

J. P. CULVER.  
Drain and other Pipe.

No. 220,522.

Patented Oct. 14, 1879.

FIG. 1.

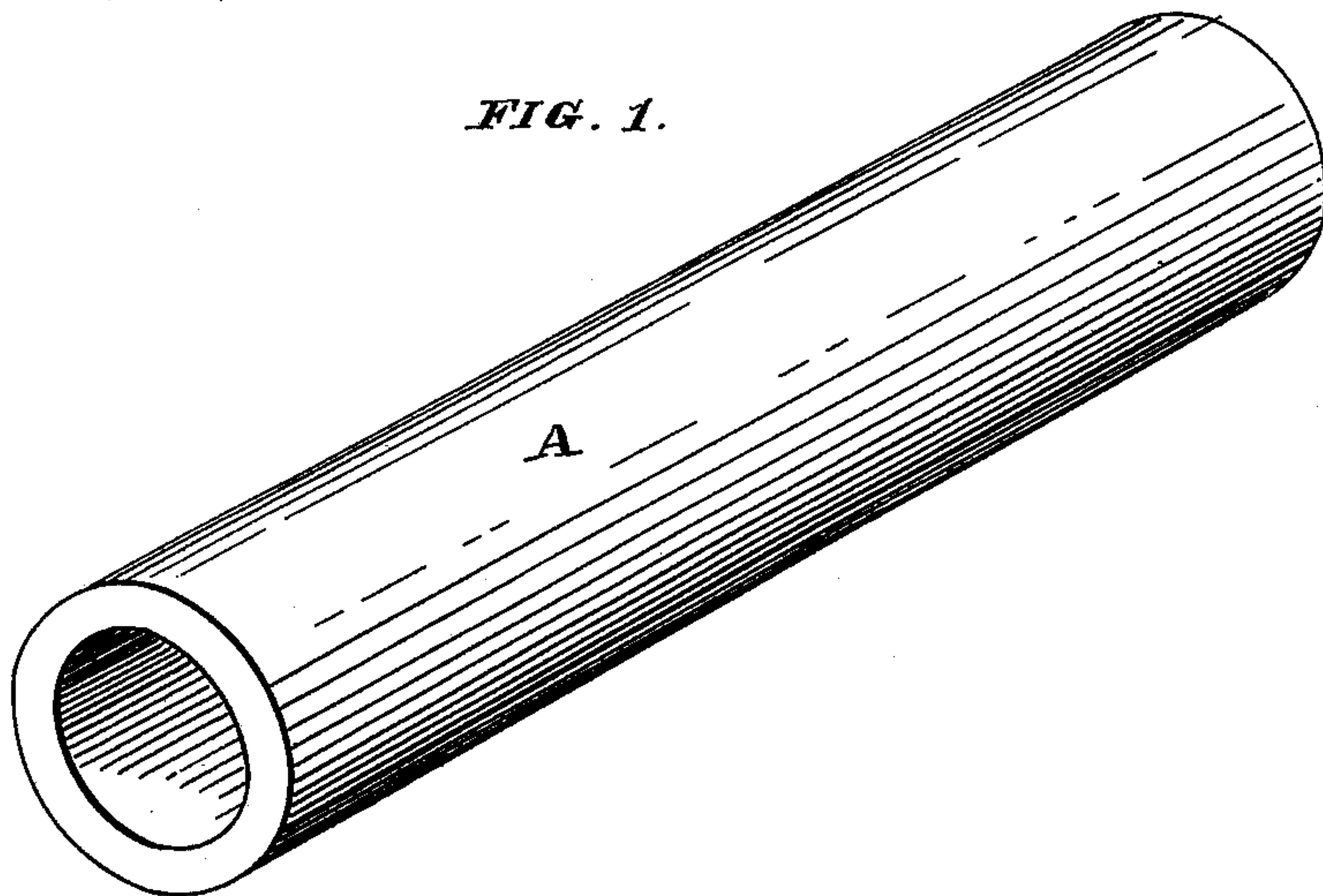
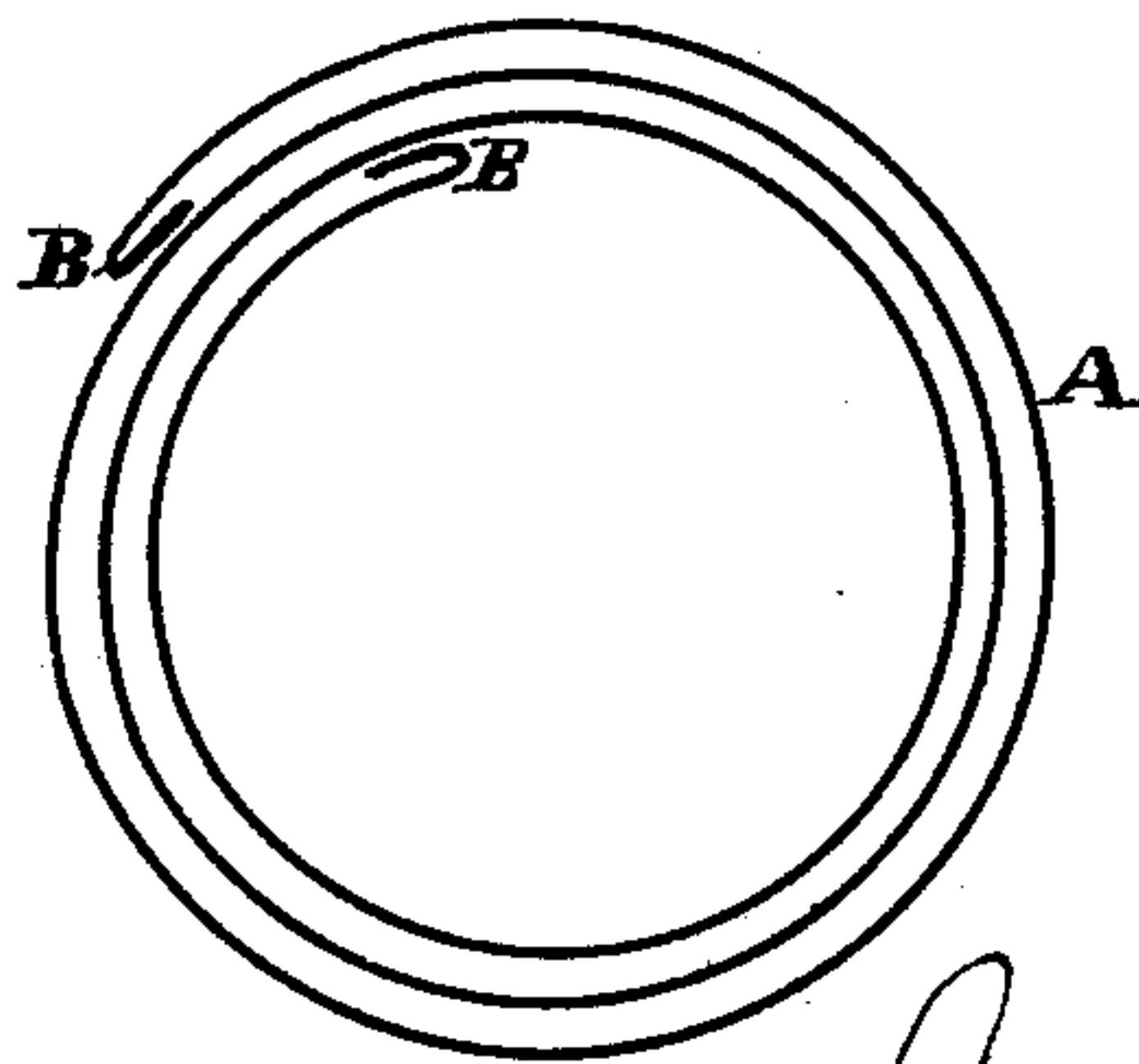


FIG. 2.



WITNESSES

Frank N. Brooks  
Geo. H. Strong.

INVENTOR

John P. Culver  
By Dewey & Co.  
Attys

# UNITED STATES PATENT OFFICE.

JOHN P. CULVER, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN DRAIN AND OTHER PIPES.

Specification forming part of Letters Patent No. **220,522**, dated October 14, 1879; application filed August 11, 1879.

*To all whom it may concern:*

Be it known that I, JOHN P. CULVER, of the city and county of San Francisco, and State of California, have invented an Improved Cement and Asphaltum Pipe; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in that class of pipes which are composed of a volute of sheet metal, having a layer of asphaltum or cement interposed between the folds or coils of the volute; and it consists in the employment of an unperforated sheet of metal having the two opposite edges, which will form the ends of the coil or volute, turned over in a hook form, so that when coiled into a pipe, with the asphaltum or cement intervening, these hooked edges will act as a stop, and prevent the pipe from becoming strained or distorted by reason of the pressure.

In the accompanying drawings, Figure 1 is a view of my improved pipe. Fig. 2 is a transverse section of the pipe.

A is a sheet of metal veneer or other suitable substance for the construction of water-pipe. This sheet is coiled or bent so as to form one or more turns, and between the coils, as they are being formed, melted or plastic asphaltum or cement is poured, so that a double coil of rigid and plastic or preservative material is formed.

It has been customary to perforate the sheet of metal and form burrs upon it, so that the asphaltum would pass through the openings, and thus bind the parts together to prevent the pipe from unrolling.

I have found that when pipes constructed in this manner are subjected to great inte-

rior pressure of the water they will leak through these holes, and it is therefore necessary to make the sheets composing the pipe solid and continuous.

In order to give these sheets the necessary power to resist pressure and the tendency to draw out or become uncoiled by the strain, I bend the edges of the sheets, as shown at B, so as to form a sort of hook. The sheet is then coiled up with the intervening layer of cement or asphaltum, and the inner hooked or bent edge will be curved into the first layer of asphaltum. The outer curved edge will be curved inward, as shown, so as to be embedded in the layer within it. These curved or hooked edges will thus, by their hold upon the cement or asphaltum, prevent the pipe from spreading or bulging under any pressure to which it may be submitted, and I am thus enabled to make it without holes or perforations of any kind.

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

The improvement in pipes consisting in winding or coiling a sheet of metal, A, with an intermediate or alternating layer of asphaltum, cement, or plastic substance, said sheets having their edges curved or formed as shown at B, and which are embedded in the cement, whereby a bond is formed to resist the pressure, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN P. CULVER.

Witnesses:

GEO. H. STRONG,  
FRANK A. BROOKS.