(No Model.)

W. H. WILLISCRAFT.

WELL CRIB.

No. 400,155. Patented Mar. 26, 1889.

Fig I.

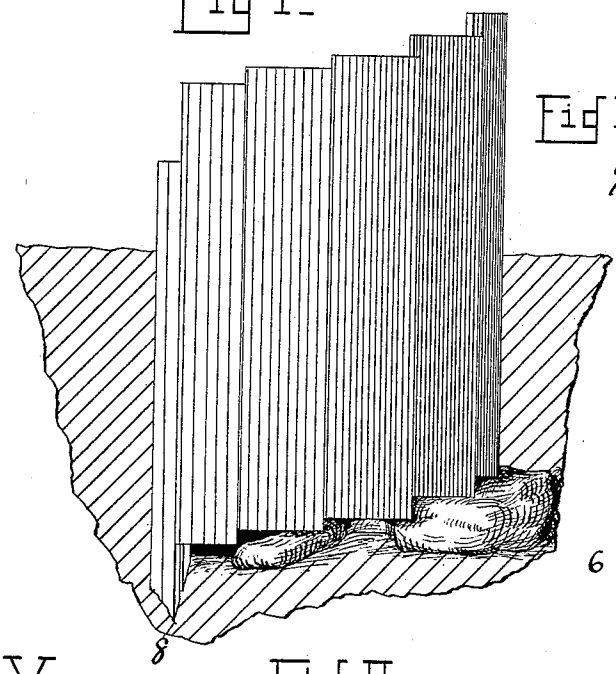


Fig III. Fig IV.

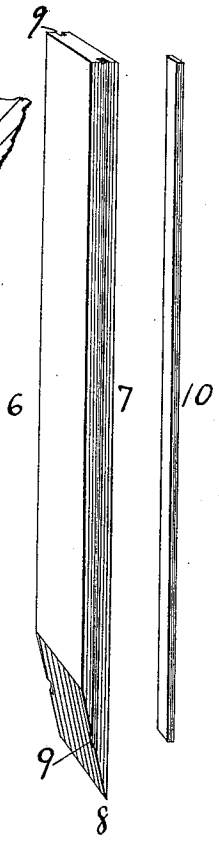


Fig V.

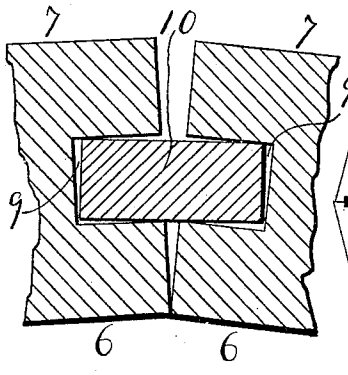
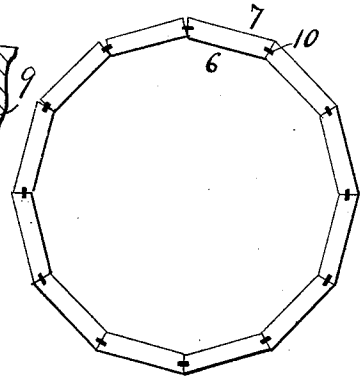


Fig II.



Witnesses
S. E. E. Stevens.
P. E. Stevens.

Inventor
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By his Attorney W. E. Stevens

UNITED STATES PATENT OFFICE.

WILLIAM H. WILLISCRAFT, OF JUNIPER, ARIZONA TERRITORY.

WELL-CRIB.

SPECIFICATION forming part of Letters Patent No. 400,155, dated March 26, 1889.

Application filed June 20, 1888. Serial No. 277,622. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILLISCRAFT, a citizen of the United States, residing at Juniper, in the county of Yavapai and Territory of Arizona, have invented certain new and useful Improvements in Well-Cribs; 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 appertains to make and use the same.

This invention relates to well-cribs of that class used to keep quicksand, gravel, and mud from running into the well from the surrounding earth when such obstacles are met with in the process of digging wells.

It frequently occurs in digging wells that a rock or hard-pan is met with at one side of the well, while quicksand, gravel, or mud may be found at other sides. When cribs secured together to move downward bodily as one piece meet such hard-pan or rock, the mud, quicksand, or gravel may work under the opposite side of the crib and prevent work on the rock to remove it. Therefore the object of my invention is to adapt a crib to be settled down unevenly or part at a time, as may be required, so that the side of the crib over the mud, &c., may be driven into the mud deep enough to prevent its flowing into the well while other work is being done.

To this end my invention consists of a well-crib made of loose staves movably joined at their edges, as hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a side elevation of my well-crib in service, the earth being shown partly in vertical section. Fig. II is a plan view of the crib. Fig. III is a perspective view of a single stave of the same, and Fig. IV is a perspective view of the removable tongue. Fig. V is a horizontal section of portions of two full-sized staves and the tongue-strip at their juncture.

6 represents the inner side of one of the staves of my crib; 7, the outer face, and 8 the lower end, which I prefer to have sharpened by cutting the slant wholly on the inner side, in order that it may work the dirt which it displaces into the well for removal.

If it is known from the beginning that the ground contains quicksand, these staves may be driven with their cutting-edges at the inner face, in order to force the sand outward and compact it as much as possible around the crib.

The stave is grooved in each edge 9 to receive a tongue-strip, 10, whereby each stave aids the adjacent ones to maintain their proper positions, and when a series of these staves and tongues are joined in a cylindrical form they constitute my well-crib. Planks two inches thick and about eight inches wide are suitable to form the staves, and any number of staves may be used that are required to form a crib of the desired size. It is common to dig a well down to the quicksand or other obstacle and then to put in a complete crib. I proceed in the same manner, except that my crib may be put in place one stave at a time. Then the staves may be driven down one at a time, as the judgment of the operator shall dictate. Should it be desired to start the well in a soft or muddy spot of earth, the crib may be formed on the spot and hoops or ropes temporarily placed around it to keep the staves together until they shall have been driven deep enough into the ground to be held upright thereby. Staves provided each with a tongue projecting at one edge and a groove in the other edge are objectionable for three causes: First, it is a waste of the planks to cut away and leave the tongue standing in the center of its edge; and, second, such tongues are likely to be broken off in rough usage, or to be so jammed out of shape as to prevent a close joint of the staves, and such staves are not reversible side for side and end for end, as mine are, and, furthermore, the tongues when made in strips may be put in in short pieces.

I have devised special means for driving the staves and means for protecting their heads from being jammed out of shape by the hammer, which are the subjects of other applications for patents.

I am aware that planks have before been grooved in both edges and joined by means of tongues and grooves in plane forms and also in cylindrical forms. The latter have been used as water-pipes, called "penstocks;"

but they are always closely hooped and the staves are not free to slide endwise independently of each other, as in my well-crib.

I am also aware that planks have been sharpened at one end and driven into the earth singly and in groups, as the case required, to stop the flow of water, &c.; but I am not aware that such planks have ever before been grouped together in cylindrical form, and yet each left free to be driven independently of its neighbor, as the staves of a well-crib.

When the full length of the staves of one crib are doing service, another crib may be started close within it and be settled down a stave at a time, as required. Sometimes it may become necessary to place hoops inside the crib, and in order to support such hoops they may be fastened to two or more staves, provided they do not interfere with the staves being driven independently of each other.

Having thus fully described my invention, what I desire to secure by Letters Patent is the following:

The combination, in a well-crib, of a series of staves made wedge-shaped in their thickness at one end, the edge of the wedge being at one face of the stave, the two edges similarly grooved, and a tongue-strip adapted to loosely fit the grooves, substantially as shown and described, whereby the staves are interchangeable and reversible and may each be driven independently of the others.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. WILLISCRAFT.

Witnesses:
WM. H. MCGREW,
O. LINCOLN.