

P. F. FLAGGE.
SHEET METAL PIPE JOINT.
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1,295,295.

Patented Feb. 25, 1919.

Fig. 1.

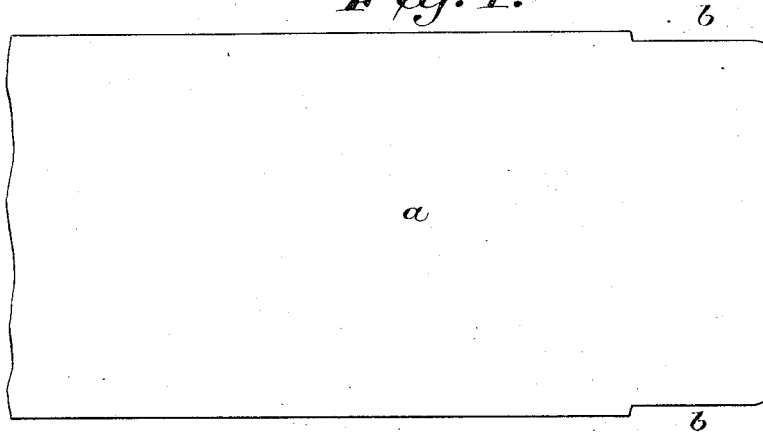


Fig. 2.

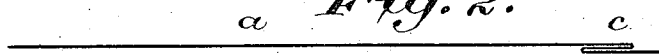


Fig. 3.

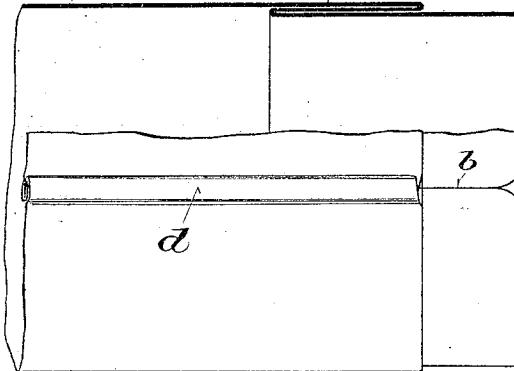


Fig. 5.

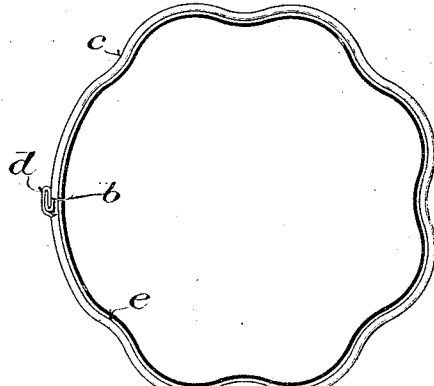


Fig. 4.

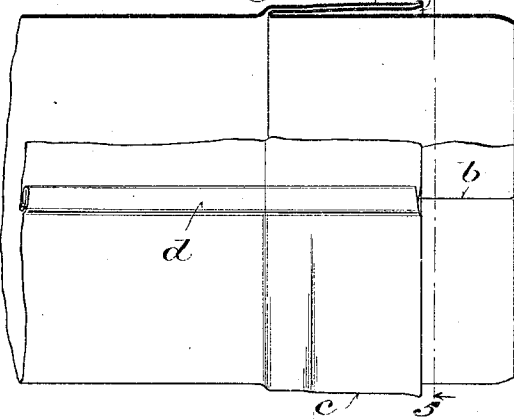
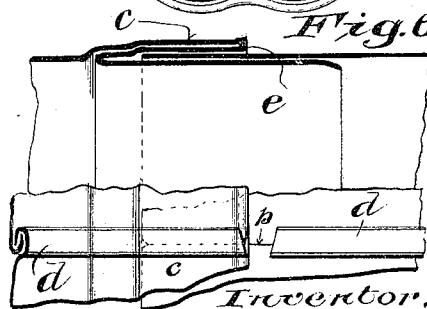


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SHEET-METAL-PIPE JOINT.

1,295,295.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PHILLIPP F. FLAGGE, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Sheet-Metal-Pipe Joints, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates more particularly to the construction of joints for connecting conductor or other sheet metal pipe sections end to end.

Its main objects are to facilitate assembling and erecting conductor and other sheet metal pipe sections; to do away with soldered joints; to allow for expansion and contraction of the pipe without breaking the joints between the sections; and generally to increase the stability and advantages and to improve the construction of sectional sheet metal pipe.

It consists in the peculiar construction of the sheet metal pipe joints as hereinafter particularly described and pointed out in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a plan view on a reduced scale of one end of a sheet metal blank for a pipe section, constructed in accordance with the invention; Fig. 2 is a longitudinal section on the same scale showing the preliminary transverse fold as made in the blank for a pipe joint; Fig. 3 is a view on an enlarged scale partly in longitudinal section and partly in side elevation of one end of a pipe section showing a partially formed joint member; Fig. 4 is a similar view showing a completely formed joint member; Fig. 5 is a cross section on the line 5-5, Fig. 4; and Fig. 6 is a section and elevation similar to Figs. 3 and 4, of parts of two pipe sections showing the joint between them.

In the construction of conductor or sheet metal pipe in accordance with this invention, each section is made as shown, from a flat blank *a*, having its longitudinal edges cut away at *b*, adjacent to one end, as shown in Fig. 1.

A double transverse fold *c*, consisting of three layers, is made in the blank, as shown in Fig. 2, adjacent to its reduced end. The

blank is then formed into tubular shape and its longitudinal edges are folded together in a seam *d*, in the usual or any suitable manner, as shown in Figs. 3 and 5, the seam terminating with or adjacent to the outer bend of the fold *c*, and in line with the inner ends of the cut-away portions *b*.

The folded end of the pipe section is then expanded so that the inner layer of the fold will have substantially the same internal diameter as the body of the section, as shown in Fig. 4, and the intermediate and outer layers of the fold are spread and separated from the inner layer to form an annular socket *e*, to receive and form a slip joint with the end of another pipe section, as shown in Fig. 6; the socket *e*, which opens toward the protruding end of the inner layer of the fold, is made tapering, its walls converging toward its inner end, so that when the end of another pipe section is forced into place therein it will form a tight joint therewith. The external edge of the fold is bent outwardly to form a flaring opening into the socket *e*, and the protruding end of the inner layer of the fold is bent inwardly or contracted, as shown in Fig. 4, to facilitate assembling and coupling the pipe sections together.

The pipe may be made of any desired form in cross section, plain or corrugated, as shown in Fig. 5.

The longitudinal edges of the cut-away or reduced end of the blank, as shown at *b* in Fig. 1, abut edge to edge when the blank is bent into tubular form, as shown in Figs. 3, 4 and 5, thereby producing a plain, tubular extension beyond the fold *c*, which can be easily entered into the end of another pipe section, as shown in Fig. 6.

The adjacent end of the adjoining pipe section is similarly formed to fit into the socket *e* and over the inner protruding layer of the fold, as shown in Fig. 6, the longitudinal edges of the blank being cut away as shown at *b*, Fig. 1, and the longitudinal seam terminating at a distance from the end of the section, so that the longitudinal seams of the adjoining sections may be placed in alinement with each other without lapping and without the seam of one section extending into the socket of the other section.

Pipe sections formed as herein shown and described are easily assembled and securely

coupled end to end, without soldering or other means of fastening.

The external bend of the fold *c* at the open end of the socket *e*, forms a shoulder which may be conveniently and advantageously utilized for supporting the pipe upon a conductor hook ordinarily used to fasten conductor pipe to buildings.

The joints formed between the pipe sections by the folds, permit sufficient slipping of the sections to allow for expansion and contraction, and the tapering form of the sockets *e* insure tight joints and prevent separation of the sections after they have once been assembled and properly connected.

Various changes in minor details of construction may be made without departure from the principle and scope of the invention as defined in the following claims.

I claim:

1. A sheet metal pipe joint comprising two sections having longitudinal folded seams terminating at a distance from their adjoining ends, one section having an inwardly bent triplicate fold adjacent to one end, the inner and intermediate layers of the fold being separated and forming a continuous annular and gradually tapering socket having inwardly converging walls, the inner layer extending beyond the socket and the adjoining end of the other section fitting over the protruding inner layer of the fold into said socket and forming therewith a close fitting slip joint.

2. A sheet metal pipe joint comprising two sections having longitudinal folded

seams terminating at a distance from their adjoining ends, one section having an inwardly bent and outwardly expanded triplicate fold adjacent to one end, the inner layer of the fold being of the same internal diameter as the body of the section and extending longitudinally beyond the outer bend of the fold, the intermediate layer being separated from the inner layer and forming therewith a continuous annular and inwardly tapering socket, and the adjoining plain seamless end of the other section fitting over the inner protruding layer of the fold into said socket and forming therewith a slip joint.

3. A sheet metal pipe joint comprising two sections having longitudinal folded seams terminating at a distance from their adjoining ends, one section having an inwardly bent triplicate fold adjacent to one end, the intermediate layer gradually diverging toward the adjacent end of the section from the inner layer and forming therewith a tapering socket, the outer end of the fold being expanded and forming a flaring opening into the socket, the inner layer projecting beyond the socket and having its end contracted, and the adjoining end of the other section fitting over said inner protruding layer into said socket.

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

PHILLIPP F. FLAGGE.

Witnesses:

G. H. J. RYDER,
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