

(No Model.)

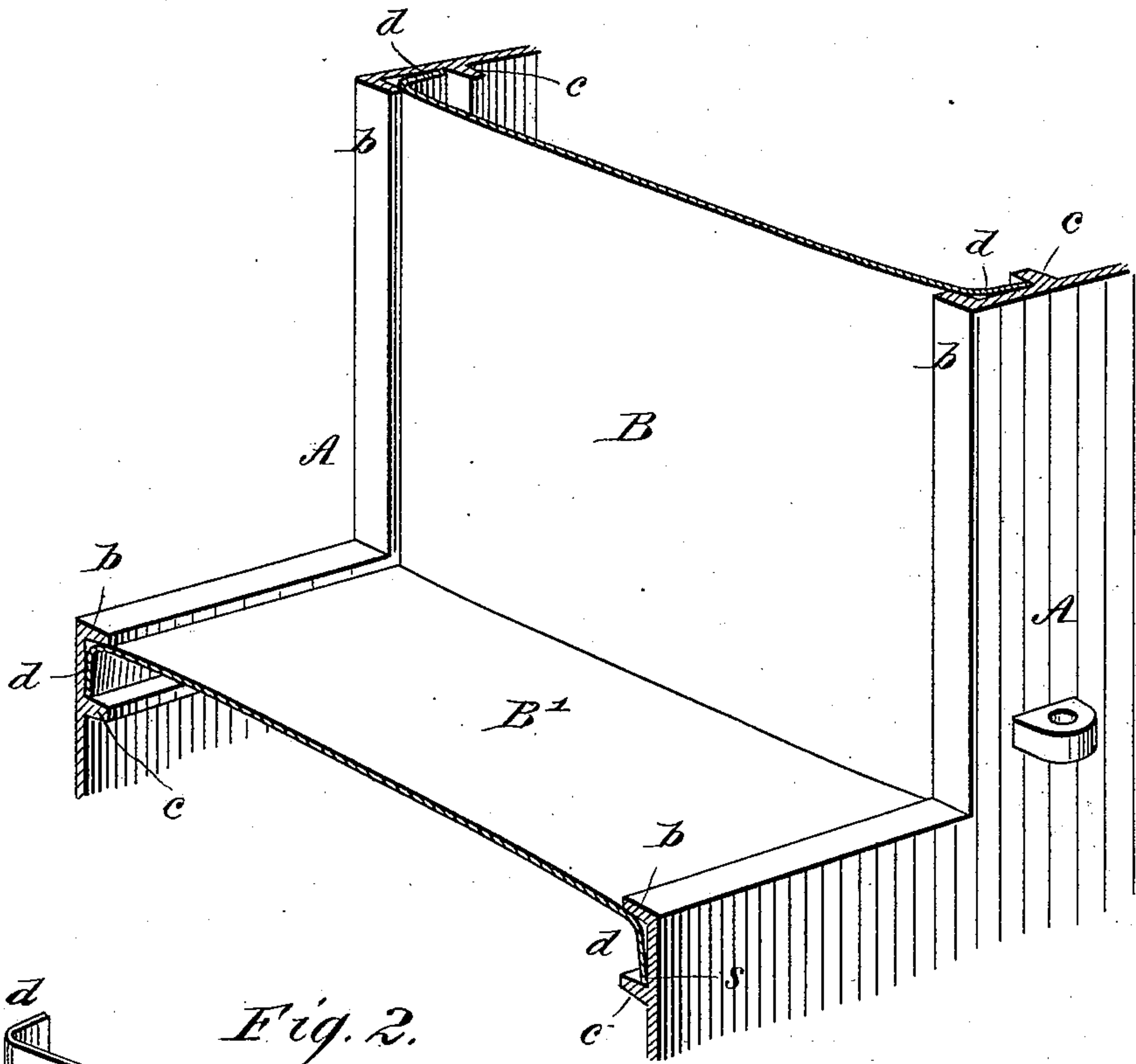
N. A. BOYNTON.

PLATE JOINT FOR STOVES OR RANGES.

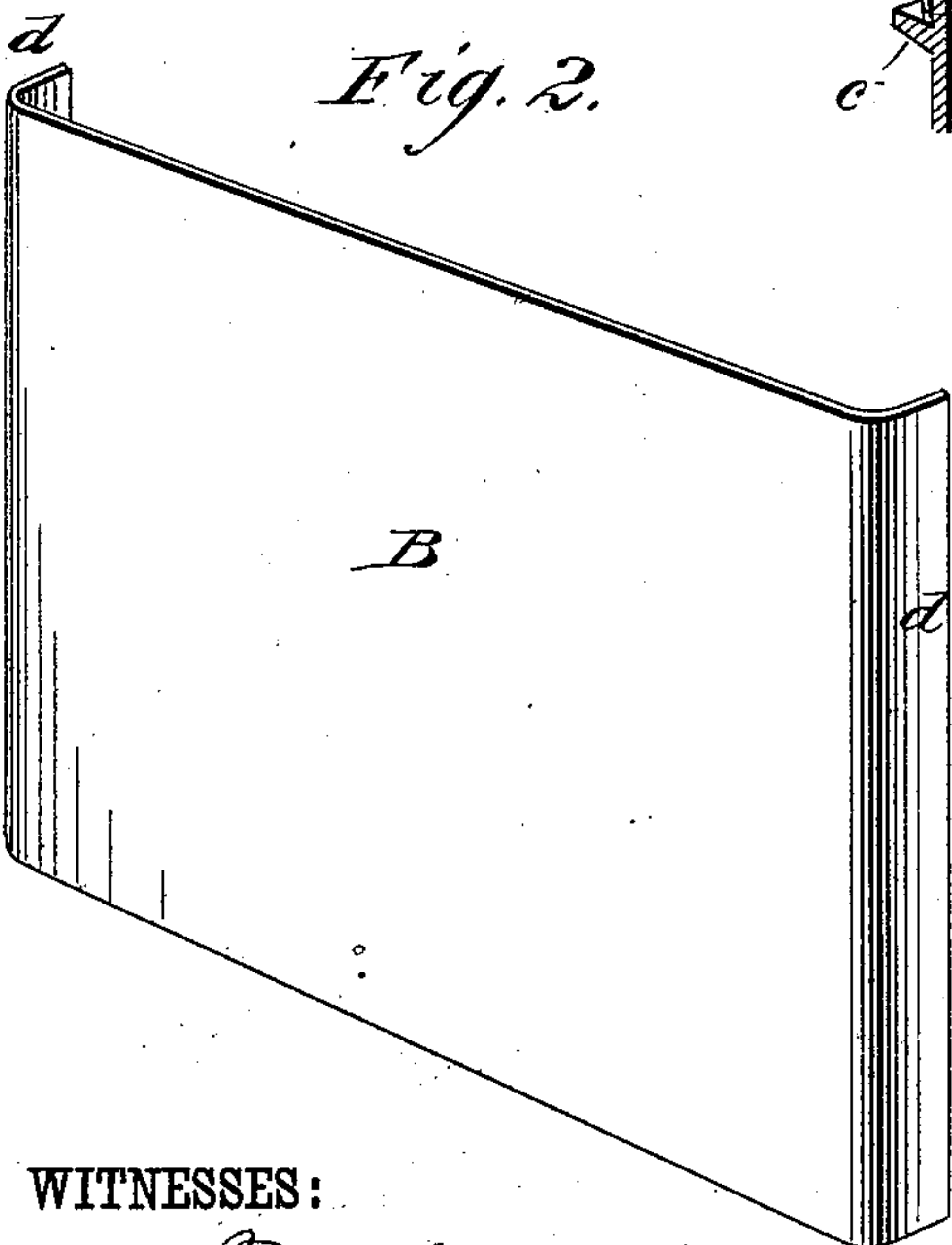
No. 337,127.

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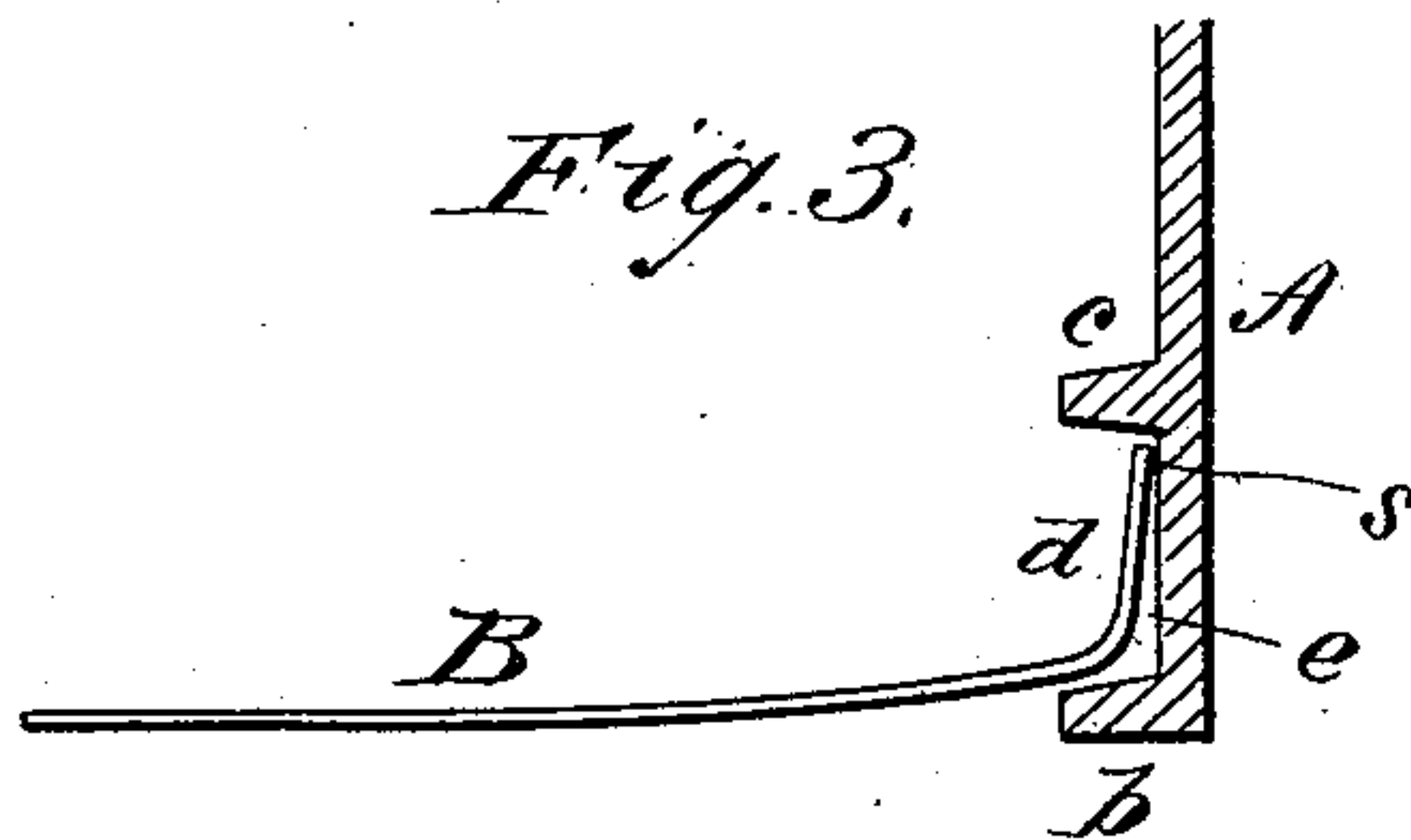
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

*Donn Twitchell.*  
*C. Sedgwick.*

INVENTOR:

*N. A. Boynton*  
BY *Munn*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

NATHANIEL A. BOYNTON, OF NEW YORK, N. Y.

## PLATE-JOINT FOR STOVES OR RANGES.

SPECIFICATION forming part of Letters Patent No. 337,127, dated March 2, 1886.

Application filed July 29, 1885. Serial No. 172,955. (No model.)

*To all whom it may concern:*

Be it known that I, NATHANIEL A. BOYNTON, of the city, county, and State of New York, have invented certain new and useful  
5 Improvements in Plate-Joints for Stoves and Ranges, of which the following is a full, clear, and exact description.

This invention relates to the ovens and other  
10 parts of stoves and ranges in which wrought or sheet metal plates are combined with the cast-metal plates or frame portions of the stove or range to complete the whole structure, and to form the necessary compartments and walls of the flues within the stove or range.

15 The invention more particularly relates to the joints made between these wrought or sheet iron and cast-metal plates, and to that description of such joint in which the sheet or wrought metal plates are bent along their  
20 margins to form angular projections from their faces, and the cast-metal plates or parts are constructed with outer or marginal flanges and inner flanges or projections arranged to receive freely within or between said flanges  
25 the angular bent marginal portions of the sheet or wrought metal plates. Such plate-joint may not only be made fairly close, but all bolts or rivets may be dispensed with, and it not only has the advantage of cheapness,  
30 but admits of the stove or range being put together or taken apart much more expeditiously, and is generally simpler than the plate-joints heretofore generally used in stoves and ranges. Said plate-joint for furnaces has be-  
35 fore been used in combination with cement and segments screwed down to their places over the bent marginal portion of the plate or plates within the grooved portion formed by the inner and outer flanges of the adjacent  
40 part or parts. My invention not only dispenses with all such segments and fastenings, but it differs in the construction of the bent marginal portions of the plate or plates and their arrangement in relation with the flanged  
45 portion of the adjacent plates within which said bent flanges are received, the bent marginal portions of the one set of plates not being bent, as heretofore, at right angles to the plates, but so as to form an obtuse angle there-  
50 with, and so that when fitted to their places between the flanges of the adjacent parts the bent marginal portions of the sheet-metal

plates will only bear on their outer edges against the inner faces of the adjacent parts or plates, thus leaving a clear angular space in  
55 the joint for contraction and expansion of the plates, and for inserting cement when desired.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate  
60 corresponding parts in all the figures.

Figure 1 represents a view in perspective of the oven portion, in part, of a stove or range embodying my invention; Fig. 2, a per-  
65 spective view of one of the sheet-metal plates of the oven detached; and Fig. 3 a sectional view of one of the cast-metal plates or parts of the oven or frame of the stove or range, in part, showing also one of the sheet-metal plates, in part, in jointed connection there-  
70 with.

A A indicate two of the cast-metal plates, in part, of the frame or exterior of the stove or range used in forming the oven.

B is one of the side walls or plates of the  
75 oven, and B' a bottom plate thereof, both of said plates, which are of wrought or sheet metal, connecting or being arranged between the cast-iron plates A A, and serving—that is, said plates B B'—as usual, to form the flue-  
80 walls of the oven.

The cast-metal plates or parts A A are constructed with marginal flanges *b*, extending along their inner faces, and with inner flanges,  
85 *c*, on the same sides of the plates, and arranged parallel with and at a suitable distance from the marginal flanges *b*. These last-named flanges *c* may either be continuous, and, like the flanges *b*, extend throughout the whole  
90 length or width of the plates, as shown in the drawings, or they may have their continuity broken at one or more points throughout their length.

The sheet or wrought metal plates B B' are fitted to their places and made to establish the  
95 desired joint with the plates A A by bending their marginal portions to form extended angular projections or flanges *d*, which are obtuse to the main bodies of the plates they form part of, and which are of suitable size and  
100 area to freely enter within the channels or spaces formed by the ribs or flanges *b c* of the cast-metal plates. The obtuse bend given to the flanges *d* of the wrought or sheet metal



plates, and the arrangement of said flanges between the parallel ribs or flanges *b c* of the cast-metal plates, which are at right angles, or thereabout, to the surfaces they project  
5 from, restrict the bearing-points of the flanges *d* to their outer edges, *s*, and leave an angular space, *e*, between said flanges and the surfaces of the plates A within the ribs or flanges *b c* of the cast-metal plates. This construction  
10 provides for a fuller and more perfect expansion and contraction of the different plates without breaking or straining the joint, the plates B working, as it were, from the edges *s* of the flanges *d* as a center of motion.

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

In plate joints for stoves and ranges, as described, the combination, with the cast-metal plates provided with parallel ribs or flanges *b c*, of the sheet or wrought metal plates having their marginal portions or flanges *d* bent to form an obtuse angle with their bodies, and arranged to fit within the grooves formed by the ribs *b c*, so as to leave an angular space, *e*,  
25 between said bent flanges *d* and the backs of said grooves, substantially as shown and described, and for the purpose herein set forth.

NATHANIEL A. BOYNTON.

Witnesses:

EDGAR TATE,  
WILLIAM A. MILLEG.