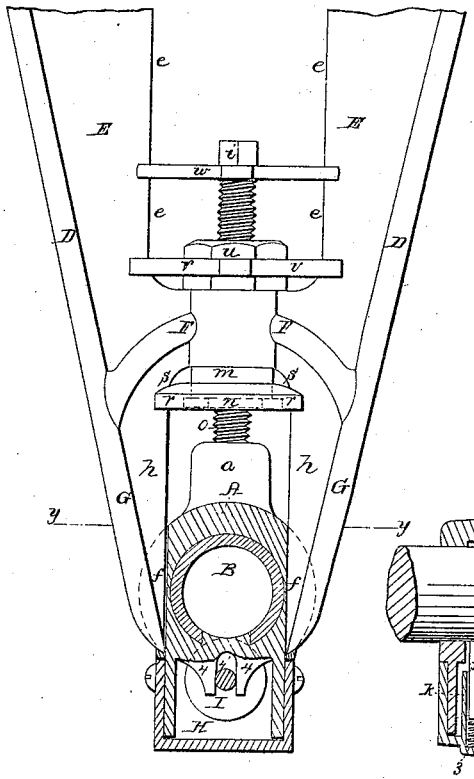
J. E. Atwood,

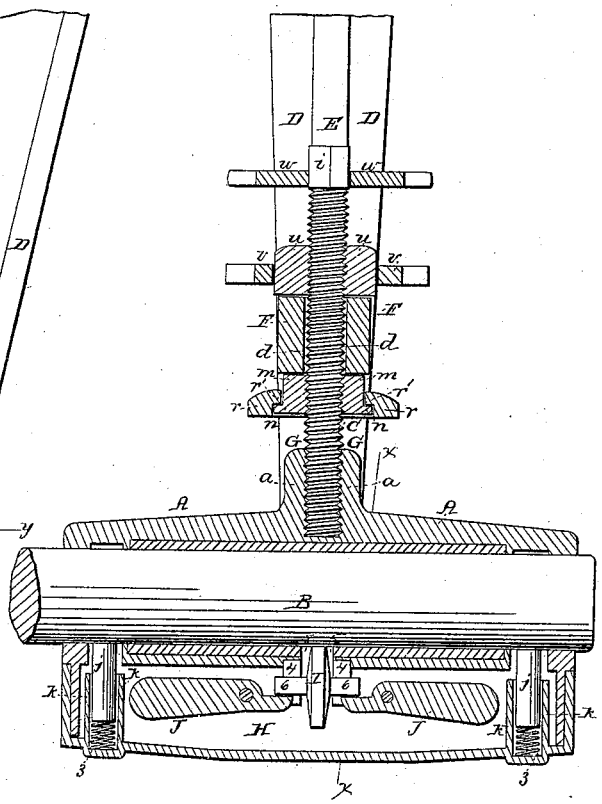
Shaft Hanger,

No. 54,275, Patented May 1, 1866.

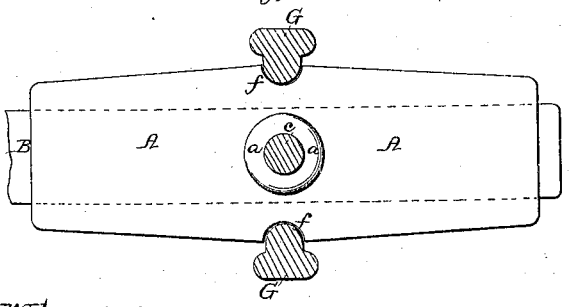
Fig; 1.



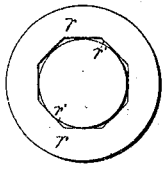
Fig; 2.



Fig; 3.



Fig; 4.



Witnesses;

J. M. Coombs

A. Zellers

Inventor;

J. E. Atwood

per Brown Coombs & Co

attys

UNITED STATES PATENT OFFICE.

JOHN E. ATWOOD, OF MANSFIELD, CONNECTICUT.

IMPROVEMENT IN HANGERS FOR SHAFTING.

Specification forming part of Letters Patent No. **54,275**, dated May 1, 1866.

To all whom it may concern:

Be it known that I, JOHN E. ATWOOD, of Mansfield, in the county Tolland and State of Connecticut, have invented certain new and useful Improvements in Hangers for Shafting; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical longitudinal section of a hanger constructed according to my invention. Fig. 2 is a partial transverse section of the same, taken in the line *x x* of Fig. 1. Fig. 3 is a horizontal section taken transversely in the line *y y* of Fig. 1. Fig. 4 is an inverted plan view of the shouldered annular disk *r* shown in Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

A part of this invention relates to means of adjusting the box of a hanger to provide for the lining of the shafting; and it consists in certain novel arrangements of parts, by which the several parts of the hanger are properly held in any required position.

The invention further consists in a novel combination of parts by which the shafting is automatically lubricated without waste of oil.

To enable others skilled in the art to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A is the horizontal journal-box, in which the shaft B rotates, and projecting upward from the upper side of this journal-box is a short boss or knob, *a*, into which is screwed the lower end of a vertical screw, C, the upper end of which has a square or polygonal head, *i*, formed upon it.

D represents the lower portion of the frame, which sustains the other parts of the hanger, the said frame being secured at its upper end to a beam or other support in the usual manner. Projecting inward from each side of the frame D is a rib or feather, E. The inner edges of these feathers E are parallel, as shown at *e e*, and immediately below them is the transverse bottom F of the frame D. A vertical cylindrical hole, *d*, is formed in the center of this bottom F, through which is passed the vertical screw C, as clearly shown in Fig. 2.

G G are two arms, which project downward from the bottom F in line with the sides of the frame D. The inner side of the lower end of each of these arms is placed in a vertical groove formed in the center of each side of the box A, as shown in Fig. 3, and at *f* in Fig. 1, in such manner as to allow the said box to be moved up and down between the said arms G, there being a rib or feather, *h*, projecting inward from each of the arms G, in the same manner that the feathers E project inward from the sides of the frame D.

Placed upon the screw C, immediately beneath the bottom F of the frame, is a nut, *m n*, the upper part, *m*, of which is cylindrical, and the lower part, *n*, of which forms a shoulder, and is polygonal in form. *r* is an annular disk, the central hole of which, at its lower end, corresponds in shape to the polygonal lower portion of the aforesaid nut, while the upper end is cylindrical, like the upper end of the nut, thus forming a shoulder, *r'*, which prevents the disk *r* from falling past the nut *m n*, as will be presently explained. Opposite each other in the edges of this disk *r* are two deep notches, *s*, into which are fitted the feathers *h*, so that the said disk is prevented from turning around, and yet can be moved up and down when desired. The said disk is retained by its own weight upon the polygonal lower portion, *n*, of the nut *m n*, the shoulder *r'* of the disk *r* resting thereon, and thus preventing it from turning; but by raising the disk *r* above the said lower portion of the nut the nut can be easily turned as required in adjusting the height of the box A, its cylindrical portion turning within the central hole of the disk. Placed upon the screw C, above the bottom F, is a polygonal nut, *u*.

v is a disk, the central hole in which corresponds in shape to the circumference of the nut *u*, and which has notches in its edges, into which are fitted the feathers E, so that this disk *v* operates to keep the nut *u* from turning in the same manner that the disk *r* holds the nut *m n* in a stationary position, the said disk *v* being capable of moving up and down between the feathers E. In like manner another disk, *w*, the central hole of which is square, is fitted upon the square head *i* of the screw C, thus preventing it from turning; but the disk *w*, being capable of being pushed upward clear of the head *i*, admits the adjustment of the screw

when desired. This disk *w* rests upon a shoulder formed at the upper end of the screw, immediately below the head.

The operation of adjusting the height of the box A with reference to the frame D is as follows: When it is desired to elevate the said box the disk *r* is raised up above the polygonal portion *n* of the nut *m n*, and the said nut is turned downward upon the screw to the required distance, when the disk *r* is replaced upon the lower portion, *n*, of the nut, and thus prevents the further turning thereof from any cause. The disks *v* and *w* are then removed and the nut *u* turned until the upper end of the nut *m n* is brought up snugly against the under side of the bottom F. On this the disks *v* and *w* are replaced, and prevent the nut *u* and screw C from turning, as herein before mentioned, and thus with the disk *r* keep the several parts described securely in their places with regard to each other. In lowering the journal-box A the nut *u* is first adjusted, and the nut *m n* afterward screwed up against the bottom F of the frame.

It now remains to explain that portion of the invention which relates to the automatic lubrication of the shaft within the journal-box A and the prevention of the escape of oil therefrom.

H is a rectangular box or vessel, which is secured by any suitable means to the under side of the journal-box A, and which contains the oil or other lubricating material. Projecting downward into the vessel H from the bottom of the journal-box, at or near the center thereof, are four spurs or guides, 4, two upon each side of a slot, 5, formed in the under side of the journal-box, and communicating with the interior thereof. A short longitudinal shaft, 6, is situated between these guides 4, having an up-and-down movement in the spaces 4′ between them. Upon the center of this shaft 6 is secured a circular feeding-disk, I, the upper edge of which passes up through the slot 5, and is kept in contact with the shaft B by means of the weighted levers J, the inner or short arms of which press upon the ends of the shaft 6.

A suitable quantity of oil being placed in the vessel H, the lower side of the disk I is immersed therein, and as the said disk, being in contact with the shaft B, is rotated by the revolutions thereof, the oil which adheres to the said disk as it passes through the oil is conveyed and transferred to the shaft B, and, spreading longitudinally upon the same, lubricates the journal, the oil being prevented from escaping from the ends of the journal-box by means of wipers *j*, which are situated in short vertical tubes *k* at each end of the vessel H. The upper ends of these wipers *j* pass up through suitable holes in the bottom of the journal-box A, and are kept in contact with the shaft B by means of spiral springs 3, placed underneath the said wipers *j* in the tubes *k*, and pressing them constantly upward, so that the upper ends of the wipers, being kept in contact with the shaft B near the ends of the journal-box A, wipe the oil from the shaft at those points, and thus prevent its spreading farther and escaping from the said journal-box. The upper ends of the wipers *j* should be covered with cork, leather, or other similar material, which increases the efficiency of their wiping action.

What I claim as new, and desire to secure by Letters Patent, is—

1. The disk *w*, applied to the head *i* of the screw C, and operating in connection with the ribs or feathers E E to hold the said screw, substantially as herein set forth.

2. The disk *v*, constructed and applied to the nut *u*, and operating in connection with the ribs or feathers E E to hold the said nut, substantially as herein set forth.

3. The shouldered annular disk *r r′*, constructed and applied to and operating in connection with the shouldered nut *m n* and ribs or feathers *h h*, substantially as herein set forth, for the purpose specified.

4. The arms G, working in the vertical grooves in the sides of the journal-box, so as to admit of the vertical adjustment of the said journal-box, substantially as herein set forth, for the purpose specified.

5. The rotating feeding-disk I, weighted levers J J, and wipers *j j*, arranged with reference to each other and with the oil-vessel H and shaft B, substantially as herein set forth, for the purpose specified.

J. E. ATWOOD.

Witnesses:
J. N. STONE,
I. K. HARVEY.