(No Model.)

W. J. F. LIDDELL.

SHAFT HANGER.

No. 274,794. Patented Mar. 27, 1883.

Fig 1.

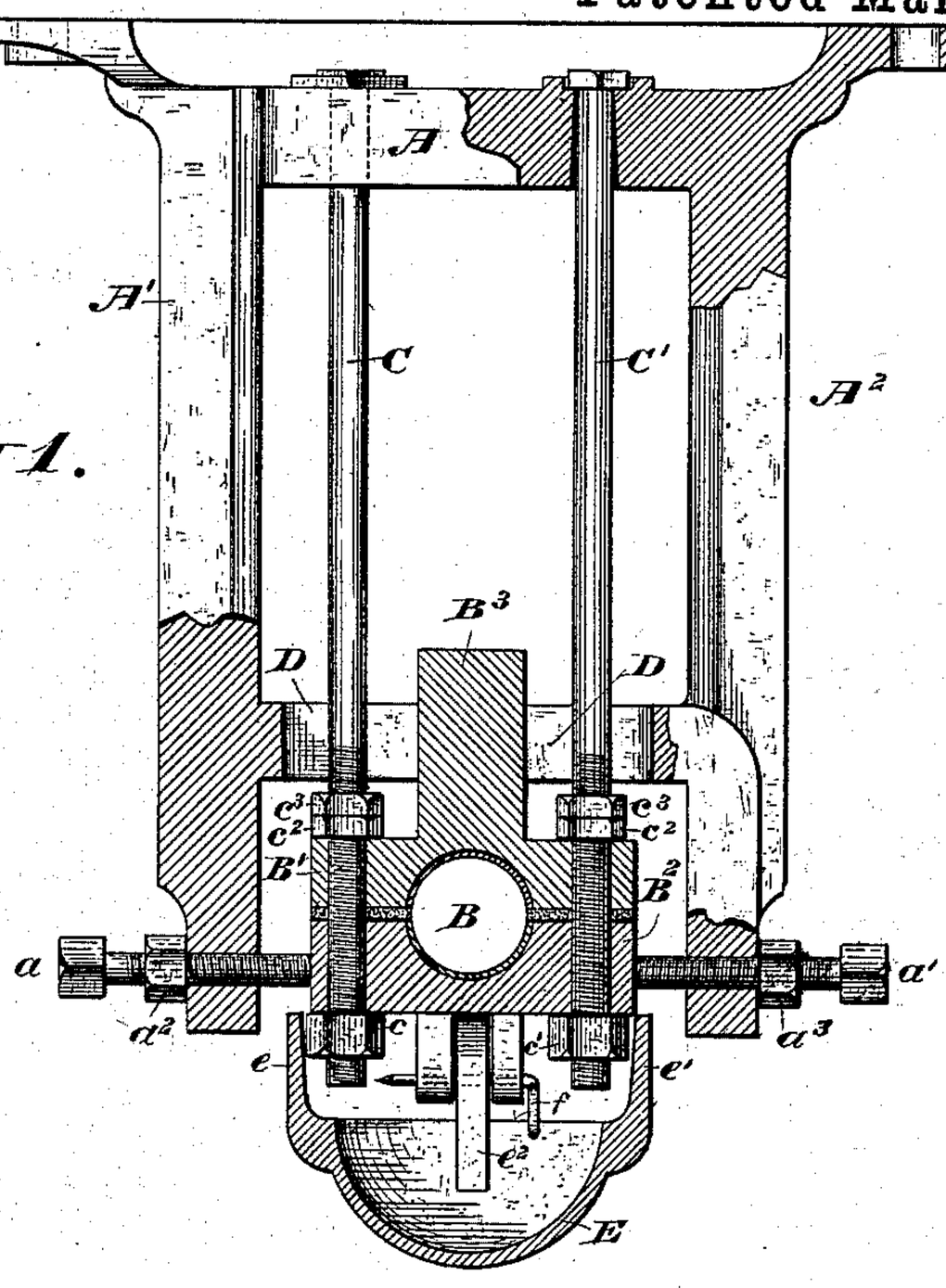
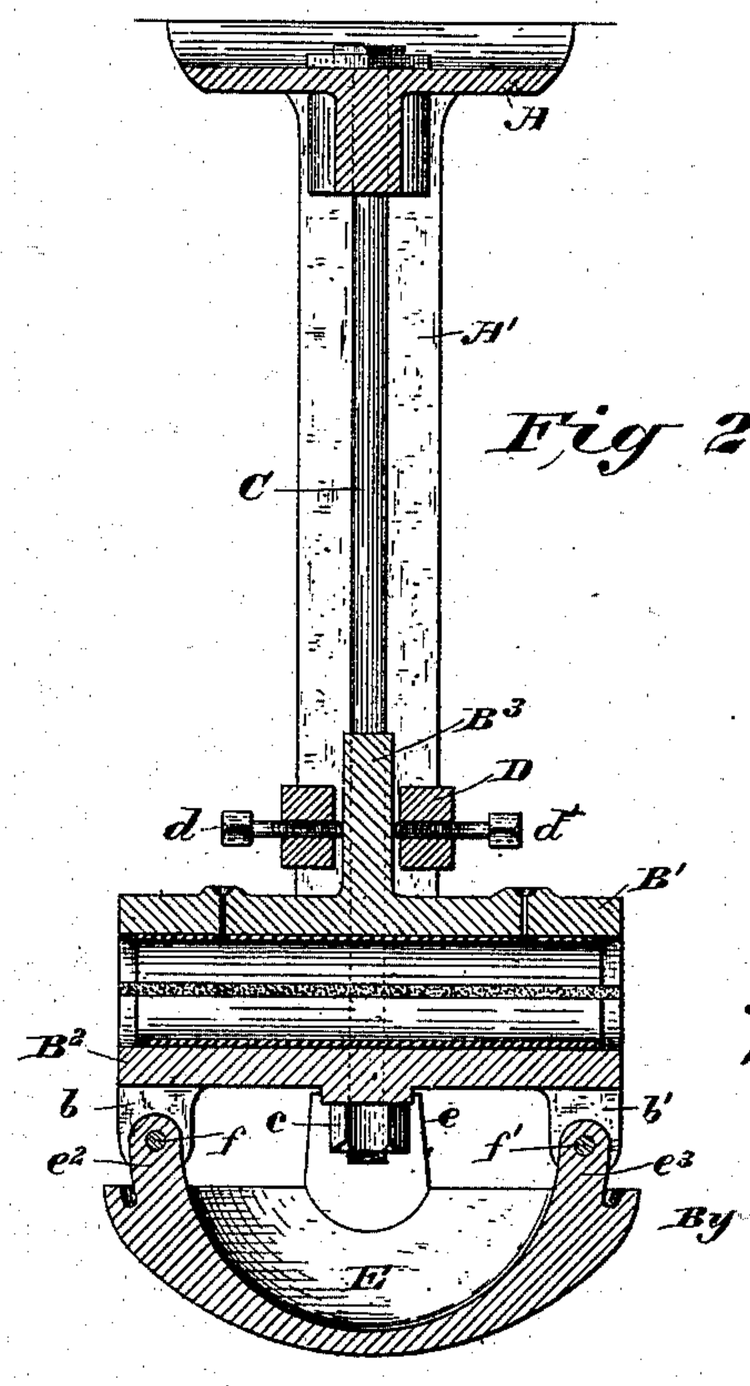


Fig 2.



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UNITED STATES PATENT OFFICE.

WALTER J. F. LIDDELL, OF CHARLOTTE, NORTH CAROLINA.

SHAFT-HANGER.

SPECIFICATION forming part of Letters Patent No. 274,794, dated March 27, 1883.

Application filed February 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, W. J. F. LIDDELL, of Charlotte, county of Mecklenburg, State of North Carolina, have invented a new and useful Improvement in Shaft-Hangers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a novel construction of shaft-hanger or bracket-support for shafting adapted to be applied to a ceiling, floor, or wall, or any other desired point, and also to means whereby the shaft-box may be readily and easily adjusted in either a vertical or lateral direction, or both, as may be required.

It consists in a hanger composed of a cap-piece having pendent parallel arms, provided about midway of their length with a slotted cross-bar, whereby said hanger is adapted to receive suspension-bolts passing through and pendent from the cap of the hanger, and also passing through the slotted cross-bar, said bolts sustaining the shaft-box and permitting it to be adjusted in a vertical direction, while the slot in the said cross-bar allows lateral adjustment of the said bolts and box, the latter being adjusted and held in position by screws for that purpose.

It also consists in providing the upper half of the shaft-box with a guiding-tongue passing through the slotted cross-bar, for guiding and steadying said box, and in adjusting-screws in the cross-bar for clamping said tongue firmly therein; and, lastly, it consists in a combined drip-cup and nut-lock for catching the oil as it drips from the shaft-box, and at the same time serving by its construction to lock the nuts on the ends of the suspension-bolts, said cup having a hinge-connection at each end with the shaft-box, adapting it to be swung downward on either of its pivots, when desired, as hereinafter explained.

In the accompanying drawings, Figure 1 is a side elevation, partly in section; and Fig. 2 is a vertical section through the shaft-box and hanger.

A represents the cap of the hanger; A′ and A^2, the pendent parallel arms, connected by the slotted cross-bar D. The cap A is provided with holes or slots for the passage of the bolts securing said cap and hanger to the ceiling or other desired point, and also with perforations for the admission of bolts C and C′, the latter also passing through the slotted cross-bar D and sustaining beneath the latter the shaft-box B. These bolts C C′, above the cap A, are headed or provided with enlarged ends let into sockets or recesses therein, and the perforations in the cap, through which said bolts C C′ pass, are slightly expanded in width at their lower ends to permit lateral play of said bolts.

B represents a shaft-box composed of two parts, the upper part, B′, having a tongue, B^3, extending upward through the slotted cross-bar D, serving, when the shaft-box is being adjusted, to guide the said box and give greater rigidity to the bearing when in the desired position, and the lower part, B^2, having on its lower face slotted lugs or ears *b b′*, for a purpose that will be hereinafter explained. The suspension-bolts C C′ by preference pass through the shaft-box, and are provided beneath said box with nuts *c c′*, on which it rests. Similar nuts, c^2, are provided on the suspension-bolts, above said shaft-box, for preventing upward thrust of the latter, and these latter nuts are locked in place, when properly adjusted, by means of jam-nuts c^3. Thus it will be apparent that the shaft-box B may readily and easily be adjusted up or down on the suspension-bolts, and the parts thereof may also be adjusted, in case of wear, to fit the shaft working therein, by means of the nuts *c c′* below the box, the corresponding nuts, c^2, above the box, and the jam-nuts c^3.

To afford lateral adjustment of the shaft-box, adjusting-screws *a a′*, having lock-nuts a^2 a^3, are provided in the pendent arms A′ A^2 of the hanger, with their inner ends resting against the sides of the shaft-box, as shown in Fig. 1. The suspension-bolts being free to swing, the box can be adjusted laterally and held firmly in place, when so adjusted, by means of screws *a a′* and lock-nuts a^2 a^3.

When it is desired to place the shaft in its bearings, the upper part, B′, of the shaft-box is adapted by means of its tongue B^3 to be clamped within the slot in the cross-bar D, and for this purpose screws *d* and *d′* are provided in the cross-bar, on opposite sides thereof, for securing the tongue B^3 between their inner ends. Thus the nuts *c c′* may be taken off and

the lower part, B^2, of box B removed and the shaft raised into place without disturbing the upper part of the shaft-box.

E represents the drip-cup, and by reference to Fig. 2 the manner of its attachment to the shaft-box will be understood. Said cup is provided with tongues e^2 e^3 on its periphery, adapted to fit into slots in the lugs or ears b b', above referred to. Pins f and f' pass through perforations in the said lugs b b' and tongues e^2 e^3, as shown in Fig. 1, thus forming a hinge-connection between the shaft-box and drip-cup. The pins f f' are L-shaped, the shorter side of the angle being in the form of a ring or loop, which drops by its own gravity within the drip-cup, the latter holding it against accidental displacement. The drip-cup E is provided with vertical projections on either side, as shown at e and e' in Fig. 1, and of the form shown in Fig. 2 at e, extending up on the outside of and resting against the nuts c c' on the suspension-bolts C C', and by their relation thereto serving very effectually to lock the said nuts and prevent their escape.

It will be apparent that the hereinabove-described hanger is adapted to be applied as well to a wall or floor or any other desired point as to a ceiling by slight modifications in form adapting it to such places.

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

1. A shaft-hanger bracket composed of a cap, parallel arms pendent therefrom, and a slotted cross-bar connecting said parallel pendent arms, substantially as described and shown.

2. A shaft-hanger having parallel arms pendent from the cap thereof and a slotted cross-bar connecting said arms, in combination with suspension-bolts sustaining the shaft-box, and allowing vertical and lateral adjustment thereof, substantially as described.

3. The combination, with the shaft-box sustained by means of suspension-bolts pendent from the hanger, of a guiding-tongue, B^3, extending through the slotted cross-bar of said hanger, and the clamping-screws d and d', substantially as and for the purposes described.

4. The combination, with the box of a shaft-hanger, of a combined drip-cup and nut-lock, for catching the oil and locking the nuts on the suspension-bolts, substantially as described.

5. The drip-cup E, having a pivotal connection at each end with the shaft-box, in connection with removable pivotal pins adapting the cup to be swung downward on either pivot, substantially as described and shown.

6. The combination, with the drip-cup, of a pivotal pin provided with a pendent loop or arm adapted to drop by its own gravity within the drip-cup, for preventing accidental displacement of said pin.

In testimony whereof I have hereunto set my hand this 5th day of February, A. D. 1883.

W. J. F. LIDDELL.

Witnesses:

J. L. CHAMBERS,

T. S. FRANKLIN.