(No Model.)

C. L. WOLFF.

Centering Apparatus.

No. 230,384. Patented July 20, 1880.

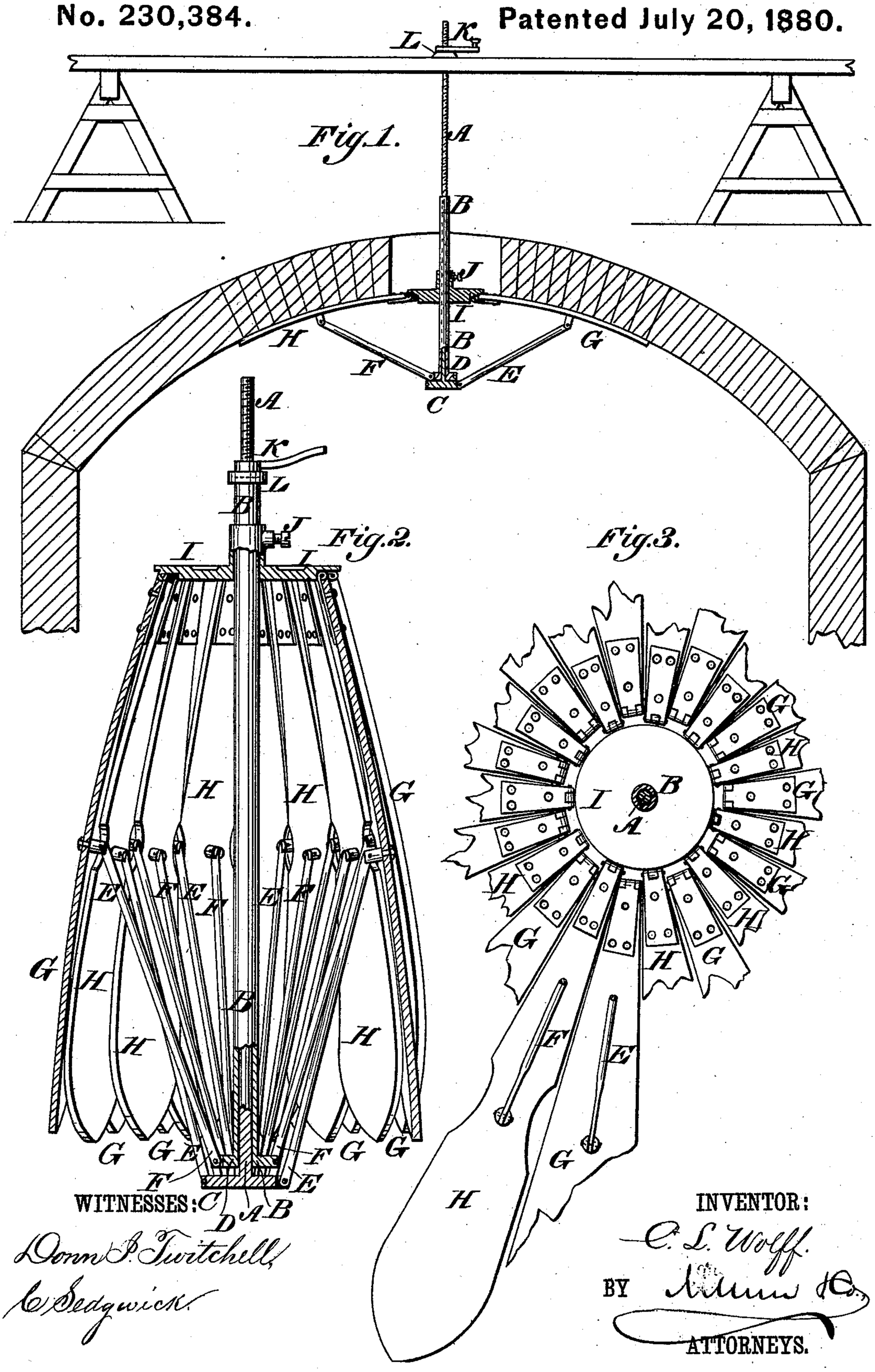

Fig. 1.

Fig. 2.

Fig. 3.

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CENTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 230,384, dated July 20, 1880.

Application filed June 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LOUIS WOLFF, of Edgewater, in the county of Richmond and State of New York, have invented a new and Improved Centering Apparatus, of which the following is a specification.

Figure 1 is a sectional elevation of the improvement, illustrating its use. Fig. 2 is a sectional elevation of the improvement closed. Fig. 3 is an under-side view of the middle part of the improvement, shown as extended.

The object of this invention is to furnish an apparatus for supporting the middle part or center of the top or arch of cisterns and other structures while being built, so constructed that it can be readily taken out through the man-hole when the work has set, which will allow the floor and sides of the cistern to be cemented before the middle part of the top is built, and which shall be simple in construction and convenient in use.

The invention consists in constructing a centering apparatus of a rod and tube having runners upon their lower ends, the stretchers, the wide arched ribs, the adjustable runner having a set-screw, and a nut and washer for securing the apparatus to its support, as will be hereinafter fully described.

Similar letters of reference indicate corresponding parts.

A represents a rod, upon which is placed a tube, B. Upon the lower ends of the rod A and tube B are formed, or to them are rigidly attached, disks or stationary runners C D. To the edges of the runners C D are hinged stretchers E F by wires passing through holes in the inner ends of the said stretchers and along the grooved edges of the said runners, or by other suitable means. The outer ends of the stretchers E F are hinged to the under sides of the ribs G H at a distance from their outer ends about equal to one-third the length of the said ribs.

The inner ends of the ribs G H are hinged to the disk or runner I, placed upon the tube B, and secured to the said tube adjustably by a set-screw, J, passing through the outwardly-projecting end of the hub of the said runner I, and resting against the side of the said tube B.

The stretchers E F are so arranged that the ribs G, when the apparatus is closed, will overlap or be upon the outer side of the ribs H, and when the apparatus is extended the ribs G H will be in the same plane, or edge to edge. For this purpose the inner ends of the ribs G are hinged to the outer edge of the runner I, and the inner ends of the ribs H are hinged in a rabbet formed upon the inner side of the edge of the said runner I, as shown in Figs. 2 and 3.

Upon the upper part of the rod A is cut a screw-thread to receive the hand-nut K, which has a washer, L, placed beneath it.

The ribs G H are made wide, and are curved to give the proper curve to the top or arch of the cistern.

In using the apparatus the side walls and the outer part of the top of the cistern are built, the floor is laid, and the floor and sides are cemented. The centering apparatus is then adjusted beneath the opening in the top of the cistern. The rod A is then passed up through a beam supported upon the opposite sides of the said opening, and is secured by the nut and washer K L. The center of the top or arch of the cistern is then built, and after the work has set the apparatus is closed like an umbrella, and removed through the man-hole.

It will be understood that my invention is applicable not only for the building of cistern-arches, but all kinds of arches wherein such an apparatus is wanted.

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

1. A centering apparatus constructed substantially as herein shown and described, consisting of the rod A, the tube B, the runners C D I, the stretchers E F, the ribs G H, the set-screw J, and the nut and washer K L, all constructed and operating as set forth.

2. In a centering-machine, the combination of the rod A, having runner C, the tube B, having runner D, the stretchers E F, the wide arched ribs G H, the runner I, having set-screw J, and the nut and washer K L, substantially as herein shown and described,

whereby the centering apparatus can be readily removed from the cistern through the manhole when the work has set, as set forth.

3. In a centering apparatus, the combination, with the rod A, the tube B, and the adjustable runner I, of the two runners C D, the two sets of stretchers E F, and the two sets of wide arched ribs G H, substantially as herein shown and described, whereby the ribs when extended will form an arch, and will fold over each other when closed, as set forth.

CHARLES LOUIS WOLFF.

Witnesses:
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