C. RECHT.

SHEET METAL PIPE.

No. 73,929. Patented Jan. 28, 1868.

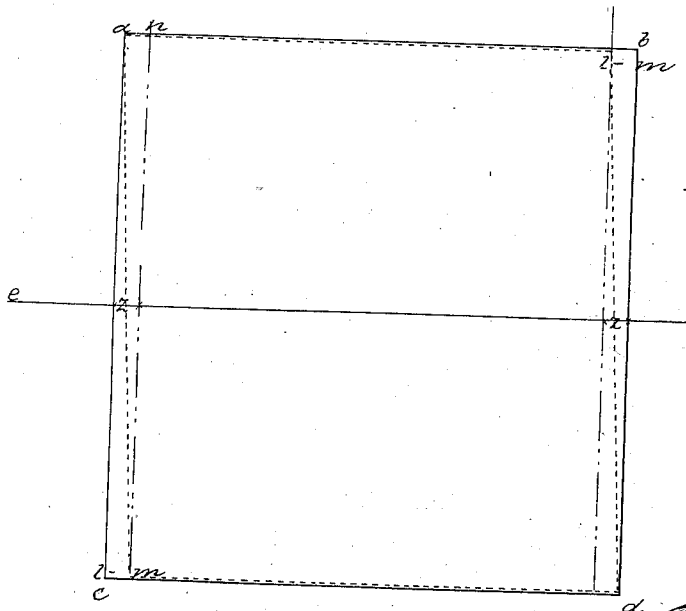


Fig. 1

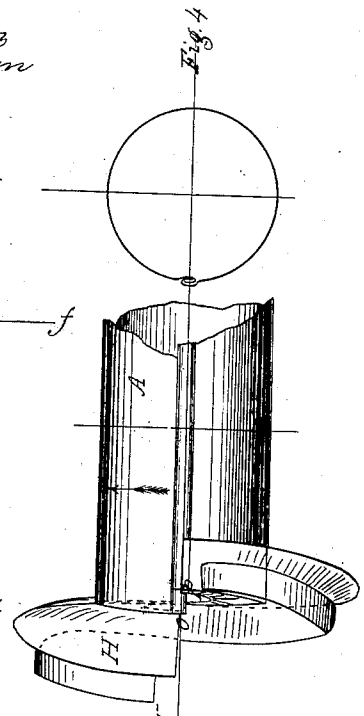


Fig. 4

Fig. 5

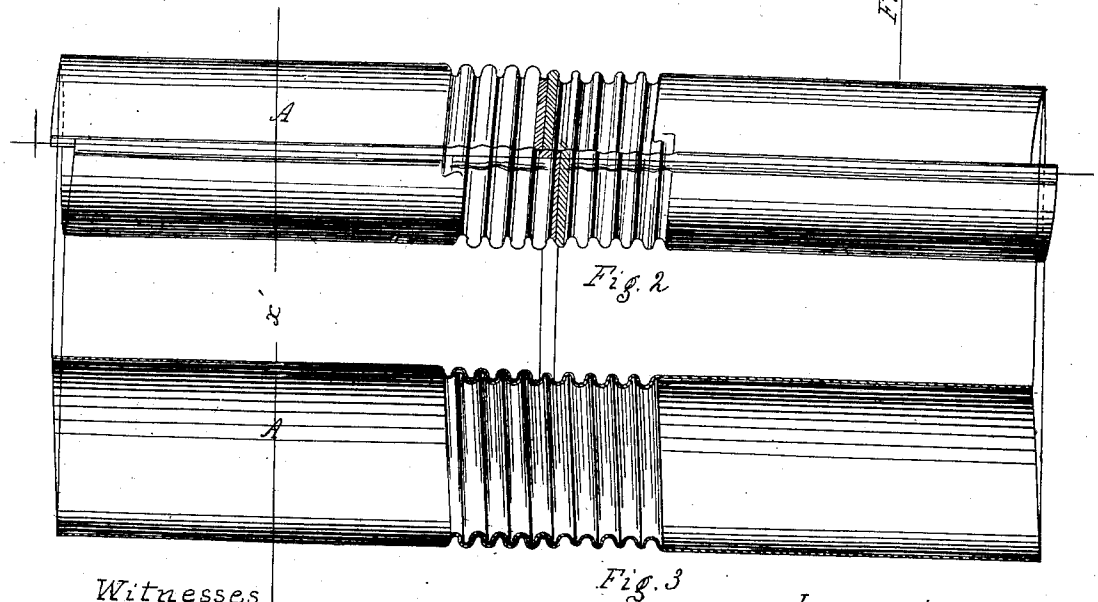


Fig. 2

Fig. 3

Witnesses,
Chas. Edwd. Hove
Chas. Morrill

Inventor,
Carl Recht

United States Patent Office.

CARL RECHT, OF NEW YORK N. Y.

Letters Patent No. 73,929, *dated January* 28, 1868.

IMPROVEMENT IN SHEET-METAL PIPES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CARL RECHT, of the city, county, and State of New York, have invented a certain new and useful "Improvement in Sheet-Metal Pipes;" and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view showing the manner in which I prefer to cut the sheet-metal plate, before proceeding to make a pipe thereof.

Figure 2 is a side view, showing two ends of piping screwed together.

Figure 3 is a longitudinal section of the same.

Figure 4 is a transverse section on the line $x\ x'$.

Figure 5 is a side view of a detached length of pipe, in conjunction with a gauge-plate, shown in blue lines.

The object of my invention is to furnish a sheet-metal pipe that can be cheaply and quickly made, and that can be screwed together in consecutive portions, to any desired length.

My invention consists in taking a piece of sheet metal, and cutting it in the form of a rhomboid, then folding or rolling it up into a cylinder or pipe, in such a manner as to leave an overlap on each end of said pipe, where the seam or rib comes, by means of which overlap I am enabled to turn a thread on the ends of said pipe, the said overlap being the pitch of the thread which is turned thereon.

In the drawings, A represents a length of pipe, one end of which has a thread made upon it, and the other end has not. I prefer to take a piece of sheet metal, of rectangular form, as shown in fig. 1, and lay off a distance, $l\ m$, on the line $a\ b$, equal to the desired pitch of the thread; lay off the same distance, $l\ m$, on the line $c\ d$ of the parallelogram $a\ b\ c\ d$, and draw the lines $a\ m$ and $d\ l$, and we have the figure or rhomboid $a\ m\ d\ l$, which is cut out of the sheet $a\ b\ c\ d$. This rhomboidal sheet is now rolled up, and the end $m\ d$ fastened to the end $a\ l$, thus making a seam or rib common to all sheet-piping. It will be seen that during the folding of the sheet into a pipe, the points m and l will remain in the same line or plane, perpendicular to the axis of revolution. Thus, when the line or end $m\ d$ of the sheet is revolved to meet the line $e\ f$, (which we will call the line where the seam on the pipe is formed,) and the line $a\ l$ is revolved to meet the same line $e\ f$, we shall have formed a hollow sheet-metal pipe, between the ends $m\ a$ and $d\ l$ of which there will be a distance, z. This distance z constitutes the pitch of the thread, which is afterwards turned on the ends of the pipe. After the sheet is made into a pipe having the overlap z, it is run between two rollers, made with ribs or corrugations, in a machine adapted to that purpose, and for which I have applied for Letters Patent of the United States. This machine also is provided with a plate, H, shown in blue, in connection with a pipe, in the drawings, fig. 5, made with a surface corresponding to the end of the pipe. The end of the pipe being kept up firmly against the said gauge-plate D, while the ribbed rollers in the machine are revolved, a thread is turned thereon, of the form exhibited in the drawings. The reason of this will become apparent; for when the ribbed rollers in the machine grasp the pipe, it (the pipe) is made to revolve in the direction of the red arrow, fig. 5, during which the part o of the pipe follows along the surface of the gauge-plate H, until it assumes the position p, when a complete revolution of the pipe will have occurred. It will be seen that the distance $o\ p$ is the pitch of the thread which is turned on the pipe. It will be obvious that instead of cutting the metal sheet in the rhomboidal form, and rolling it up so as to make the overlap z, the same end would be attained by cutting the end of the pipe as shown in fig. 5, after the pipe was rolled into shape, but in practice, I find it better to cut the metal sheets into the rhomboidal shapes first, thereby forming the pitch of the thread on the ends of the pipe at once. It is also practicable to produce the overlap or pitch z on the pipe, without cutting it into rhomboidal sheets first; thus a square or rectangular sheet of metal is rolled up into the form of a pipe, at the same time the ends $a\ b$ and $c\ d$ are pushed in opposite directions (as shown by the arrows, fig. 1,) until the desired overlap or pitch z is formed, then the seam or rib is made, and the pipe put in the machine, as before, and the thread turned thereon.

I am aware that sheet-metal pipes have been made with threads on their ends, but such pipes have had the planes containing their ends perpendicular to the surface of the pipe, the threads on such pipe being terminated or intersected by these planes, as it were. The effect of this construction has been to leave an awkward edge

or line where two ends of pipe are joined together, which, in my invention, is avoided, by making the end of the pipe of the same configuration with the thread thereof; and in my invention I employ the ends of the pipe, made as herein described, for the purpose of turning a thread on the ends of said pipe.

Claims.

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

1. Cutting sheet metal into rhomboids *a l d m*, for the purpose of making an overlap, *z*, equal to the pitch of a thread, which, after rolling said rhomboidal sheets into pipes, I turn on the ends of said pipes, substantially as herein specified.

2. I claim making sheet-metal piping, the ends of which are parallel to the thread which is turned thereon substantially as herein specified.

Witnesses:
CHAS. MORRILL,
CHAS. E. HORE.

CARL RECHT.