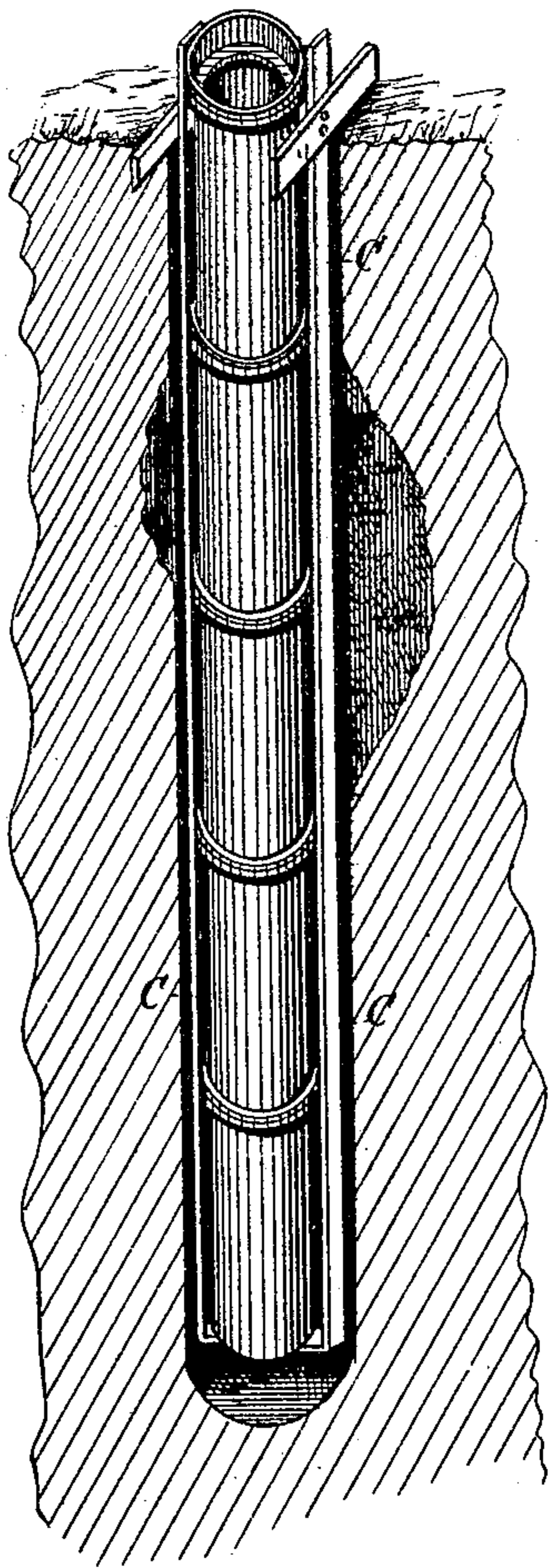


D. L. NEWCOMB.  
METHOD OF TUBING WELLS.

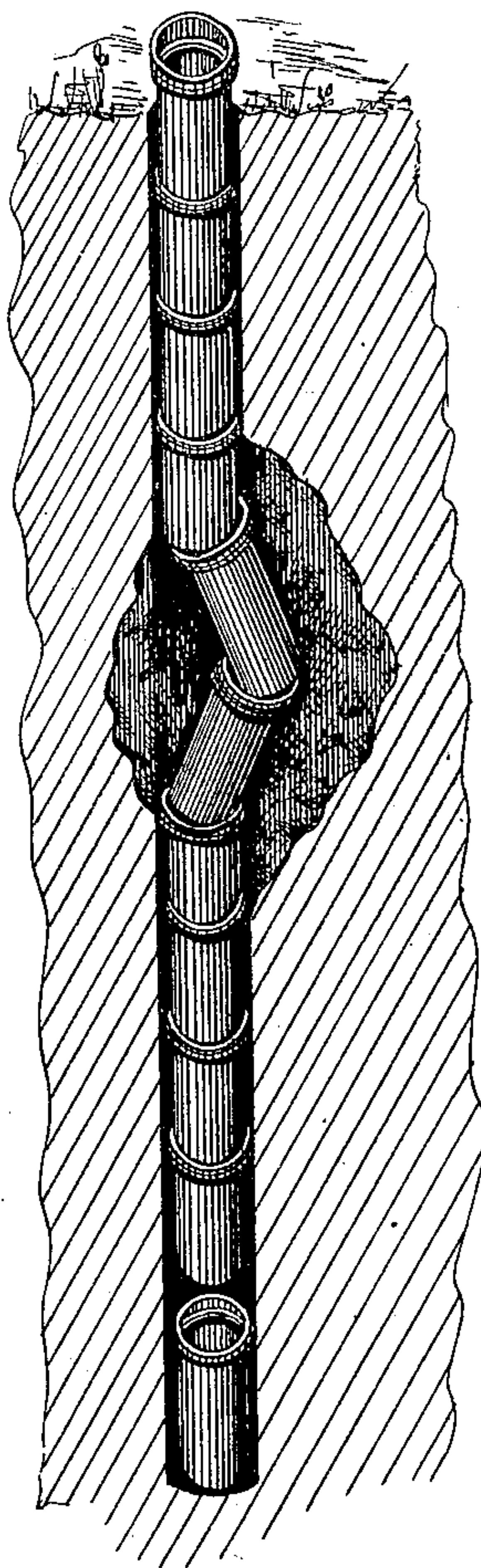
No. 178,549.

Patented June 13, 1876.

*Fig. 1.*



*Fig. 2.*



Witnesses  
*Chas. Jacobsen*  
*Henri Guillaume*

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att'y.



# UNITED STATES PATENT OFFICE.

DAVID L. NEWCOMB, OF KENTON, OHIO.

## IMPROVEMENT IN METHODS OF TUBING WELLS.

Specification forming part of Letters Patent No. **178,549**, dated June 13, 1876; application filed November 22, 1875.

*To all whom it may concern:*

Be it known that I, DAVID L. NEWCOMB, of Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in a Method or Process in Lining or Tubing Wells, of which the following is a specification:

My invention has for its object certain new and useful improvements in the method of or process in lining or tubing wells from top downward, for which Letters Patent were granted to me January 5, 1875; and consists, first, in suspending the tile, sewer-pipe, or other tubing in the bore of the well between two strips of wood, or metal, iron rods, or wire, or a series of such, firmly spliced or connected together, whereby such tile, sewer-pipe, or other tubing is supported during the process of tubing, in such manner that one tile, pipe, or other tubing may be cemented, or otherwise fastened to the one preceding, and lowered into the bore as the tiles are added, thereby obviating the danger of the tubing becoming displaced, or bulge, or break joints, and tumble over during the process of lowering, said displacement, bulging, or breaking joint being caused by the formation of cavities along the line of bore from the caving in of the earth; secondly, my invention consists in permanently suspending the whole series of tubing into the bore of the well after such tubing has been completed, so that the column shall not rest on the bottom of the bore, but shall be suspended at any desired or required distance therefrom, thereby obviating the sinking or settling of said column of tubing, or a part thereof, through the vein of water, and thus cut off the supply; thirdly, the invention consists in suspending the entire column of tubing permanently in the bore of the well after such has been completed to prevent the column of tubing from parting at some of its joints through the settling thereof, or bulging and tumbling over into any cavities that may be formed along the bore of the well from the caving in of the earth.

In the accompanying drawings, Figure 1 is a vertical section of the bore of the well tubed according to my invention, and Fig. 2 is a similar view of a well tubed in the usual manner, showing the defects thereof.

The means for lowering the sections of tile, sewer-pipe, or other tubing into the bore of the well, and the manner of arranging the strips of wood, metal, iron rods, wire, or similar devices to the supporting mechanism have been fully described in the specification forming a part of the Letters Patent above mentioned, and consist in a cross-bar, yoke, or bail, provided with a suitable casing, in which the strips of wood, metal, iron rods, or wire are made fast by a set-screw, key, or wedge, said yoke or its equivalent being suspended from a suitable scaffolding by a rope traveling over a pulley. The strips of wood, metal, or their equivalent, are of a length equal to the depth of the bore, or sections of such may be firmly spliced or connected together in any approved or preferred manner, if the depth of the well is such as to preclude the use of a single pair of strips. The lower end of one pair of these supporting devices has a rectangular projection formed in any preferred manner, forming a rest or seat, upon which the first section of tile or other tubing rests, and is then lowered into the bore until its upper face is flush, or nearly so, with the top of the bore, when another section is added by cementing, or otherwise firmly connecting it to the first, and the two lowered, and a third one placed thereon, and so on continuously until the tubing has reached the desired depth, additional strips being added as required during the progress of the work, should the well be of such a depth as to require several pairs of such strips. When the tubing has reached to near the bottom of the bore, or to such a distance as to be above the vein of water, the column of tubing is permanently suspended in the bore by affixing or attaching the supporting devices to any convenient or preferred device to hold the column in suspension. For economy, I employ a pair of bars laid transversely across the mouth of the bore, as shown by the drawings, to which the column of tubing is made fast by attaching the supporting devices to the transverse bars in any effective or convenient manner; but any other means to support the column of tubing suspended in the bore may be employed. It is evident that when the column of tubing is so suspended in the bore, the settling thereof, or



of any part thereof, and the consequent breaking of the joints, and shutting off the supply of water, or the bulging or tumbling over of any portion of said column into cavities formed along the bore by the caving in of the earth are effectually prevented.

The strain on the supporting devices caused by the weight of the column of tubing is, soon after the well is completely tubed, entirely relieved by the settling around the column of the earth, and thus holds the column of tubing permanently in the desired position.

When wire is used instead of rigid strips or rods, the former may be reeled off a suitable drum or reel placed across the mouth of the bore in such manner as to give the necessary room for cementing the sections on top of each other as they are lowered in the bore, and in this case the reel is provided with suitable stopping mechanism to hold the tubing in suspension during the process of cementing.

Having described my invention, what I claim is—

The method or process of tubing or lining wells, consisting, first, in temporarily suspending in the bore or shaft of a well previously excavated the sections of tile, sewer-pipe, or other lining between two strips of metal, wood, or their equivalent, or a series of such during the process of tubing, and then permanently suspending the column of tubing or other lining in the bore or shaft between said supporting devices, or a series of such, in the manner and for the purposes substantially as described.

In witness that I claim the foregoing I have hereunto set my hand and seal this 25th day of October, 1875.

DAVID L. NEWCOMB. [L. S.]

Witnesses:

L. McKENNA,

CHAS. KAUFMANN.