

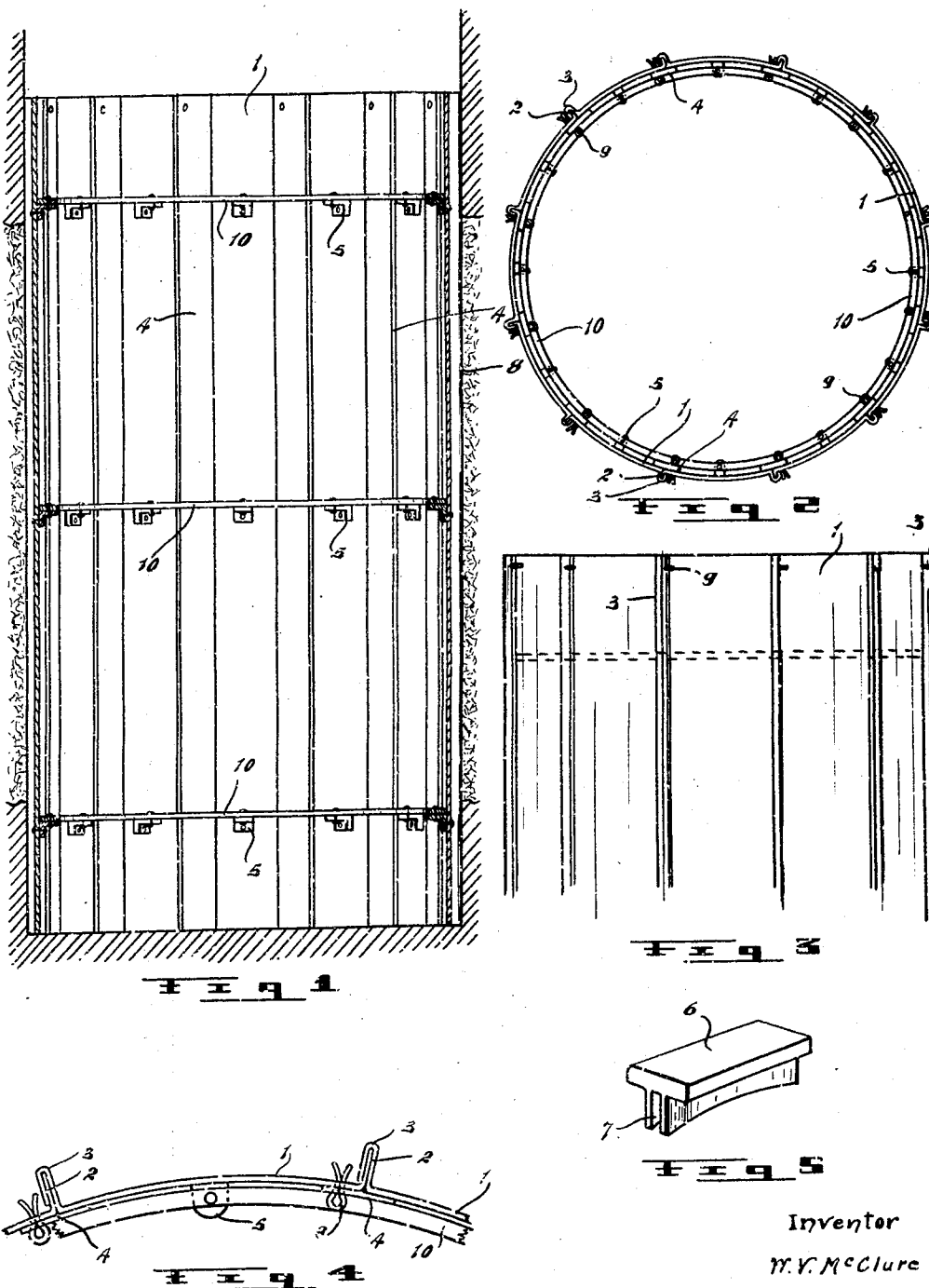
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WELL CRIB

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WELL CRIB.

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This invention relates to improvements in well cribs, and particularly to a sectional crib for use where quick sand is encountered when sinking a well and an object of the invention is to provide a crib constructed from a plurality of similar interchangeable sections which can be readily assembled and separately driven within the well, the completed crib excluding the quicksand from the well and being effectively reinforced to hold the weight of the dirt.

With the above more important objects in view the invention consists essentially in the arrangement and constructions of parts hereinafter more particularly described, reference being had to the accompanying drawing in which:

Fig. 1 is a vertical sectional view through a portion of the well showing my crib in place.

Fig. 2 is a plan view of the crib.

Fig. 3 is an exterior view of a portion of the crib.

Fig. 4 is an enlarged detailed plan view of several sections of the crib.

Fig. 5 is a perspective view of the driving block.

In the drawing like characters of reference indicate corresponding parts in the several figures.

It is well known considerable difficulty is experienced when quicksand is encountered in well digging, as it is difficult to effectively crib the well to exclude quicksand. I have found it impossible to drive the completed crib through the quicksand and accordingly I have invented a sectional crib hereinafter described, each section or stave of the crib being separately driven through the sand and being connected to the preceding driven stave.

The completed crib is of circular form and the staves thereof can be of varying width and length, ranging say from twelve to eighteen inches wide and from say six to twelve feet long. As the staves forming the crib are all similar it is only necessary to describe one of them.

Each stave 1 is formed from a long, narrow strip of comparatively heavy gage sheet metal and the body of the strip is bent or curved concentric to a centre point, the radius of curvature being approximately equal to the radius of the well in which it is to be sunk. One edge of each stave is provided with an outstanding tongue 2 and the

other edge thereof is bent to provide a channel or groove 3 which is adapted to slidably receive the tongue of the next or adjoining stave. The channel carrying edge of the stave is provided on the inner side with a vertically disposed keeper plate 4 which extends full length of the stave, is permanently fastened as by spot welding thereto and has one edge projecting beyond the channel bearing edge of the stave.

A plurality of ledges or angle brackets 5 are secured to the inner side of each stave, the lowermost bracket being positioned sufficiently well up from the lower end of the stave so that it will not interfere in any way with the driving of the stave. The brackets are similarly positioned on all staves.

A driving block 6 is provided, the block being fitted on the lower side with a curved channel 7, which is adapted to receive the upper end of each stave as it is applied thereon.

When one is digging a well and encounters quicksand 8 he first determines the depth of the quicksand and then selects the length of stave required. He then assembles the staves to form a crib, the tongues being entered into the channels. The staves are then driven down into the quicksand in rotation, the driving block being utilized to prevent the driving sledger from damaging the upper edges of the staves. Each stave can be separately driven primarily to a depth of two or three feet. All the staves having been driven to this latter depth one then cleans out the sand within the crib and proceeds with further driving of the staves in the same manner as hereinbefore described and again cleans out the quicksand within the crib. This alternate driving of the staves and cleaning out of the quicksand is continued until the lower ends of the staves have been driven into solid ground. The crib is left in the well and will effectively shut out the quicksand, it being understood that the upper end of the crib is above the level of the quicksand.

In order to facilitate the lowering of the assembled crib into the well I have provided adjacent staves towards the upper ends with registering openings and cotter pins 9 are provided, the cotter pins being passed through the openings to hold the staves together. The cotter pins pass through the plates 4 and the tongued edges of the staves.

After the crib is lowered into the well these cotter pins are withdrawn to allow the driving of the staves. The inserted crib is reinforced by inserting reinforcing rings 10, within the crib, these rings lying in horizontal position on the brackets 5 carried by the staves.

It is possible also to sink two cribs in a well, a crib of a large diameter being primarily used and then one of smaller diameter, which would be inserted through the large crib.

What I claim as my invention is:—

A circular well crib comprising a plurality of similar, interchangeable, metallic staves

concentrically arranged, each stave having one of the vertical edges thereof provided with an outstanding laterally disposed tongue and the other of the vertical edges thereof provided with a vertical extending channel complementary to the tongue and adapted to receive the tongue of the adjoining stave and lengthwise extending keeper plates permanently secured to the inner sides of the channel carrying edges of the staves and overlying the inner faces of the adjacent tongue carrying edges of the staves.

Signed at Melita, Manitoba, this 17th day of June, 1925.

WILLIAM VANCE McCLURE.