F. M. IRONS.

MACHINE FOR GROOVING SHEET-METAL PIPES.

No. 192,071. Patented June 19, 1877.

Fig. 1.

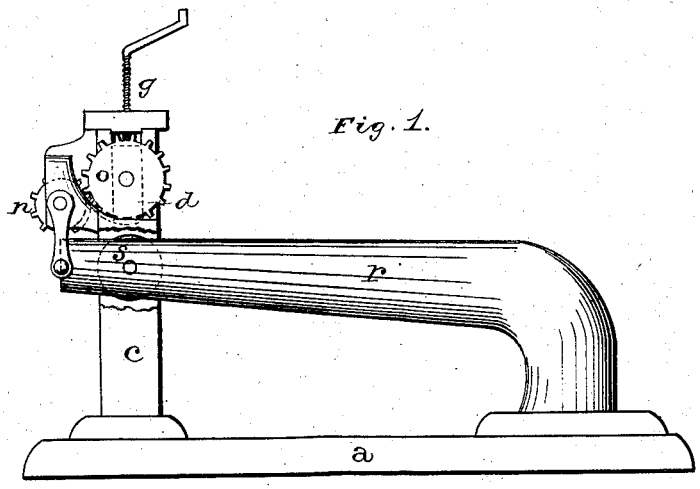


Fig. 2.

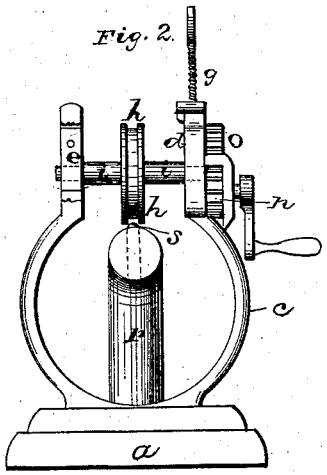


Fig. 3.

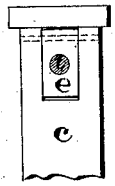
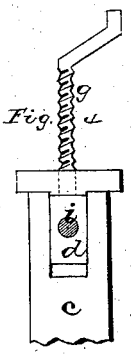


Fig. 4.



WITNESSES.

J. Wm. Garner

W. S. O. Haines

INVENTOR.

Frank M. Irons.

per

F. A. Lehmann,

Atty.

UNITED STATES PATENT OFFICE.

FRANK M. IRONS, OF GREENVILLE, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN H. MILOR, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR GROOVING SHEET-METAL PIPES.

Specification forming part of Letters Patent No. **192,071**, dated June 19, 1877; application filed May 21, 1877.

To all whom it may concern:

Be it known that I, FRANK M. IRONS, of Greenville, in the county of Montcalm and State of Michigan, have invented certain new and useful Improvements in Machines for Grooving Sheet-Metal Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in machines for grooving sheet-metal pipes; and it consists in the arrangement and combination of parts, that will be more fully described hereinafter, whereby sheet-metal pipes of all sizes can be grooved.

The accompanying drawings represent my invention.

a represents the bed-plate of the machine, upon the top of which is placed the frame *c*, either of the form here shown or of any other that may be preferred. Through the top of the two standards which form this frame are made suitable mortises, in which are placed the journal-boxes *d e*. The box *e* is pivoted in its mortise, so as to simply rock back and forth without having any vertical motion, while the box *d* is moved up and down in its mortise by means of the regulating-screw *g*. Journaled in these two boxes is the shaft *i*, which has the large grooved wheel *h* at or near its center, and the gear-wheels *o* upon one end outside of the box *d*. Meshing with this wheel *o* is the driving-pinion *n*, by means of which the shaft *i* is made to revolve. Fastened to the opposite end of the bed-plate *a* from the frame *c* is the long tapering arm *r*, the front end of which passes through between the two standards, and which has the roller *s* journaled in it just under the grooved wheel *h*. This roller has its edge made oval, or of any other shape that may be preferred, so as to force the sheet metal into the groove in the roller. The pipe is passed over the small end of the arm, and that portion which passes between the grooved wheel and the roller will be grooved.

By means of the regulating-screw and the vertically-adjustable box the grooved wheel may be raised and lowered at will, so as to accommodate any sized pipe that may be passed over the arm, and to regulate the depth of the groove.

Having thus described my invention, I claim—

The combination of the arm *r*, having the roller *s* journaled in its end, grooved wheel *h*, shaft *i*, vertically-adjustable box *d*, pivoted box *e*, regulating-screw, and frame *c*, all combined, and arranged to operate substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of May, 1877.

FRANK M. IRONS.

Witnesses:

C. B. PRATT,

J. J. WHITNEY.