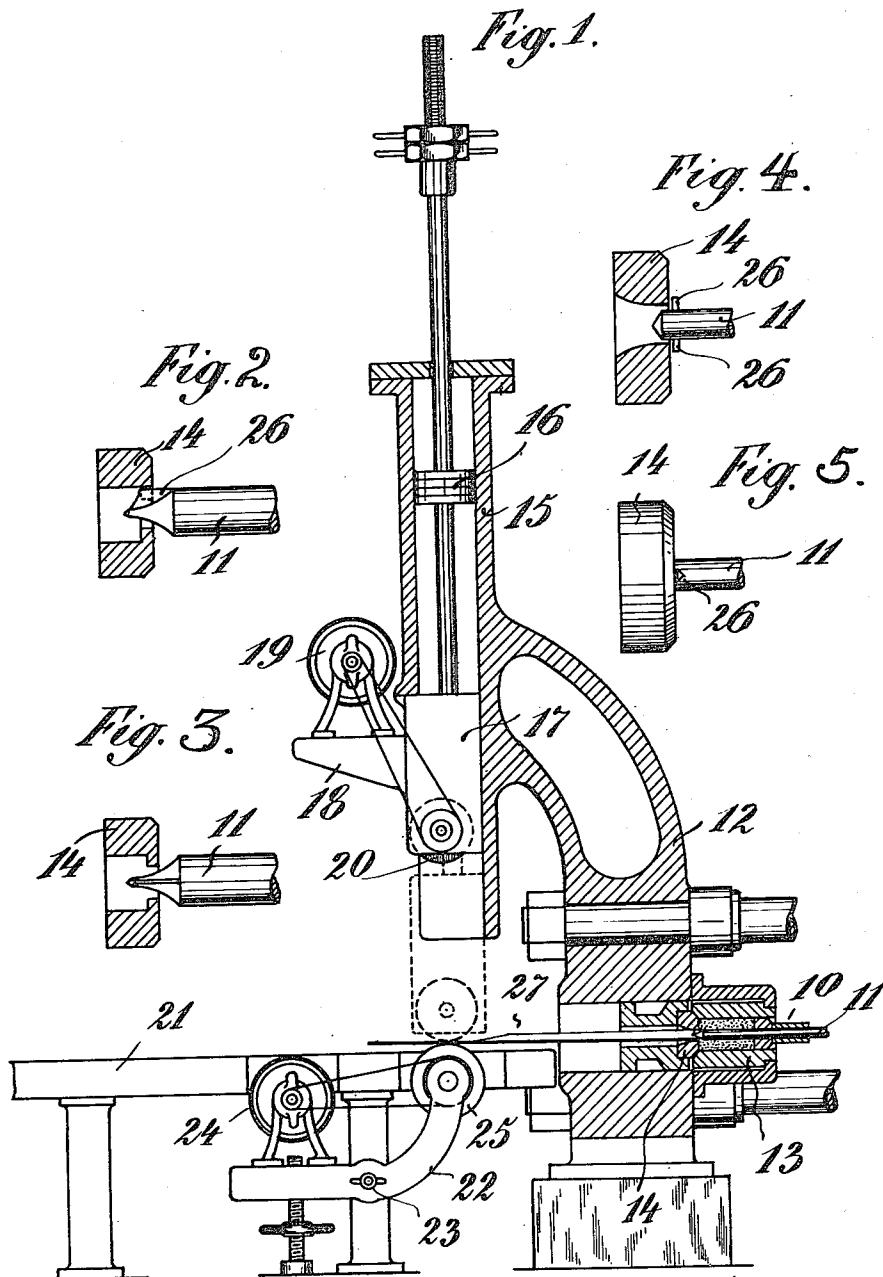


A. SCHWIEGER.
 MANUFACTURE OF PLATES OF SHEET METAL AND BANDS.
 APPLICATION FILED OCT. 15, 1907.

962,058.

Patented June 21, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

ARNOLD SCHWIEGER, OF BERLIN, GERMANY.

MANUFACTURE OF PLATES OF SHEET METAL AND BANDS.

962,058.

Specification of Letters Patent. Patented June 21, 1910.

Application filed October 15, 1907. Serial No. 397,578.

To all whom it may concern:

Be it known that I, ARNOLD SCHWIEGER, engineer, a subject of the German Emperor, and residing at No. 36 Stralauer Allee, Berlin, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in the Manufacture of Plates of Sheet Metal and Bands, of which the following is a specification.

10 This invention relates to improvements in the manufacture of plates of sheet metal and bands.

It consists in first manufacturing from the metal block a pipe and in cutting the same open while it is still in the matrix, or after it has come out, and in spreading or rolling it out into a plate or band. The cutting can be effected by providing the matrix, or the core-bar, with one or several knife-like ribs, or in arranging on the outside, in front of the opening of the matrix, a circular saw. In the first case the pipe formed in the matrix is at once divided by the knife-like ribs, so that it leaves the press as a gutter, which is then spread out by the rollers and uniformly flattened.

25 The present invention relates particularly to the matrix or die element of the machine and is intended as a further improvement over that arrangement which forms the bases of my patents bearing the numbers 861,194 and 878,092.

35 The drawing illustrates a form of construction of the press used in this process, in which—

Figure 1 is a side elevation partly in section; and Figs. 2 to 5 (inclusive) show two different forms of the slitting-knives connected with the core-bar.

40 The driving-gear for the press-stem 10 and the core-bar 11 is omitted in Fig. 1 for the sake of simplicity. The frame 12 is provided with the press-cylinder 13, with the exchangeable matrix 14 and; at the upper end, with a preferably hydraulic cylinder 15, whose piston 16 carries the so-called monkey or rammer. On the rammer is arranged a bracket 18 carrying an electromotor 19, which drives a roller 20 journaled in the fork of the rammer. The rotary movement of the press-roller 20 can thus proceed uniformly

independently of its height, and also at any desired speed.

In front of the opening of the matrix is arranged a press-table 21, in which there is journaled an adjustable arm 22 pivoting on 23, which carries at one end the counter-pressure roller 25 and at the other the motor 24 driving the latter. The matrix 14 may be of the cross-section shown in Figs. 2 and 3 or Fig. 4.

In the form of construction according to Figs. 2 and 3 the core-bar 11 is pointed at its front end and provided with the knife-like rib 26, which preferably partly enters into a cut provided in the matrix in order to make sure that the pipe is properly cut. The deeper the core-bar enters into the wall of the matrix the thinner will be the pipe and the sheet-metal.

70 In the form of construction according to Figs. 4 and 5 the end of the core-bar working in the matrix is cylindrical. On the other hand one or several knives 26 have been inserted which set against the matrix, and in this way cut the pipe. When the pipe 27, after it has been formed and slit, leaves the matrix it runs upon the press-roller 25 and is spread out and pressed by the press-roller 20, which is lowered by means of the driving apparatus 15, 16. As the two rollers 20 and 25 rotate in opposite directions they effect a reliable stretching of the metal. The speed of the rollers depends, of course, on that at which the metal leaves the opening of the matrix.

In the form of construction of the press shown in the drawing electromotors have been provided for driving the press-rollers. They may, of course, be driven in any other way without changing thereby the essential feature of the invention, the two press-rollers may likewise be moved up and down by other means than those mentioned.

95 What I claim as my invention and desire to secure by United States Letters Patent is:—

Apparatus for producing slitted tubes comprising, a cylinder, a press piston operable therein, a matrix disposed adjacent one end of the cylinder, said matrix being provided with a restricted opening there-

through, and a mandrel within the cylinder provided with a tapered end lying within the restricted opening of the matrix, said mandrel having a cutting member mounted
5 thereon adjacent its tapered end adapted to slit the tube as it is expressed through the cylinder by the piston.

The foregoing specification signed at Berlin this 2nd day of October 1907.

ARNOLD SCHWIEGER.

In presence of two witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.