2 Sheets—Sheet 1.

N. I. ROTHAN.

SHEET-METAL ELBOWS.

No. 189,267. Patented April 3, 1877.

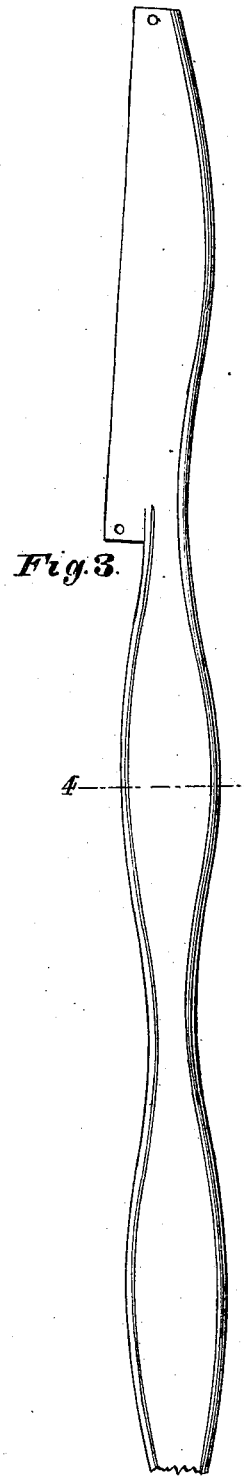

Fig. 3.

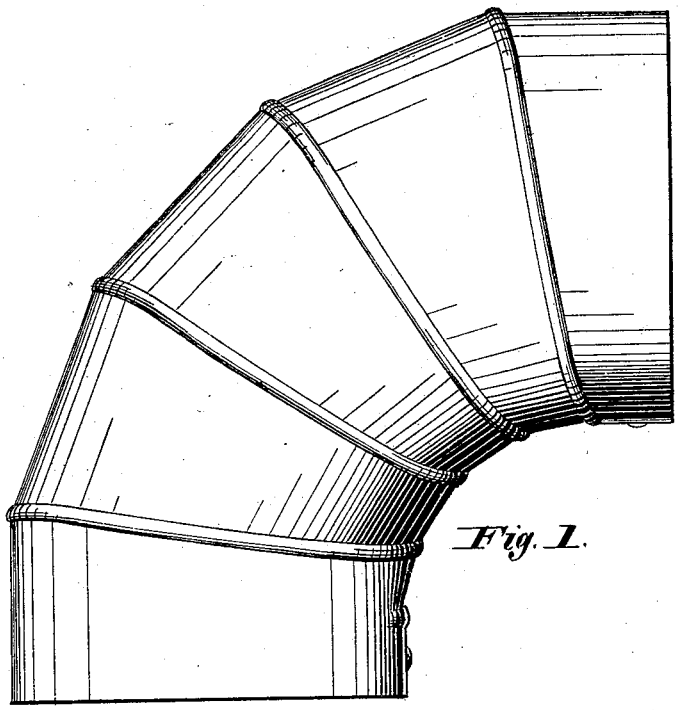

Fig. 1.

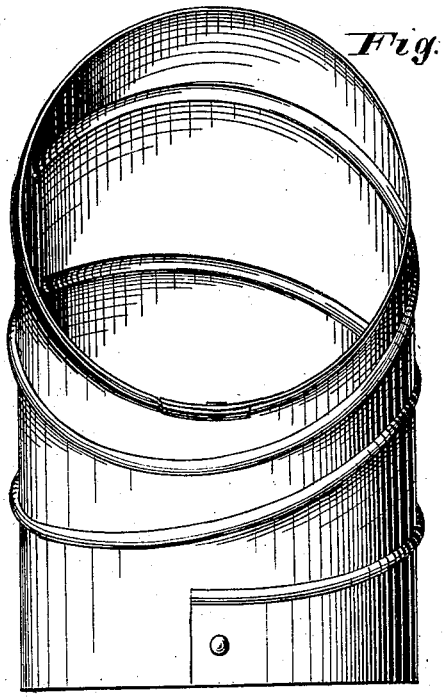

Fig. 2.

Fig. 4.

WITNESSES

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2 Sheets—Sheet 2.

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Fig. 5.

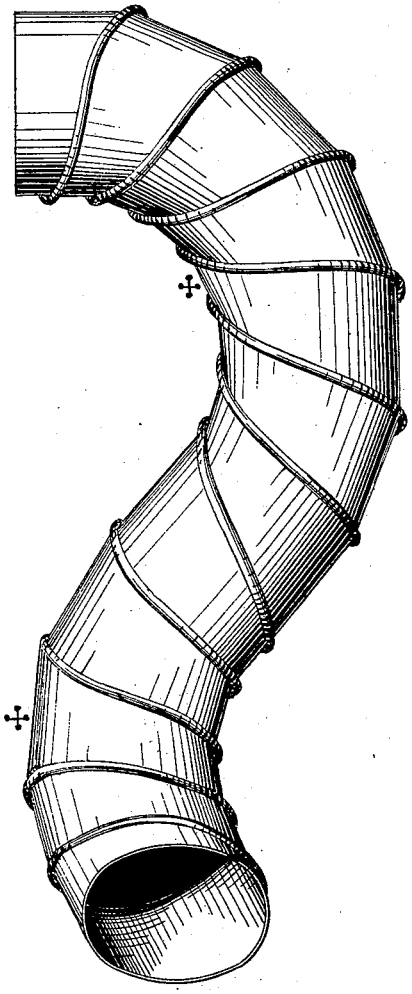
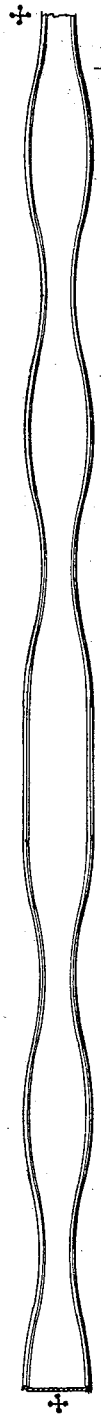


Fig. 6.



WITNESSES

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NICOLAS I. ROTHAN, OF CINCINNATI, OHIO.

IMPROVEMENT IN SHEET-METAL ELBOWS.

Specification forming part of Letters Patent No. **189,267**, dated April 3, 1877; application filed May 26, 1876.

To all whom it may concern:

Be it known that I, NICOLAS I. ROTHAN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in the Construction of Sheet Metal Elbows, Goose-Necks, and other Curved Pipes, of which the following is a specification:

My invention consists in forming a curved pipe from a continuous strip of metal, spirally wound, as hereinafter described.

My invention further consists in a blank constructed of a strip of sheet metal of varying widths, adapted to form an elbow or other curved pipe, in the manner hereinafter set forth.

The edges of the metal strip may be constructed with grooves, or the edges may be connected together by single or double seams.

In the accompanying drawing, Figure 1 represents a side view of an elbow constructed from a single strip of metal. Fig. 2 represents a front view of the same. Fig. 3 represents a strip of metal adapted to form an elbow. Fig. 4 represents a transverse section of said strip on the line 4 4, Fig. 3. Fig. 5 represents a side view of a goose-neck or other doubly-curved pipe, to which the invention is applicable. Fig. 6 represents a strip of metal adapted to form part of a goose-neck.

In carrying out my invention, I cut a long strip of tin, iron, copper, or other sheet metal of varying width, or scalloped, in suitable lengths, according to the diameter required for the pipe, and groove it at its edges, as shown in Figs. 3, 4, and 6. A strip thus prepared is wound in form as illustrated in Figs. 1, 2, and 5, the narrowest part being brought together, and the groove at one edge of the strip running over that of the other edge after one turn is made.

The strips can be cut to form an elbow, goose-neck, or other curved pipe of any size, from one to ten inches or more.

I thus form by my improvement an elbow or a long curved pipe out of a single piece of sheet metal.

It will be manifest that the edges, instead of being grooved, can be connected by a single or double seam.

The pipe is formed or wound up by a swage-machine between rollers.

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

1. The process of forming a sheet-metal curved pipe from a strip of metal spirally wound and grooved or seamed, substantially as herein described.

2. A curved pipe constructed from a strip of sheet metal spirally wound and grooved or seamed, as herein described.

3. A blank constructed of a strip of sheet metal of varying widths, adapted to form an elbow or other curved pipe, in the manner set forth.

NICOLAS I. ROTHAN.

Witnesses:

JOHN DEWALD,

CHAS. PHARES.