

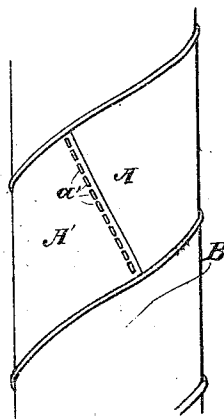
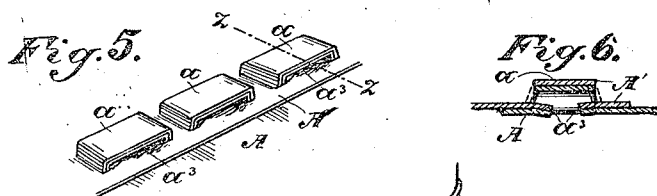
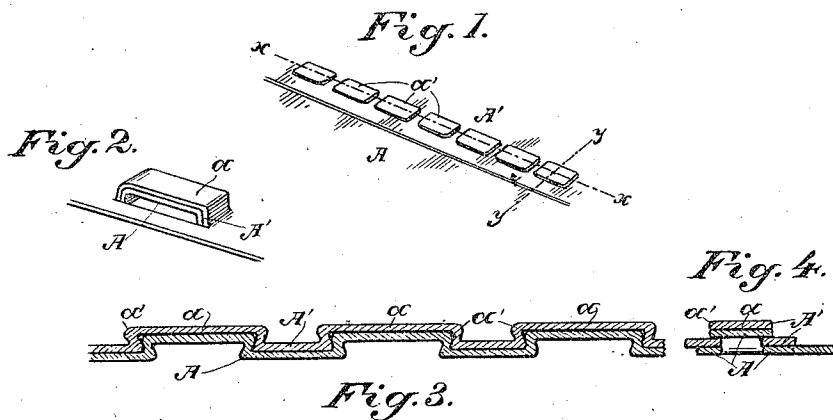
(No Model.)

J. GOULD, Jr.

METHOD OF UNITING METALLIC SHEETS.

No. 512,021.

Patented Jan. 2, 1894.



Witnesses,
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UNITED STATES PATENT OFFICE.

JAMES GOULD, JR., OF OAKLAND, CALIFORNIA.

METHOD OF UNITING METALLIC SHEETS.

SPECIFICATION forming part of Letters Patent No. 512,021, dated January 2, 1894.

Application filed August 11, 1893. Serial No. 482,878. (No specimens.)

To all whom it may concern:

Be it known that I, JAMES GOULD, JR., a citizen of the United States, residing in Oakland, Alameda county, State of California, have invented an Improvement in Methods of Uniting Metallic Sheets; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the art of joining metallic sheets, and it consists in the novel process of uniting the overlapping edges of said sheets, and also in the novel fastening or joint as the result of said process.

The process consists essentially in overlapping the edge of one sheet upon the edge of another, in then forcing, from one side, the material of both sheets, to form protuberances on the other side which are severed from the sheets at each side and remain connected therewith at each end, and in finally altering the relative superficies of the protuberances or the capacity of the opening or hole from which they are forced, whereby they are prevented from returning into said opening or hole. The fastening consists of protuberances or bulging portions forced from both thicknesses of the overlapping sheets, said protuberances being severed from the sheets on each side, and remaining connected therewith at each end and means for altering the relative dimensions of the protuberances or the capacity of the opening or hole from which they are forced, whereby they are prevented from returning into said opening or hole.

The object of my invention is to provide a simple and effective joint or union between the overlapping edges of sheets of metal to be used in various devices wherein it is necessary to secure such metal sheets together, but especially for use in making metallic conductors and leaders, or other cylindrical bodies.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective view of the joint complete. Fig. 2 is a perspective view showing one of the protuberances before it is locked. Fig. 3 is an enlarged section on the line $x-x$ of Fig. 1. Fig. 4 is a section on the line $y-y$ of Fig. 1. Fig. 5 shows another form of lock. Fig. 6 is a section on line $z-z$

of Fig. 5. Fig. 7 is a view of a leader or conductor showing the joint.

A and A' are overlapping sheets of metal. These overlapping sheets, from one side are forced out so as to form the protuberances or bulging portions a on the other side, said protuberances or portions consisting of both thicknesses of the sheets. In practice it is best to so force them that they will be severed along their side edges, but still united with the metal at their ends; and, it is obvious, that by reason of this forcing, the metal composing them is necessarily lengthened, which result affords opportunity to lock them by any suitable fastening. This step of the process, resulting in a suitable lock, may be accomplished in different ways. These different ways have for their common feature the relative alteration of the superficies of the protuberances or of the capacity of its opening or hole from which they are forced whereby the protuberances are prevented from returning to normal position in the opening or hole. This alteration or change may be made either by widening the protuberances themselves, as I have shown in Figs. 1, 3 and 4, so that they become too large to again enter the opening, or, as I have shown in Figs. 5 and 6, by enforcing the metal sheet, as shown at a^3 , on each side of and under the protuberances, whereby the opening or hole is contracted and rendered too small to again receive the protuberances. In the making up of these joined sheets in the article in which the material is employed, as, for example, in the conductor or leader B, shown in Fig. 7, these protuberances receive a final rolling down or flattening which makes a smooth and a workmanlike joint.

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

1. The process of uniting or joining metallic sheets which consists first in overlapping the adjacent ends of the sheets; second, forcing from one side both thicknesses of metal to form protuberances or bulging portions on the other side, severed from the metal on their sides and remaining joined thereto at each end; and third, altering the superficies of one part with relation to the superficies of the

other whereby the parts are prevented from returning to their first position.

2. A fastening or joint for metallic sheets consisting of protuberances or bulging portions, composed of both thicknesses of metal forced from one side thereof and severed from the metal at their sides, remaining joined thereto at their ends, the superficies of the portions acted upon being altered, with relation to each other, to prevent the return of

said protuberances or bulging portions into said opening or hole, substantially as herein described.

In witness whereof I have hereunto set my hand.

JAMES GOULD, JR.

Witnesses:

S. H. NOURSE,

J. A. BAYLESS.