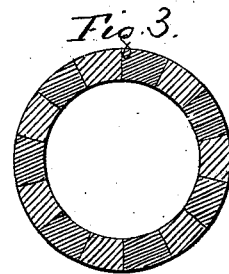
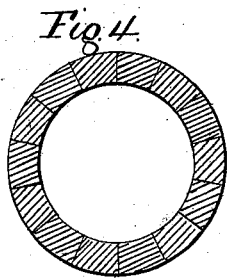
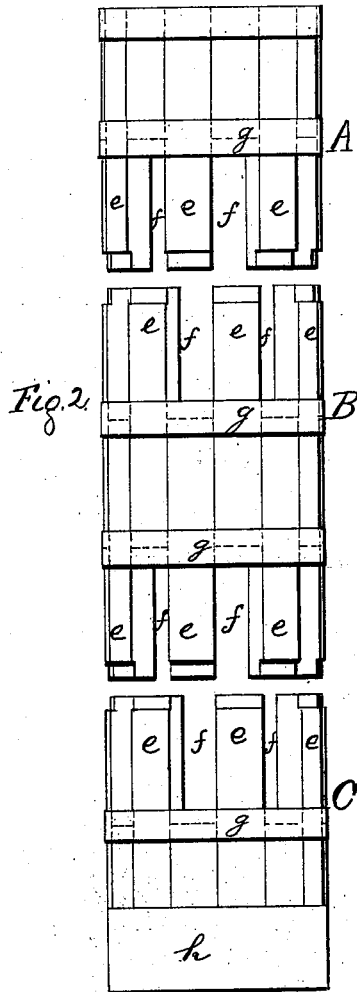
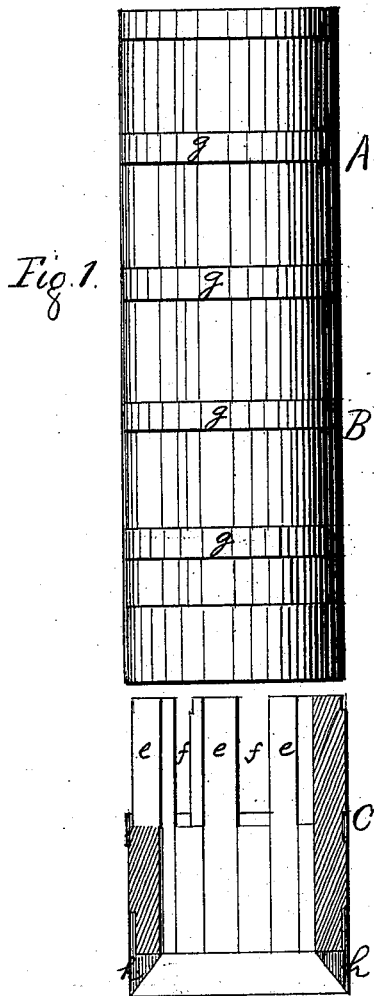


J. P. NAAS.
 Wooden Well-Curbing.

No. 209,976.

Patented Nov. 19, 1878.



Witnesses
 W. F. Clark
 D. B. Lawler.

Inventor
 John P. Naas
 by Jno L. Boone
 Atty

UNITED STATES PATENT OFFICE.

JOHN P. NAAS, OF SAN JOSÉ, CALIFORNIA.

IMPROVEMENT IN WOODEN WELL-CURBING.

Specification forming part of Letters Patent No. **209,976**, dated November 19, 1878; application filed May 31, 1878.

To all whom it may concern:

Be it known that I, JOHN P. NAAS, of San José, county of Santa Clara, in the State of California, have invented an Improved Wooden Well-Curbing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to certain drawings forming a part of this specification.

My invention has reference to wooden well-curbs, such as are used for curbing bored wells by being forced down into the bore or well-hole behind the auger; and it relates to an improved manner of constructing the pipe or curb sections, so that they can be connected together strongly and form a tube of great rigidity, without any outside joint-fastenings or other projections to interfere with the free passage of the tube into the hole.

My improved wooden well-curb is made in a cylindrical form, and the sections are made of staves, which are properly banded together with hoops. Each alternate staff projects at one end of each section, and the intermediate staves project at the opposite end, so that the extensions at one end will interlock with, fit into, and slide between the extensions of the next section, thus forming a pipe of great strength, having a uniform exterior and interior, all as hereinafter more fully described.

Referring to the accompanying drawings, Figure 1 is an elevation of the curb. Fig. 2 is an elevation of the curb, showing the parts detached. Figs. 3 and 4 are sections.

In the present instance I have represented three sections, A B C, of which the middle section, B, represents all of the sections of a well-curb except the upper and lower sections. A represents the top section, and C the lowermost section.

I will first describe the middle section, B, it being understood that any number of these sections can be connected together to form the main length of the curb.

Each section is made of staves, which are all of a uniform length; but each alternate staff is made to project at one end of the section, while the intermediate staves are made to project at the opposite end, so as to form al-

ternate projecting fingers or staves *e* and spaces *f* between them, at both ends of each section.

The edges of all the staves are beveled like ordinary barrel-staves, only they are straight instead of bulging, so that they form a perfectly straight cylinder when put together. A hoop, *g*, is tightly banded around the section at the bases of the extensions at each end, and these hoops project above the bases of the spaces, as shown.

To unite two sections, the extensions *e* at one end of one section are entered into the spaces *f* at one end of the next section, and the two are then pushed together until the extensions of one section slide into and fill the spaces of the other section, thus solidly interlocking the two.

The ends of the extensions *e* are rabbeted on their outer extremities, so that the rabbeted portion passes under the projecting edge of the hoop, thus covering and concealing the joints. As many of these sections can be used as desired, according to the length of the curve or tube to be made.

The lowermost section, C, has no extensions *e* on its lower end; but it is cut square off, and a circular metallic cutting-rim or end piece, *h*, is secured upon it, the inside of which is beveled to a sharp edge, as shown. The upper end of the uppermost or finishing section, A, is also cut square off, as shown, so that a perfectly smooth upper end is formed.

I am thus able to construct and use wooden well-curbings with great facility and advantage. It makes a more desirable lining for wells than metal, and is equally as convenient to put down.

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

1. A wooden well curb or tube composed of sections A B C, each section being composed of staves so arranged that alternate staves project at opposite ends, thus forming alternate extensions *e* and spaces *f* at each end of the sections, said sections being banded by hoops *g*, which project over the bases of the spaces, and the extensions *e* being rabbeted to fit under the projecting edges of the hoops,

all combined and arranged to operate substantially as above specified.

2. In combination with the lowermost of a series of interlocking sections of a wooden well-curb, as described, the attached metallic rim or edge *h*, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal.

JOHN P. NAAS. [L. S.]

Witnesses:

J. H. BLOOD,
CHARLES D. COLE.