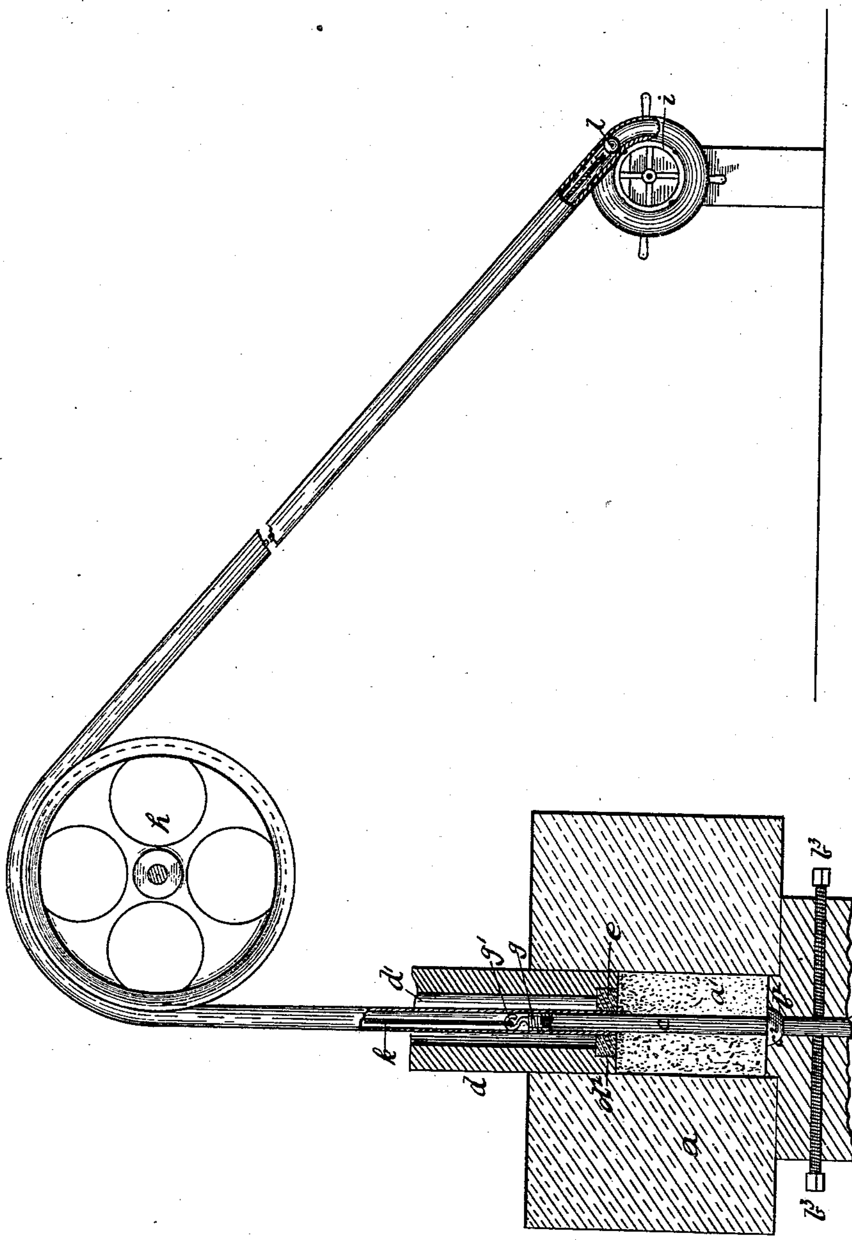
(No Model.)

J. FARRELL.

COILING LEAD PIPE.

No. 278,695. Patented June 5, 1883.



Witnesses.

W. B. Corwin.

Jno. K. Smith

Inventor.

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UNITED STATES PATENT OFFICE.

JOHN FARRELL, OF PITTSBURG, PENNSYLVANIA.

COILING LEAD PIPE.

SPECIFICATION forming part of Letters Patent No. 278,695, dated June 5, 1883.

Application filed February 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN FARRELL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Coiling Lead Pipe; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to apparatus designed to prevent the flattening or distortion of lead pipe produced by winding it upon a reel or drum into bundles or coils for subsequent handling or sale. This winding or coiling is done directly as the pipe leaves the machine by which it is formed. The pipe passes first over a large drum, usually of five or six feet in diameter, and thence to the coiling-drum, which is much smaller in size, being usually about eighteen inches in diameter. The passage over the large drum does not injuriously affect the pipe, because of the large diameter of the drum. The injury is done by the reel, which is necessarily small, in order to give the coil the proper size for handling and sale. I have discovered that if the original shape of the pipe is preserved at the point where it encounters and begins to conform to the shape of the reel it may be safely coiled without further danger of flattening or distortion. To this end, therefore, I have devised my present invention, which I will now illustrate by reference to the accompanying drawing, which is a side elevation, partly in section, of my improved apparatus.

The drawing illustrates parts of a form of press for making lead pipe, in which *a* is the press-cylinder, having a cylindrical lead-chamber, *a'*. This cylinder rests upon a supporting-block, *b*, which has a passage, *b'*, for a core-rod, *c'*, and a concave socket, b^2, for the support of the core. The core *c* has a rod, *c'*, which lies in the passage *b'*, and a rounded or convex shoulder, c^2, which rests in the concave socket b^2. The core is centered by means of adjusting-screws b^3, which extend in from opposite sides of the supporting-block *b*. The plunger *d* has a central bore, *d'*, for the passage of the core *c* and of the pipe as it is forced out of the machine. In the lower end of the plunger is a die-socket, d^2, for the reception of the die *e*, which has a central opening of sufficient size to form an annular passage between it and the core. Either the block *b* or plunger is connected with the ram of a hydraulic or other press, whereby the requisite power or motion is given for forcing the plunger through the chamber *a'*, and thereby causing the lead to exude through the die-opening around the core and forming it into pipe in the usual way.

Beyond the plunger *d* is the large drum or wheel *h* heretofore spoken of, and in any suitable position at the side of the same is the small drum or reel *i*. The pipe after leaving the bore *d'* of the plunger is led around the drum *h* to the reel *i*, upon which it is coiled into the bundles or coils before mentioned. As stated, the effect of such coiling is to cause a flattening or distortion of the pipe, whereby it is reduced from a round to a flattened or elliptical form in cross-section. This distortion is especially injurious to the larger and lighter grades of lead pipe, involves a waste of money and material, and causes more or less trouble in plumbing operations. As before stated, my invention is designed to prevent this distortion.

To the outer end of the core *c*, by means of a screw-plug, *g*, and hook *g'*, or in any other convenient and suitable way, I secure a wire rope or chain, *k*, which is of sufficient length to extend around the large drum *h* and to the point upon the reel *i* where the pipe encounters and begins to bend around the reel. Here I fasten to the rope or chain a ball, *l*, whose external diameter is equal to the internal diameter of the pipe. When, therefore, the pipe passes over the ball at this point, it is prevented from becoming flat or distorted, and its round or original shape is preserved. The subsequent winding upon the reel *i* does not produce any injurious effect upon the pipe, so that I secure a coil of pipe which is perfectly round in cross-section and obviate the difficulty heretofore experienced.

I do not limit myself to making round pipe in this way, but claim the use of the invention for any form which it is desirable to give to the pipe.

I have described the device *l* as a ball. I do not, however, limit myself to the use of a ball, but claim also a mandrel or any other device which, placed at or about the point where the pipe is bent over the reel, prevents or cures the flattening or distortion of the same.

It is not necessary that the pipe should pass directly from the machine to the reel, as it may be drawn out upon the floor and subsequently reeled. In this case the rope or chain *k* would be passed through the pipe and fastened to a post or other stationary object at the rear end of the pipe, and then the latter attached to the reel and drawn over the ball just as described with relation to its use when attached to the core *c*. This use, while perfectly practicable, is not so convenient or economical as that first described

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a press for forming lead pipe and a reel or drum for coiling the same, of a ball or mandrel operating on the interior of the pipe at or about the point where it is bent in reeling or coiling, substantially as and for the purposes described.

2. The combination of a reel or drum for coiling lead pipe with a ball or mandrel operating on the interior of the pipe at or near the point where it is bent in reeling or coiling, substantially as and for the purposes described.

3. The method of preserving the shape of lead pipe during the operation of coiling, consisting in passing the pipe over a suitable ball or mandrel at or about the point where it is bent to conform to the curve of the reel or drum, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 23d day of February, A. D. 1883.

JOHN FARRELL.

Witnesses:
W. B. CORWIN,
T. B. KERR.