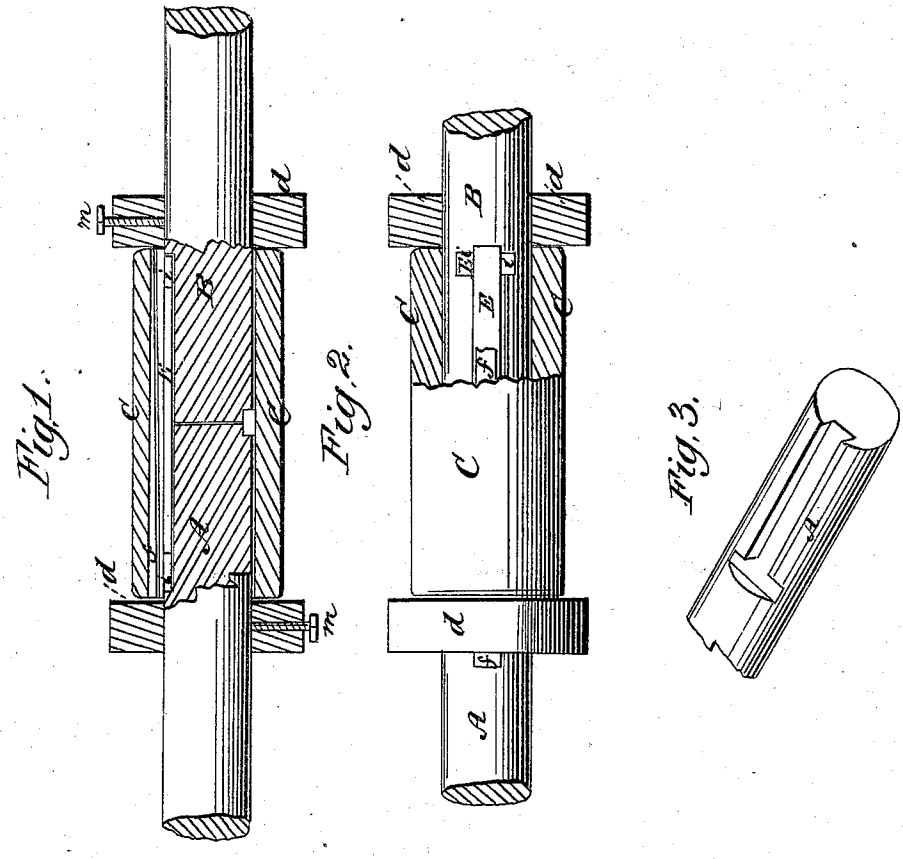
M. Hawkins,

Shaft Coupling.

No. 58,345. Patented Sep. 25, 1866.



Witnesses.
Charles Speer.
S. W. McChesney

Inventor.
Moses Hawkins,
By his attorney,
J. A. McEntire.

A.M. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

MOSES HAWKINS, OF DERBY, CONNECTICUT, ASSIGNOR TO R. M. BASSETT, T. S. BASSETT, AND MOSES HAWKINS.

IMPROVEMENT IN SHAFT-COUPLINGS.

Specification forming part of Letters Patent No. **58,345**, dated September 25, 1866.

To all whom it may concern:

Be it known that I, MOSES HAWKINS, of Derby, New Haven county, in the State of Connecticut, have invented a new and useful Method of Coupling Lines of Shafting; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improved mode of coupling or uniting the lengths in lines of shafting; and has for its object to effect the coupling in a simple, economic, effective, and durable manner, while at the same time the coupling shall constitute the journal or bearing, and may be readily shifted to admit of the extraction of a length of the shafting when desired; and to these ends my invention consists in the employment of a peculiarly-shaped key in connection with the shaft's ends and a surrounding collar, all as hereinafter fully described.

To enable those skilled in the art to make and use my invention, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of the coupled ends of two lengths of shafting embracing my invention. Fig. 2 is a top view of same with the collar partially broken away to show shape of key, and Fig. 3 is a perspective view of shaft end.

In the several figures the same parts are designated by the same letters of reference.

A B are the ends of two lengths of a line of shafting. C is the coupling and journal band or sleeve. *d d* are retaining-collars. E is the locking-key, and *f* a tightening-key or wedge. The sleeve C is a simple cylindrical shell, which may be made of wrought-iron, and which I propose to turn inside of a bore just adapted to accommodate the diameter of the shafts A B, and of a size outside, (or of an external diameter,) suitable to form the journal or bearing of the shafting, and adapted to run in the box or hanger. On the inner surface of said sleeve C is cut a longitudinal slot or spline of a width corresponding to the width of the key E, and deep enough to receive the said key, and also a tightening key or wedge *f*. (See Fig. 1.)

The peculiar form of key E is clearly seen in the drawings, as also the form of the key-seat in the end of shafting. It will be seen that the straight portion of said key lies partially in the slot of sleeve C and partly in the slots in the ends of shafts A B in the usual manner, thus preventing the turning of the shaft's ends, or either of them, in the said sleeve; and it will also be observed that at the end of each slot in each shaft the latter is slabbed out or cross-slotted to a depth equal to the depth of said slot to accommodate the lugs or cross-key portions *i* of the key E, which hold the shaft ends A B together longitudinally.

The key *f* is driven in to take up any slight backlash or lack of fit between the diameter of shaft's ends and bore of sleeve C.

The collars *d d* are employed simply to hold the sleeve C laterally in the proper position in the box or hanger, and they may be fastened to the shafting by a simple set-screw, *m*, or in any other suitable manner that will permit their ready removal or adjustment.

The operation of my improved coupling may be explained in few words: The shaft's ends being splined out longitudinally and cross-slotted, as shown and described, and the sleeve C and keys E and *f* made as shown, the sleeve C is slid over onto one shaft end—for instance, A. The two ends A and B are now brought into position and the key E inserted, when the sleeve C is slid over B, so as to surround both A and B, as shown. The tightening key or wedge *f* is then inserted and driven in tight, and, after placing the sleeve C in its journal-box or hanger, the collars *d d* (which were first slipped onto the shafts) are brought up each side of the box and fastened on the shafting by the set-screws *m*.

It will be seen that with my new mode of coupling the shafts may be turned up of a given length, and the key-seats cut in their ends all of a size, and the sleeves C and keys E all made to fit anywhere on the line at comparatively a small cost, and that when the coupling is effected, which is most easily accomplished, the shafts are held perfectly in line and without any backlash circumferentially, and in a most secure manner.

It will be observed that in my improved mode of coupling, the adjacent ends of two

lengths of shafting are held together longitudinally, and are also held circumferentially in the sleeve C by means of the slots and a single key, E, shaped as shown and described, which was never before done in any coupling to my knowledge; and it will also be observed that the peculiar shape of key shown is not essential so long as the shape is such as to effect the double purpose, as just explained.

Whenever it becomes necessary to remove a length of shafting, or even a bearing, it is only necessary to loosen the collars *d d*, (or one of them,) slip said collars out of the way, loosen up the wedge *f*, slide sleeve C to one side, and lift out either shaft, and, if necessary to renew the sleeve C, put on a new one.

Having fully explained my improved mode of coupling, and wishing to be understood as not limiting myself to the precise forms or proportions of any of the devices so long as they are so constructed and arranged as to carry out the functions ascribed to them, what I claim as new, and desire to secure by Letters Patent, is—

1. The use, in combination with a surrounding sleeve and the slotted shaft's ends, of a key, E, so shaped and the whole so arranged as to lock the shaft's ends longitudinally together and key them both in the sleeve, substantially as set forth.

2. Forming the journals of the shafting of the coupling-sleeve C, substantially as hereinbefore described.

In witness whereof I have hereunto set my hand and seal this 21st day of July, 1866.

MOSES HAWKINS. [L. S.]

In presence of—
DAVID TORRANCE,
WM. B. WOOSTER.