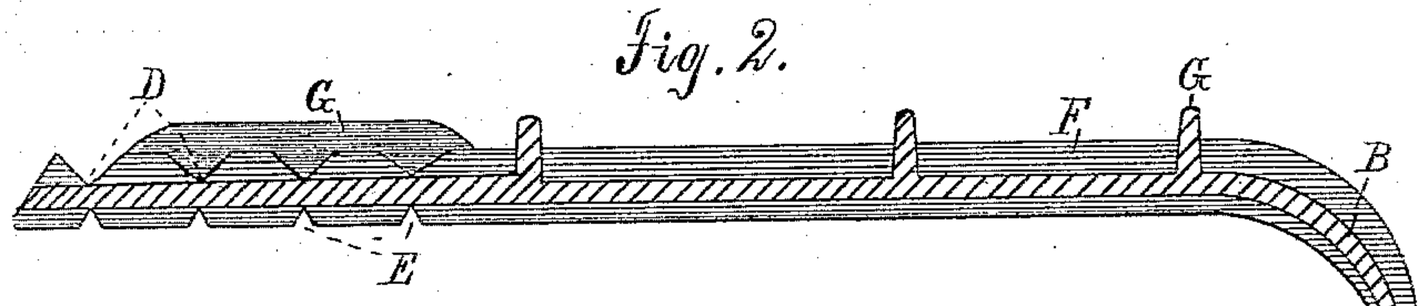


Fig. 3.

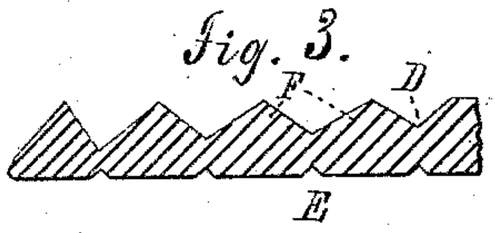


Fig. 4.

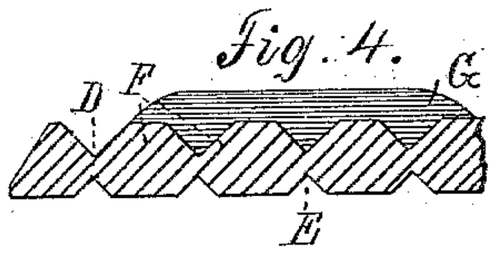


Fig. 5.

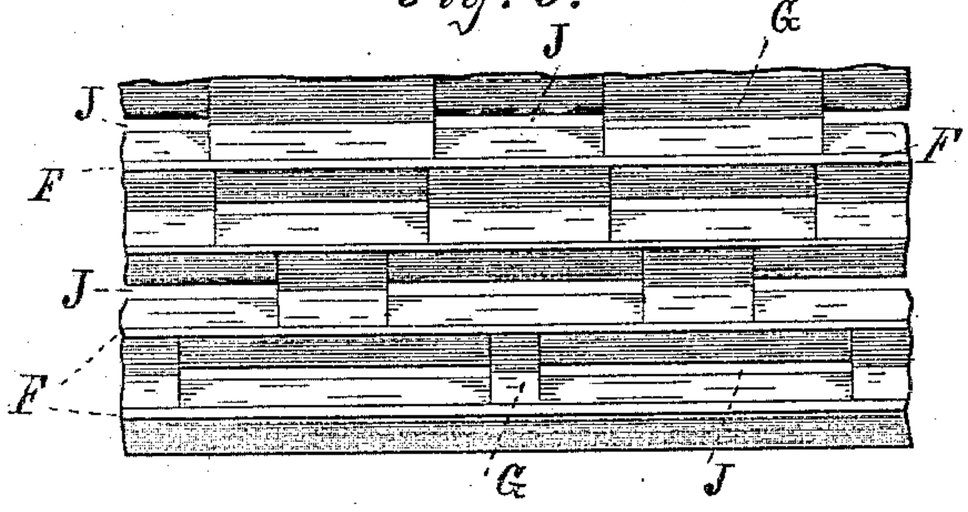


Fig. 6.

Fig. 7.

Fig. 8.

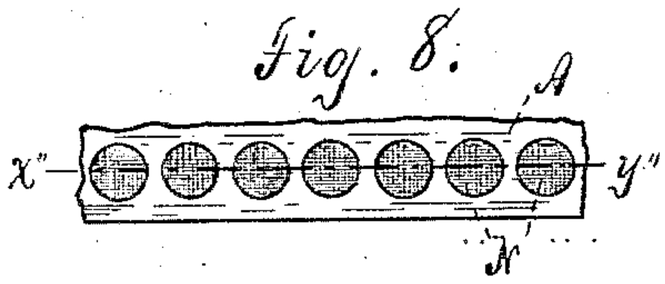
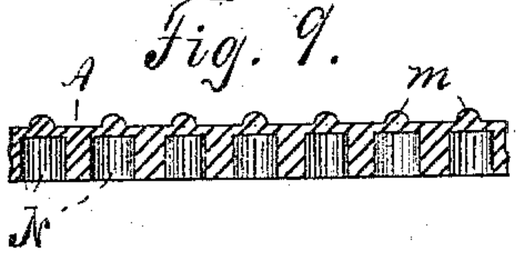


Fig. 9.



Witnesses.
A. Brain.
Newton Lindsay.

Inventors.
Levi M. DeVore,
Wallace Greene,
By their Attorneys
Wilson Greene.

UNITED STATES PATENT OFFICE.

LEVI M. DEVORE AND WALLACE GREENE, OF FREEPORT, ILLINOIS.

STOVE-BACK.

SPECIFICATION forming part of Letters Patent No. 381,535, dated April 24, 1888.

Application filed August 7, 1886. Serial No. 210,323. (No model.)

To all whom it may concern:

Be it known that we, LEVI M. DEVORE and WALLACE GREENE, residents of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Stove-Backs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our improvement relates to the class of stove-backs in which the back is adjusted to the stove by breaking away its margin. The ordinary back of this class is very liable to become valueless by reason of accidental breakage within the desired margin, for the blows necessary to fracture it along a particular line produce nearly the same strain along other lines nearer the center of the back. To obviate this difficulty and produce a single-piece stove-back that may be fitted with readiness and certainty is the object of our invention. These ends are attained by constructing the back with grooves parallel to its lower and end edges by making them of less depth successively as they are more distant from the original margin, and by providing a series of strengthening portions that together give great resistance, but which, by force properly applied to them singly, may be in succession easily removed.

In the accompanying drawings, Figure 1 is a front view of the complete back; Fig. 2, an enlarged section on the line *x y*, Fig. 1.

The remaining seven views are views of modified constructions, and are hereinafter fully explained in detail.

In Figs. 1 and 2, A is the body of a stove-back corrugated and curved backward at its upper edge, in the usual manner, at B. Parallel to the lower edge of the back are V-shaped breaking-grooves D. Similar grooves parallel to the ends of the back intersect them and form in the lower corners of the back a series of square pyramids, C. The grooves in each series, beginning at the outer margin, diminish successively in depth. Consequently the back is stronger along any groove than along the preceding one, and the ribs F may be removed along any line with little danger of fracture along a groove more distant from the edge. Upon the posterior face of the back are corresponding sharply V-shaped grooves E, of slight uniform depth, which direct the line of breakage upon that face and insure a reasonably-smooth broken surface. At right angles to the grooves D, and extending across them at suitable intervals, are thin webs G, formed integrally with the back and extending above its general surface. These strengthen the breaking-lines which they cross, and they need not cross the outer one, since, if the back is to be diminished at all, breaking along this line can do no harm. Now, owing to these webs and the greater thickness of the back along the lines of the other grooves, it can evidently be broken along the line of the outer groove without danger of fracture along any line more remote from the margin. If it be desired to remove still more of the back, the webs G may be removed along any groove if force be applied to them laterally by means of a cold-chisel or similar instrument having an angle or edge that may reach the bottom of the groove. When this has been done, the conditions are the same as in the case of the first groove.

Stove backs are ordinarily retained in position by a lug at each end formed integrally with the stove and lying just in front of the middle portion of the end of the back. In inserting the back it is raised above its normal position. One end is placed behind its lug and the other end is then swung backward to position, a notch at the proper point in its end permitting it to pass the other lug. The back is then lowered to rest upon its proper vertical support, where, the notch being below the lug, it is securely retained. It is necessary, then, that a single-piece back should have a notch at one end, and to meet this necessity we cut away alternate ribs, as at H, Fig. 1, beginning at one end of the back with the first rib, at the other with the second, forming a series of equidistant apertures at each end of the back and at a suitable distance from its upper edge. It is necessary that one aperture should be formed in the body A to provide for the case where all the end ribs are removed. With this arrangement of openings, if entire and broken ribs be removed alternately, we have for all possible lengths of back at least one end notch.

The remaining figures pertain to modifica-

tions of the above-described means for securing varying degrees of strength along successive lines of breakage, which is of the gist of our invention. Portions of our invention may be omitted and a valuable though inferior result be reached. For example, as is shown in Fig. 3, which is a section on the line *x' y'*, Fig. 1, the webs G may be omitted, reliance being hand only on the increased thickness of the back to prevent accidental breaking, or the ribs may be retained and the thickening of the back be omitted, as illustrated by a similar section in Fig. 4; or the grooves D may extend entirely through the back to form slots J, and the webs be broadened and formed entirely below the general surface of the back, as shown in plan in Fig. 5 and in section in Fig. 6. In this case the breadth of the webs across the successive slots should be increased in passing inward from the margin. So, too, the grooves D, passing quite through the body of the back itself, may terminate in thin ribs raised upon the posterior surface of the back, and these may be removed piecemeal along any groove-line by lateral blows. Fig. 7 illustrates this construction, as seen in section transverse to the grooves. Figs. 8 and 9 show in plan and section, respectively, a construction the same in principle. A series of distinct depressions, N, extending nearly through the body of the back, replace each groove D of Fig. 1. Each depression is of considerable width at the bottom, so that there remains of the back a thin web of such width that it may be easily broken, and small integral projections *m*, upon the rear face of the back and in the middle of these webs, respectively, render the breaking of the webs in succession along any chosen line of depressions still more easy, for a blow with a hammer is sufficient to break the thin metal when the entire force is applied upon the projection *m* at its middle point. The depressions are shown as circular; but this form is not essential. If they be rectangular, we have the "groove" D of Fig. 1, broadened at the bottom, simply, and crossed by webs, but at shorter intervals, and these webs may be removed singly, even in the form shown, with the same result as in Fig. 1.

What we claim is—

1. In stove-backs provided with breaking-lines, strengthening-webs of metal formed integrally with the back and extending across these lines, said webs adapted to be readily broken away, when desired, along any breaking-line, substantially as set forth.

2. A stove-back having a series of weak or breaking lines approximately parallel to its margin and a series of apertures each of which extends across the interval between two consecutive breaking-lines, substantially as shown and described, whereby breaking away the margin of the back along the outer of such two lines leaves a notch in the edge of the back.

3. A stove-back formed with breaking lines weaker than the body of the stove-back, the weaker of said breaking-lines being nearest the detachable margin of the stove-back, and the remaining lines being successively stronger in the order of their distances from said margin.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

LEVI M. DEVORE.
WALLACE GREENE.

Witnesses:
J. A. CRAIN,
E. W. SHOESMITH.