

W. S. SHIELDS.
SHEET METAL BRACE OR BRACKET.
APPLICATION FILED AUG. 16, 1910.

994,342.

Patented June 6, 1911.

Fig. 2

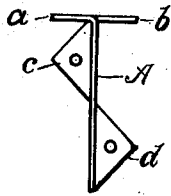


Fig. 1

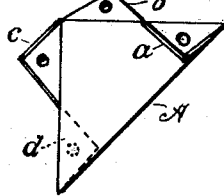


Fig. 3

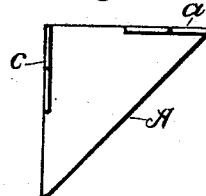


Fig. 4

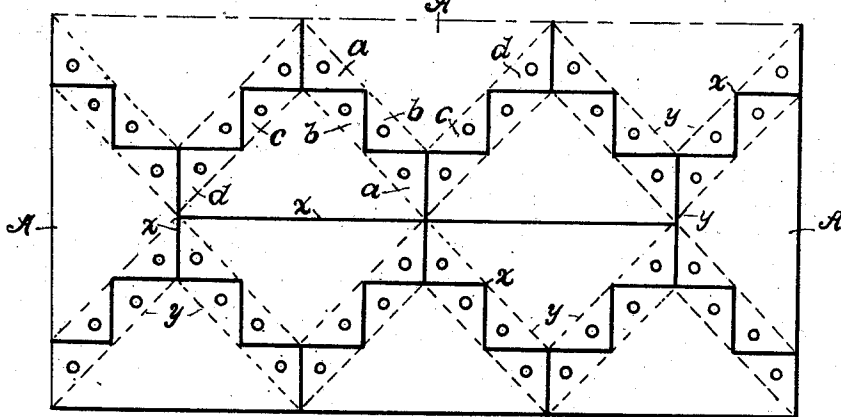


Fig. 9

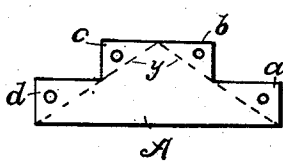


Fig. 5

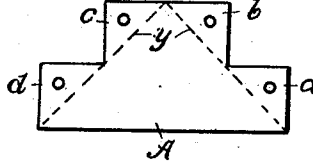


Fig. 10

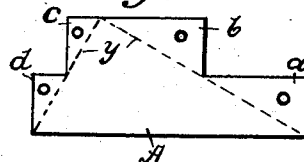


Fig. 6

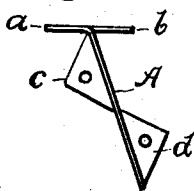


Fig. 7

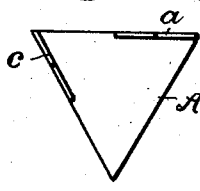
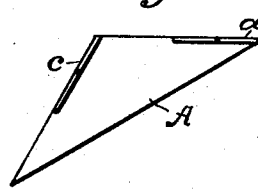


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

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SHEET-METAL BRACE OR BRACKET.

994,342.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM SCOTT SHIELDS, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Sheet-Metal Braces or Brackets, of which the following is a specification.

My invention relates to the production of an article of manufacture—a sheet metal brace or bracket—and has for its object the production of this article in a manner such as to utilize without waste the entire sheet from which it is made.

With this and other objects in view the invention consists in the formation and structure of the article involved in this invention substantially as hereinafter described and claimed.

In the accompanying drawings which form a part of this specification, Figure 1 represents in perspective the primary form of the improved brace or bracket ready for use; Fig. 2 is an edge view thereof; Fig. 3 is a side view thereof; Fig. 4 represents the manner of blanking out the braces or brackets from a sheet of metal; Fig. 5 represents one of such blanks; while Figs. 6, 7 and 8 represent modifications of the braces or brackets; and Figs. 9 and 10 represent modifications in blanks from which braces or brackets of different proportions are made.

The completed brace or bracket has a body portion A, from two adjacent sides of which securing means as *a*, *b*, *c* and *d* project and are perforated, as indicated, to receive attaching screws, bolts or nails.

In producing the braces or brackets a sheet of metal, as indicated in Fig. 4, is laid out so that the securing projections *a*, *b*, *c* and *d* shall be derived from the angles between such projections on adjacent braces or brackets and the several adjacent blanks are so arranged that each subtends the others in a manner to utilize the entire sheet. In said Fig. 4 the heavy lines *x* indicate the lines along which the cuts are made in separating the blanks from the sheet and from one another; while the dotted lines *y* are those along which the securing projections *a*, *b*, *c* and *d* are folded or bent, as indicated in Figs. 1-3. Thus it will be seen that each brace or bracket consists of a rec-

tangular piece of sheet metal blanked out with two adjacent angles reëntrant and the corners *a*, *b* and *c*, *d* formed by the reëntrant angles bent respectively to either side of the plane of the blank and perforated to take the attaching nails, screws or bolts.

While the primary or most common form of the improved brace or bracket is that above described, obviously, the bracket may take different forms and the securing corners or projections may be bent at various angles to the plane of the blank. Fig. 6 represents a brace in which the securing devices *a* and *b* are bent obliquely to the body portion A of the blank, thus adapting the brace to location under the treads of a step-ladder, for instance; Fig. 7 represents in side elevation the brace adapted to the support of parts placed at an acute angle to one another; while Fig. 8 represents a brace in side elevation adapted to the support of parts at an obtuse angle to one another. Fig. 9 represents a blank from which the brace shown in Fig. 8 may be formed. Fig. 10 represents a blank from which a brace may be formed wherein it is desired to have one leg or side longer than the other, the dotted lines *y* in both Figs. 9 and 10 being those along which the perforated securing projections are to be folded. Obviously, the shape of the body portion of the brace or bracket may be varied from the shapes illustrated and the securing projections may sustain different relationship to the body portion of the brace from those illustrated and may be made to conform to the shape of the parts to which they are to be secured.

The invention claimed is:—

1. A brace or bracket consisting of a rectangular piece of sheet metal blanked out with the two upper adjacent angles reëntrant and the points or corners formed by said angles perforated and bent to either side of the plane of the sheet along lines extending from the lowermost angles of the quadrilateral through the apexes of said reëntrant angles to the upper side of the quadrilateral.

2. A brace or bracket consisting of a quadrilateral piece of sheet metal blanked out with the two upper adjacent angles reëntrant and the points or corners formed by

said angles perforated and bent alternately to either side of the plane of the sheet along lines extending from the adjacent lower angles of the quadrilateral through the
5 apexes of said reëntrant angles to a uniting point in the upper side of the quadrilateral, whereby the web of the brace is triangular.

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

WM. SCOTT SHIELDS.

Witnesses:

JOHN DE A. ORR,

MARTIN J. HANEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
