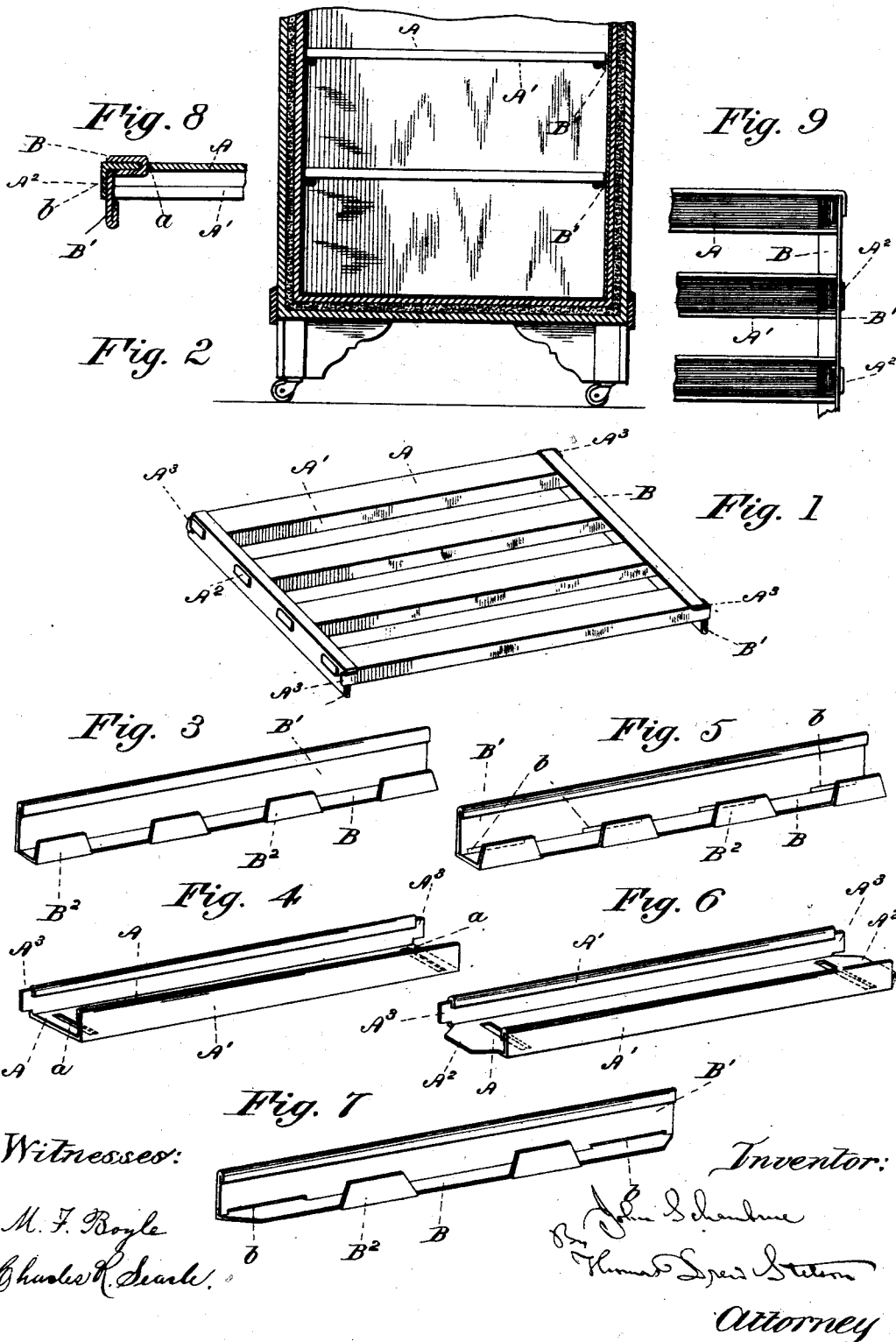


(No Model.)

J. SCHAMBRUE.  
REFRIGERATOR SHELF.

No. 525,723.

Patented Sept. 11, 1894.



# UNITED STATES PATENT OFFICE.

JOHN SCHAMBRUE, OF NEW YORK, N. Y., ASSIGNOR TO L. H. MACE & CO., OF SAME PLACE.

## REFRIGERATOR-SHELF.

SPECIFICATION forming part of Letters Patent No. 525,723, dated September 11, 1894.

Application filed March 28, 1894. Serial No. 505,066. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SCHAMBRUE, a citizen of the United States, residing in the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in the Construction of Refrigerator-Shelves, of which the following is a specification.

The invention relates to the metallic open-work partitions or shelves which are employed to support the dishes of food or other articles which are stored in the refrigerator.

I will describe the invention as applied with the ordinary provision of a horizontal bar or rod at each side set within the refrigerator, extending from front to back of the interior at the level at which each shelf is required to be supported. I have devised an eminently strong and durable construction formed of sheet metal, strongly and stiffly secured together. The construction enables each shelf to be not only supported vertically upon the rod at the end but to take hold of it so as to derive lateral support therefrom. The sheet metal is cut by dies or otherwise in the required forms, and the parts are applied and engaged together without a necessity for rivets or soldering, and without requiring much labor or skill.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a perspective view of one of the shelves. Fig. 2 is a vertical section of a portion of a refrigerator, showing two of my shelves in place. Fig. 3 is a perspective view of an end piece on a larger scale, showing a modification. Fig. 4 is a perspective view of one of the series of parallel bars adapted to serve with the end pieces shown. Fig. 5 is a perspective view of an end piece, showing the complete form of the parts. Fig. 6 is a similar view of one of the parallel bars in the complete form. Fig. 7 is a perspective view of another modification of one of the end pieces. Fig. 8 is a vertical section through the junction of a bar with an end piece. Fig. 9 is a plan view from below.

Similar letters of reference indicate corre-

sponding parts in all the figures where they appear.

The body of the refrigerator may be of any ordinary or suitable form. It is equipped with the ordinary horizontal bars set in the body at the proper levels each side of the several shelves. Each shelf is composed of any required number of parallel bars,—I will show four,—each formed of sheet metal, preferably steel, in the form of an inverted trough, of rectangular section. The horizontal top of each is marked A, and the vertical part or hanging lip at each side is marked A'. These are connected at each end by a cross-piece or end-piece of sheet metal, which may be of the same or a little greater thickness, of L-section, inverted. A horizontal portion B extends over a portion of each of the several bars A, and the vertical portion B' extends down, abutting fairly against the square ends of those bars. These end-pieces B extend below the bottoms of the longitudinal bars A, and the lower edges are folded or hemmed, so as to afford much strength. When the shelf is in place, the hanging portion B' of each end-piece B extends down between the supporting bar and the interior of the refrigerator, and the bar and the shelf mutually support each other laterally.

The parts are joined by a peculiar construction and engagement together of portions of the several sheet metal parts. In shaping the parts I produce tongues on each which have not before been referred to. By these means and a series of narrow slits, which may be smoothly produced by dies in the several parts, I am able to insert a tongue of one piece of the thin metal through another piece and to strongly join them by folding such tongue. In each of the parallel bars I punch or otherwise produce two slits *a*, extending nearly or quite across the upper portion, A, near each end. I form the transverse end pieces with corresponding tongues B<sup>2</sup>. In applying the parts together, these tongues B<sup>2</sup> are inserted each through the corresponding hole *a*, and are folded, each tongue being pressed up against the under face of the part A, so as to make a strong union.

In each of the end pieces I produce slits *b*,

extending longitudinally near the upper part of the vertical portion B', one slit *b* for each of the parallel bars. These slits receive each a tongue A<sup>2</sup> formed on the end of the corresponding parallel bar in line with the top A. The part of this tongue which extends beyond the end-piece is folded down at a right angle and applies firmly against the outer face of the part B'.

10 The two outermost of the set of horizontal bars that at the front and rear, are each formed with a further tongue A<sup>3</sup> which is a continuation of the outermost of its two hanging lips A'. When the parts are applied together these lips extend beyond the end-pieces, and are each folded sharply at a right angle so as to apply against the upright portion B' of the adjacent end-piece. These several lips A<sup>2</sup>, A<sup>3</sup>, and B<sup>2</sup>, folded as shown, unite  
15 the several parts stiffly.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention. I can use a greater or less number of the parallel bars A, A'.  
25 They may be wider or narrower than shown. I can make the portion B of the end-pieces wider and let them extend farther inward upon the upper surfaces A of the parallel bars. In such case, the slits *a* should be produced at a correspondingly increased distance from the ends. I can fold the lower edges of the several hanging portions A'. I do not consider such expedient, but I esteem it important that the deeper lips B<sup>2</sup> on the end  
30 pieces be thus fortified at their lower edges, for the reason among others that these lips are liable to be subjected to strains and concussions when the shelves are removed from the refrigerator. The folded condition of  
35 these lips also contributes to increase the

strength of the engagement with the supporting bars.

Parts of the invention may be used without the whole. I can dispense with the lips A<sup>2</sup> and the corresponding slits *b*, depending on the union effected by the lips B<sup>2</sup> extending through their proper slits *a*, or I can dispense with the lips B<sup>2</sup> and the slits *a*, and depend on the union effected by the tongues A<sup>2</sup> engaged through the slits *b*. The reinforcing of the corners by the lips A<sup>3</sup> is important with either.

What I have termed horizontal bars may be cleats or other similar devices adapted to support the shelves at the sides.

I claim as my invention—

The combination with a refrigerator having the usual horizontal bars for supporting shelves, of a shelf of sheet metal having a series of bars A A' with spaces between such bars and transverse end-pieces B B' uniting such bars, the vertical portion B thereof being extended down so as to engage with the supporting bars to make the parts to mutually support each other laterally, the parts being rigidly united by inserting a tongue formed on one part through a slit formed in another part and sharply bending or folding such tongue, and the parts being further joined by tongues A<sup>3</sup> sharply bent and applying against the exterior of the lips B' at the corners of the shelf, all substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

JOHN SCHAMBRUE

Witnesses:

DANIEL L. WILCOX,  
JAMES E. RICE.