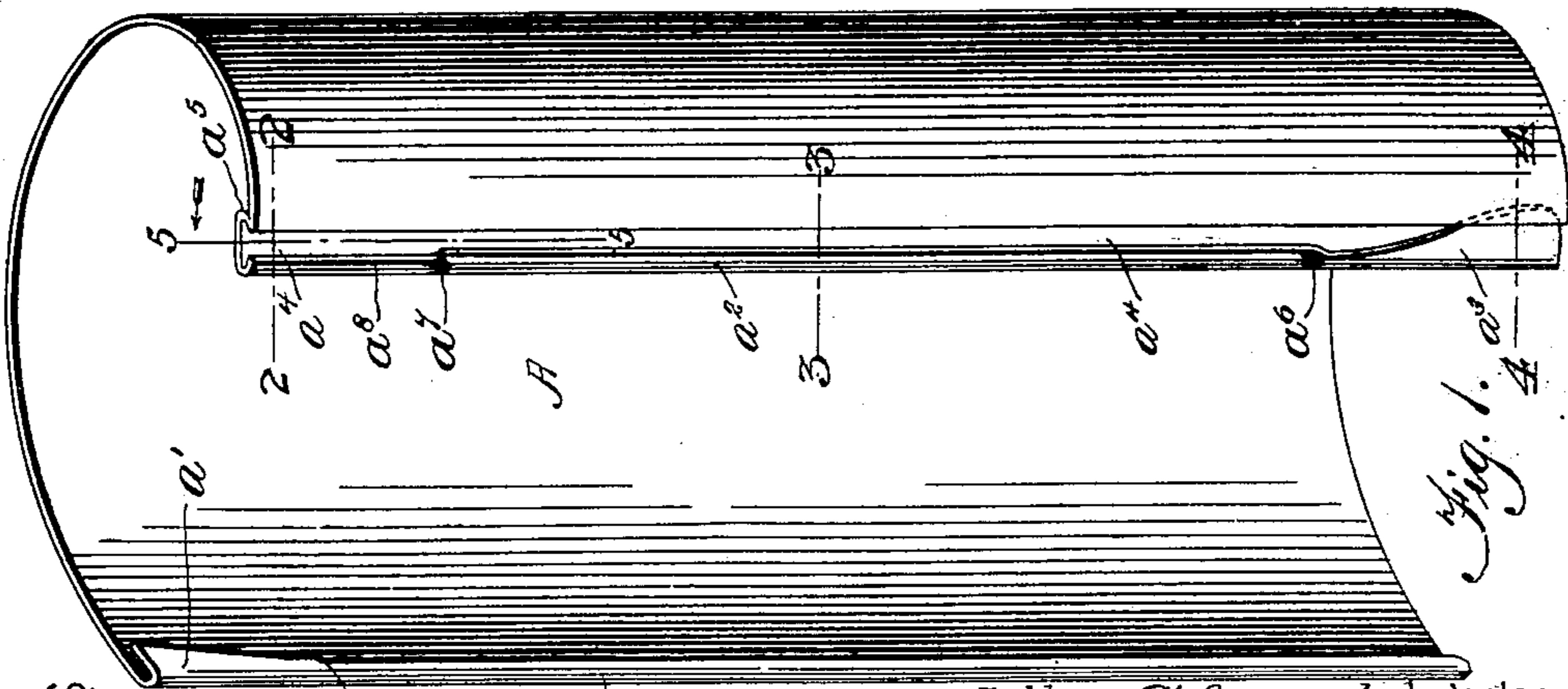
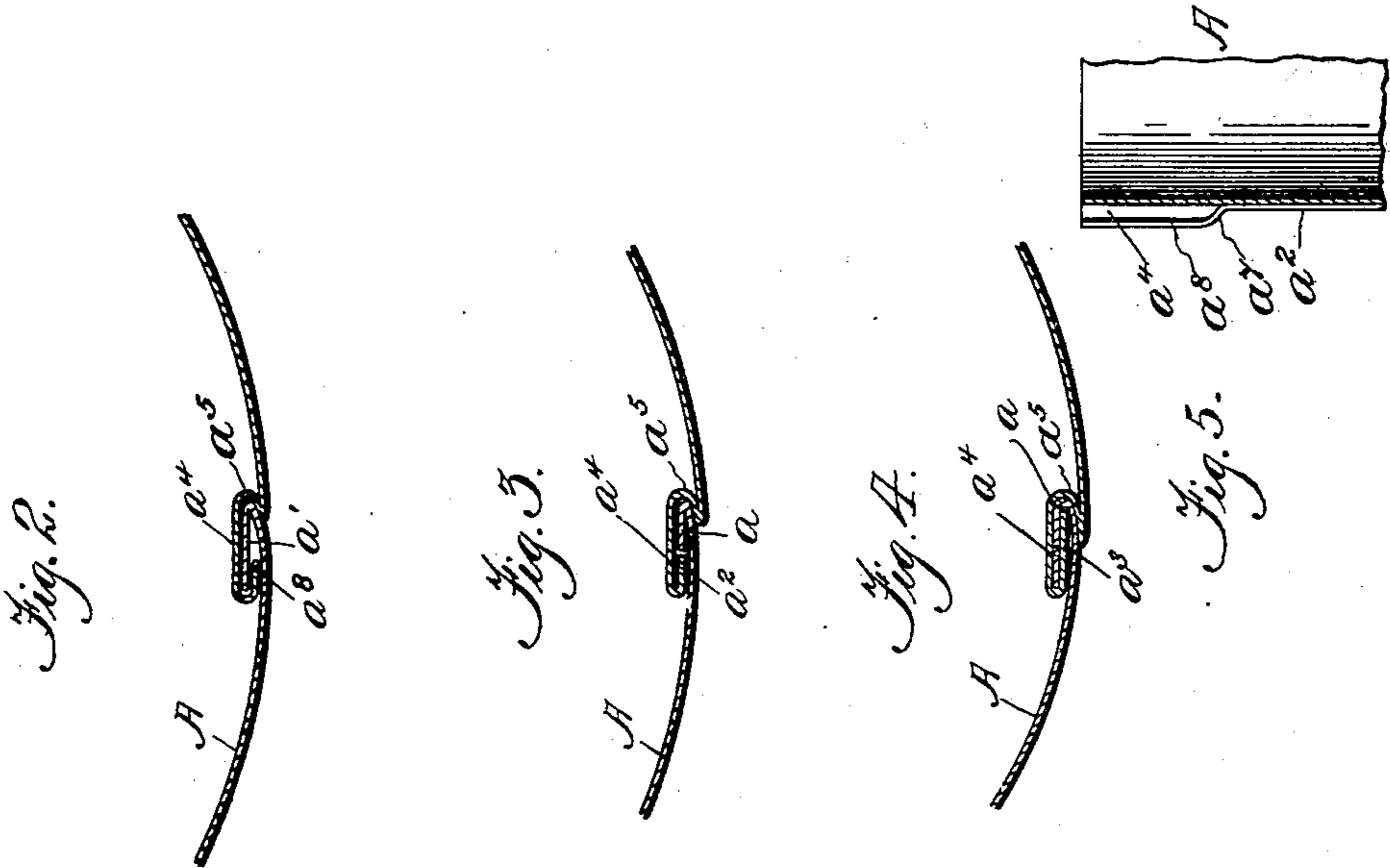


No. 677,813.

Patented July 2, 1901.

A. ST. ARNAUD.
JOINT FOR STOVEPIPES.
(Application filed June 11, 1900.)

(No Model.)



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ARTHUR ST. ARNAUD, OF STE. GENEVIEVE DE BATISCAN, CANADA.

JOINT FOR STOVEPIPES.

SPECIFICATION forming part of Letters Patent No. 677,813, dated July 2, 1901.

Application filed June 11, 1900. Serial No. 19,979. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR ST. ARNAUD, a subject of Her Majesty the Queen of Great Britain, residing at Ste. Genevieve de Batiscan, county of Champlain, Province of Quebec, Canada, have invented certain new and useful Improvements in Joints for Stovepipes; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved joint for sheet-metal articles—such as stovepipes, metal shingles, and like articles; and its object is to provide a detachable joint for interlocking the edges of the metal, which joint is simple in construction, effective in operation, easily manipulated to lock and unlock the edges, and which can be manufactured at a low cost.

To these ends the invention consists in a detachable joint for sheet-metal articles, such as stovepipes and the like, constructed substantially as herein illustrated, described, and defined in the appended claims.

Referring to the drawings, in which similar letters of reference indicate similar parts, Figure 1 is a view in perspective of a section of stovepipe having a detachable joint constructed in accordance with this invention. Fig. 2 is a cross-section taken through the upper portion of Fig. 1, the plane of the section being indicated by the dotted line 2 2 on said figure. Fig. 3 is a central cross-section of Fig. 1, the plane of the section being indicated by the dotted line 3 3 on said figure. Fig. 4 is a cross-section taken through the lower portion of Fig. 1, the plane of the section being indicated by the dotted line 4 4 on said figure. Fig. 5 is a detail sectional view in the plane of the dotted line 5 5 on Fig. 1 looking in the direction of the arrow and taken through a portion of the offset, showing the folded edge thereof and the groove in the upper portion of said offset.

The same letters of reference denote like parts in each of the several figures of the drawings.

In embodying my invention in such articles as stovepipes, which are cylindrical in cross-section, I take a piece of sheet metal of the

proper width and length, which I proceed to bend in the following manner: The left-hand edge of the sheet-metal blank A (shown by the several figures of the drawings) is first bent or doubled upon itself to produce the flange a . The upper end portion of this longitudinal flange a is widened and formed with an inclined edge, which produces a locking-lug a' at the top of the sheet-metal blank A. This longitudinal flange a is bent or turned over upon the blank A, so as to lie quite close thereto nearly throughout the length of said flange a ; but the locking-lug a' and the lower portion of this longitudinal flange a are bent outwardly a little from the face of the blank A. By reference to Figs. 1 and 2 it will be noted that there is a space left between the blank A and the locking-lug a' , which is provided at the top edge of said blank and at the upper extremity of the flange a . A similar space or groove is provided between the lower portion of the locking-flange a and the face of the blank A, which space or groove at said lower portion of the blank is clearly indicated by Fig. 4 of the drawings.

The opposite or right-handed edge of the sheet-metal blank A is first bent or doubled back upon itself for a short distance, as at a^5 in Figs. 1 to 4, inclusive, of the drawings. Then said edge of the sheet or blank is bent in a direction to project beyond the turned or folded edge of the blank itself, whereby the described bent portion forms the offset a^4 , which is clearly shown by the drawings, said offset a^4 lying within the face of the blank A, so as to leave sufficient space for the reception of the flange a and the locking-lug a' to the end that the two edges of the metallic blank may be brought together in such a way that they may be interlocked, and said edges may present practically a flush appearance viewing the article from the outside thereof, as will hereinafter appear. This offset portion a^4 at the right-hand edge of the sheet-metal blank is bent or doubled upon itself to produce the longitudinal locking-flange a^2 , which flange is widened at its lower end portion for the purpose of producing the locking-lug a^3 , the edge of said locking-lug a^3 being inclined or curved, as clearly shown by Fig. 1. The longitudinal locking-flange a^2 at the free edge of

the offset a^4 is bent laterally to the face of the offset at the points indicated by the reference-letters a^6 a^7 in Fig. 1 of the drawings. The bend a^6 of this locking-flange a^2 is provided at or near the point where the locking-lug a^3 is formed by widening the lower portion of said longitudinal flange a^2 , thus leaving a groove or space between the inner face of the lug a^3 and the opposing face of the offset a^4 . The longitudinal flange a^2 between the bent portions a^6 a^7 thereof lies very close to the face of the offset a^4 , and by bending the upper portion of this flange a^2 at the point a^7 an outstanding lip a^8 is formed at the upper portion of the offset a^4 , which lip provides a groove between its inner face and the offset a^4 , adapted for the reception of the locking-lug a' on the left-hand edge of the blank A.

From the foregoing description, taken in connection with the drawings, it will be seen that I have provided the blank A with a longitudinal flange a and a locking-lug a' at the left-hand edge thereof, while the right-hand edge of said blank has an integral offset a^4 , which is doubled upon itself to form the longitudinal flange a^2 , the latter having at one end portion a locking-lug a^3 and at its other end portion a locking-lip a^8 . The locking-lug a' on one edge of the blank and the locking-lug a^3 on the offset at the other edge of the blank lie at opposite end portions of the blank, as clearly indicated by Fig. 1. To assemble and interlock the two edges of the blank, it is necessary to bend the blank into substantially cylindrical form, so as to bring the two edges thereof together, and in thus manipulating the article the operator is compelled to twist or distort the blank with a view to bringing the upper end of the lug a' below the outward bend a^7 of the offset and the flange a^2 and also to bring the lower locking-lug a^3 above the outwardly-bent end portion of the longitudinal flange a at the lower portion thereof. The left-hand edge of the blank will now fit in the space afforded by the offset a^4 at the right-hand edge of the blank, and the two edges may now be moved longitudinally, so as to bring the end edges flush, whereby the longitudinal edges will be interlocked together in the following manner: The locking-lug a' slips into engagement with the lip a^8 at the upper portion of the offset a^4 , as seen by Fig. 2, while the locking-lug a^3 is engaged with the lower bent portion of the flange a , as shown by Fig. 4, and the flange a' at the left-hand edge of the sheet and the flange a^2 on the offset a^4 at the right-hand edge of the sheet are in abutting relation nearly throughout their length, as shown by

Fig. 3. When the locking-lugs a' a^3 slip into engagement with the lip a^8 and the lower bent portion of the flange a , respectively, the two edges of the blank are drawn together practically by a wedging action, owing to the inclination of the locking-lugs a' a^3 , as clearly shown by Fig. 1, and thus the edges of the blank are interlocked securely together, while their outer faces are made to present a flush appearance.

In order to release the edges and open the blank, it is necessary to reverse the operation heretofore described, so that the lugs a' a^3 will be disengaged from the lip a^8 and the lower portion of the flange a , respectively, which disengagement is attained by an endwise movement of the two edges of the blank, after which the latter may be flattened out or otherwise manipulated.

What I claim is—

1. A detachable joint for sheet-metal articles, comprising a longitudinal flange a , formed upon one edge of the sheet metal and terminating in a locking-lug, and an inwardly-extending offset portion a^4 formed upon the other edge of the sheet, said offset portion a^4 provided with a closely-arranged flange a^2 which is provided at its opposite ends with a locking-lug a^3 and a locking-lip a^8 , the parts being arranged and adapted for service substantially as described for the purposes set forth.

2. A detachable joint for sheet-metal articles, comprising a body portion having an offset formed with a flange and a groove at one end thereof, a locking-lug on one edge of the offset and at one edge of the article, and a flange located on the other edge of the article and provided with a groove and with a locking-lug at the opposite end from the first-named lug, said lugs arranged to have engagement with the grooved portions and the two edges of the joint being received in the offset to lie substantially flush, as set forth.

3. A joint for sheet-metal articles comprising an offset having a closely-arranged flange terminating at one end in a locking-lip and at its other end in a locking-lug, and another flange arranged to abut the first-named flange and provided with a lug for interlocking engagement with said lip, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ARTHUR ST. ARNAUD.

Witnesses:

H. F. BERNHARD,
FRS. J. O'NEILL.