

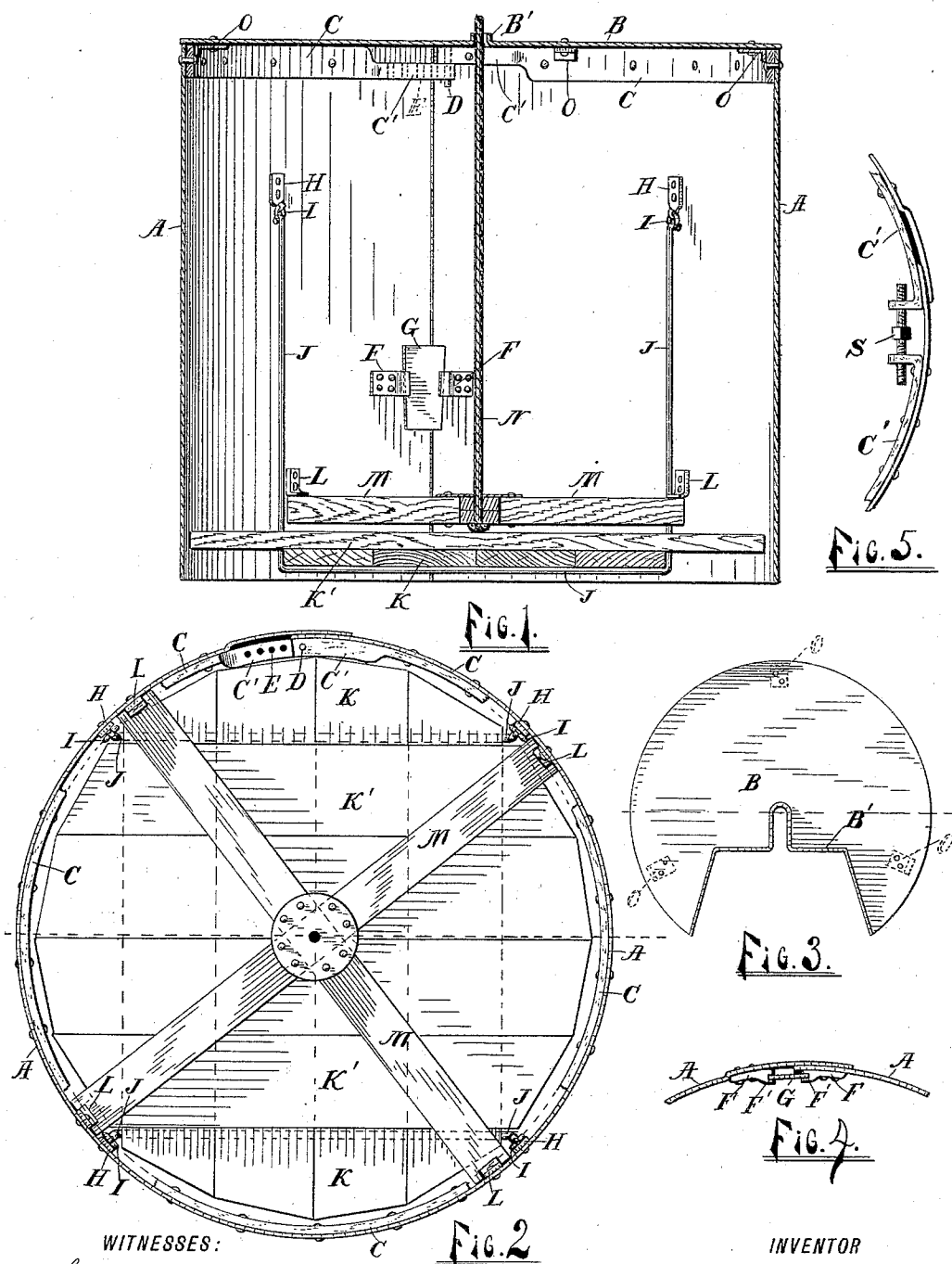
(No Model.)

W. H. H. DAVIS.

DEVICE FOR CEMENTING WELLS AND CISTERNS.

No. 473,828.

Patented Apr. 26, 1892.



WITNESSES:

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DEVICE FOR CEMENTING WELLS AND CISTERNS.

SPECIFICATION forming part of Letters Patent No. 473,828, dated April 26, 1892.

Application filed July 23, 1891. Serial No. 400,426. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. H. DAVIS, a citizen of the United States, residing at Oakfield, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Devices for Cementing Wells and Cisterns; 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.

The nature of my invention consists in improvements in the construction of the cylinder described in my patent, No. 248,922, of November 1, 1881, by which it is more easily controlled and adjusted to the work to be done and more especially adapted for the ease and convenience of the workman operating the same. These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the cylinder. Fig. 2 is a plan view of the same with its cover removed. Fig. 3 is a plan view of its cover. Fig. 4 is a detail view of the wedge-blocks, and Fig. 5 is a detail view of a modified device for fastening the cylinder-band.

The main difference between this cylinder and the one described in my above-named patent of November 1, 1881, consists, first, in the manner of raising the same with the cross-bars attached below the center of the cylinder, thus enabling the operator to more easily step over the same; second, in the construction of a top cover in such a manner that the workman can stand on the platform below and at the same time have the mortar at the top of the cylinder on the cover convenient for use; third, in supporting a platform or bottom cover by means of bails instead of on a bottom run or band, and, fourth, in adjusting the run of the cylinder (the top end) by means of the holes and pin in the ends of the band and the lower end by means of wedge and block attachments.

The shell or forming-cylinder A is usually made about thirty inches in diameter and about the same height of about No. 16 sheet metal, coiled with the edges lapping about six inches, which stiffens the cylinder at the joint and prevents too much spring while tamping down the mortar. It is provided with the ex-

tensible and reducible top band C, firmly riveted to the cylinder, except about eight inches of one end, which allows the inside lapping edge of the cylinder to slide between the band and the outside shell and is held in this smaller diameter by means of the pin D and holes E when it is necessary to lower or raise the same through a part of the wall of the well that is already completed, as is sometimes the case when wells have to be deepened by reason of the water failing.

The main use of the cover B is for a mortar-board. It is provided with stays O, fitting firmly against the band C, thus holding the cover to its place. One side of the cover is cut out to provide an opening large enough for the operator to stand on the platform near the bottom of the cylinder, in which position he can place the mortar and remove the outside curbing much more conveniently than can be done with a cylinder having a full top cover or only a bottom cover. This cut-away portion of the cover B is provided with flanged edges B', whereby that portion of the cover is strengthened. This flange B' also does away with a sharp edge of the cover that would otherwise be in contact with the operator, and besides it forms an elevated band or rim to keep the mortar in place.

To the inside of the cylinder A are riveted four hangers H, to which are attached the rings I, that support the bails J, and the platform-boards K and K', on which the operator stands. This platform is suspended near the bottom of the cylinder A and is of a little smaller diameter, so as not to bind against the cylinder.

The platform K K' may be suspended from the cross-bars, as in my patent, No. 371,039, of October 4, 1887, or even placed on the top of the cross-bars; but such construction leaves no support for the operator when the cross-bars are removed.

The four lugs L L are riveted to the cylinder A above the platform-boards, under which the double cross-bars M M are placed for the purpose of raising the cylinder by means of the rope N during the operation of cementing, and also forming four points of draft on the cylinder A.

The wedge-blocks F and the wedge or key G are to regulate the pressure of the cylinder

A to the grout wall of the well and are similar to those described in my patent, No. 371,039, with the improvement of the groove F' in the center of the acting face of each block F, which firmly holds the wedge G to its place and prevents it from prying the wedge-blocks from the cylinder A, as sometimes happens when the wedge is driven directly in contact with the cylinder.

10 The extensible and reducible band C, while it forms a stiffening-band for the top of the cylinder A, is for the purpose of holding the cylinder at a smaller diameter while raising or lowering it through the completed wall of the well, and also, in combination with the wedge G and grooved blocks F, to adjust the pressure of the cylinder to the work to be done, which in practice is usually at the largest diameter of the band C. This cylinder-band C
15 can be made adjustable by means of a double set-screw S, with right and left threads operating through the inner projecting end C' of the band, as represented in Fig. 5; but the bands provided with the pin D and holes E
20 are more easily constructed and operated than by means of set-screws, as last described.

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

30 1. The combination, with a forming-cylinder for use in cementing wells and cisterns, of a partial top cover having a cut-away portion, substantially as and for the purpose described.

2. The combination, with the forming-cylinder A, of the partial top cover B, having a cut-away portion provided with flanged edges B', substantially as described.

3. The combination, with the forming-cylinder A, having an extensible and reducible top band C, of the partial top cover B, having stays O and a cut-away portion provided with flanged edges B', substantially as described. 40

4. The combination, with the forming-cylinder A, of the extensible and reducible top band C, the wedge-blocks F, secured in the lower portion of the cylinder and having grooves F' in the center of the acting faces of said blocks, and the wedge G, engaged in said grooves but out of contact with the cylinder, substantially as described. 45 50

5. The combination, with the forming-cylinder A, of the hangers H, secured to the inside of the cylinder, the bails J, suspended from said hangers, and a platform supported by the bails, substantially as described. 55

6. The combination, with the forming-cylinder A, of the partial top cover B, the bails J, suspended in said cylinder, and the platform K K', supported by said bails, substantially as described. 60

7. The combination, with the forming-cylinder A, having an extensible and reducible top band C, grooved wedge-blocks F, and wedge G, of the partial top cover B, the hangers H, secured to the inside of the cylinder, the bails J, suspended from said hangers, and a platform supported by said bails, substantially as described. 65

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

WILLIAM H. H. DAVIS.

Witnesses:

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