(No Model.) 2 Sheets—Sheet 1.

W. SCHOFIELD.

SHAFT JOURNAL AND BEARING.

No. 536,048. Patented Mar. 19, 1895.

Fig. 1.

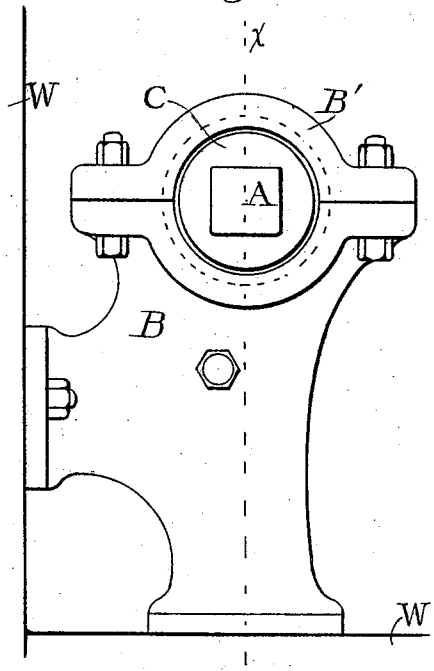


Fig. 3.

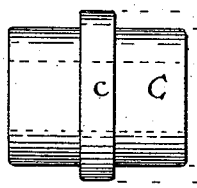


Fig. 4.

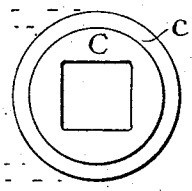


Fig. 2.

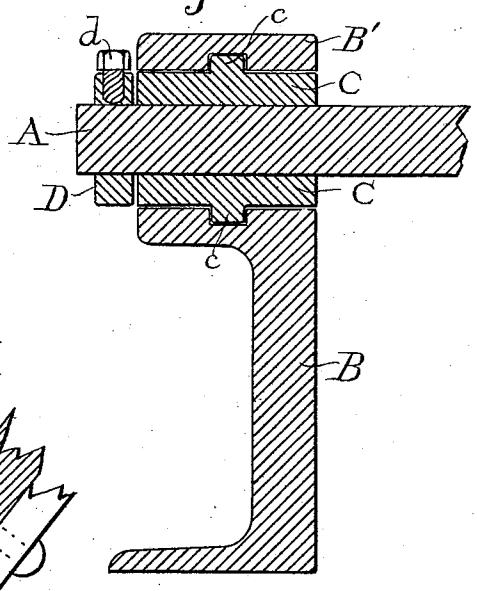


Fig. 5.

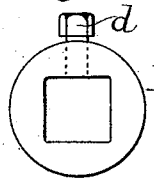
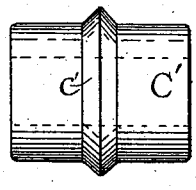


Fig. 6.

Fig. 7.



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2 Sheets—Sheet 2.

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SHAFT JOURNAL AND BEARING.

No. 536,048. Patented Mar. 19, 1895.

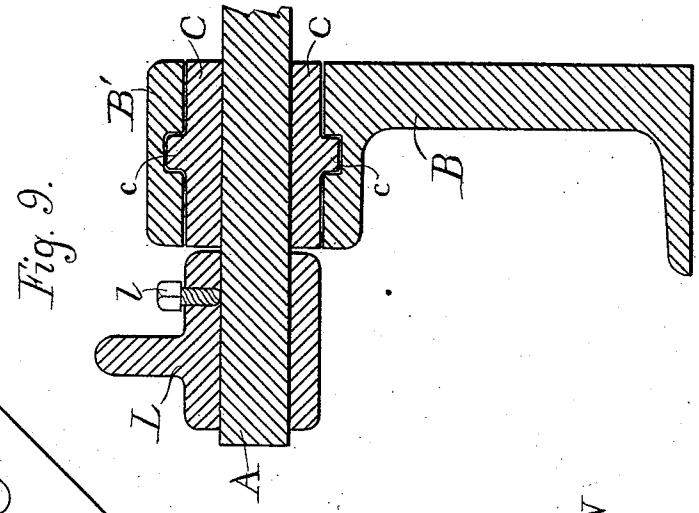

Fig. 9.

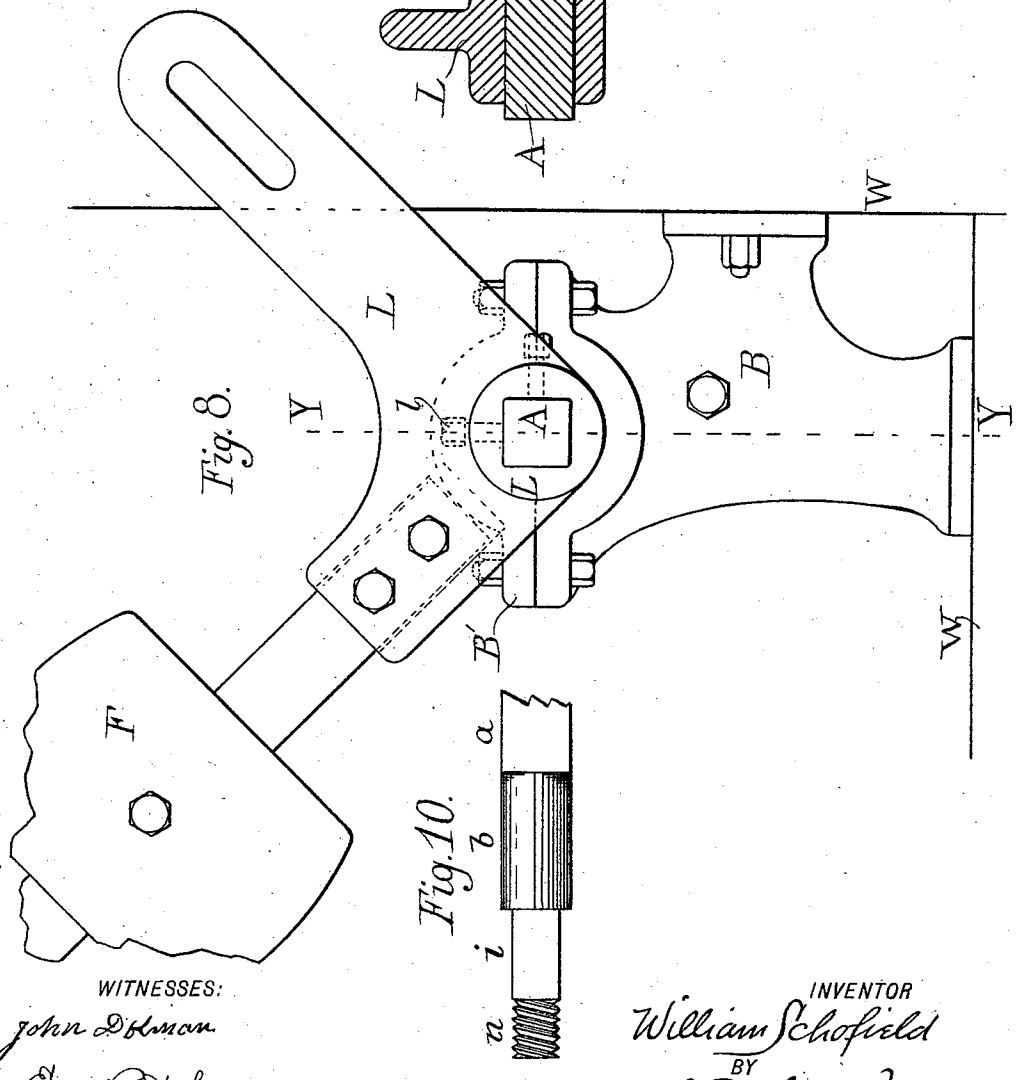

Fig. 8.

Fig. 10.

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SHAFT-JOURNAL AND BEARING.

SPECIFICATION forming part of Letters Patent No. 536,048, dated March 19, 1895.

Application filed October 31, 1894. Serial No. 527,524. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHOFIELD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Shaft-Journals and Bearings, of which the following is a specification.

My invention relates to a peripherally tongued journal-sleeve, fitted on a shaft of polygonal cross section, with a grooved journal-bearing therefor; and it is intended especially as the bearing for the rocking-shaft of a willow door.

It has for its object simplicity of construction and cheapness, with increased strength and wearing qualities, and easy and cheap renewal of wearing parts.

Referring to the drawings; Figure 1 is a side view of my improvement as used upon a willow, showing the end of the square shaft, but having the retaining collar removed for clearness of illustration. Fig. 2 is a vertical sectional view taken on line *x*, *x*, of Fig. 1, having the retaining collar in place. Fig. 3 is a side view and Fig. 4 an end view of the journal-sleeve. Fig. 5 is a view of the retaining collar. Fig. 6 is a view of part of a section of a willow door. Fig. 7 is a modification of the journal sleeve shown in Fig. 3. Fig. 8 is a similar view to Fig. 1 showing the bracket and bearing on the other side of the willow, with the operating crank lever in place. Fig. 9 is a vertical sectional view taken on line Y, Y, of Fig. 8; and Fig. 10 is a side view of the end of a shaft, illustrating the old form. All the figures, except Fig. 10, are drawn to the same scale, which is about half the actual size used by me in the construction of willows; although the size would, of course, differ for the different uses to which my invention might be put.

The drawings show the invention as applied to a willow.

W, represents the frame of the willow, to which the journal-box bracket B, is bolted.

B′, represents the cap of the journal-box.

A, represents a square shaft, upon which the hinge H, of the willow door E, is mounted. Upon this shaft A, is placed a journal-sleeve C, having a peripheral tongue *c*, as shown, and the shaft A, with its tongued journal-sleeve C, is inserted in the journal-box or bearing B, B′, which is provided with an internal peripheral groove to accommodate the tongue of the journal-sleeve C. Upon the end of the shaft A, may then be placed a retaining collar D, fastened with a set screw *d*; or upon the end from which the shaft is operated, may be placed, instead of the retaining collar D, a suitable crank-lever L, for rocking the shaft. The crank-lever L, is usually provided with a counter-poise F, and is secured to the shaft A, by the set screws *l*, as shown.

For a willow or similar use, I prefer to make the journal-sleeve C, fit loosely in the journal-box B, B′, so that when the shaft A, is inserted the parts will "line up" or adjust themselves without expensive fitting. For some purposes, as upon rotating shafts, it might be preferable to make these parts fit more accurately.

Although my invention is designed especially for use with a willow door, in which application it is shown in the drawings, yet there are other uses to which it might obviously be put. In short, it might be used on all kinds of rocking or rotating shafts or axles where the polygonal cross section is essential or desirable.

It is obvious that the tongue *c*, need not necessarily be of rectangular section, but may be V shaped, as shown at *c′* in the modification shown in Fig. 7, or it may be semicircular or otherwise.

The retaining collar D, might be omitted and the journal sleeve C, fastened to the shaft A, by set screws inserted in sockets, as is also obvious.

Before my improvement the method of arrangement was as illustrated in Fig. 10. The square shaft was used, part of which is shown at *a*. This was turned down to provide a journal *b*. Then the end of this round journal was squared off, as at *i*, to receive the crank-lever. Then the extreme end of this smaller square portion was again turned off and threaded to receive a retaining nut, as at *n*. All this working is avoided by my improvement and the plain square shaft used without any manipulation whatever, and greater torsional strength and better wearing qualities obtained.

Having as above fully described my inven-

tion and the best method known to me of constructing the same, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a shaft of polygonal cross section, a peripherally tongued journal-sleeve to fit upon said shaft, and a journal-bearing, suitably grooved upon its inner wall to fit said tongued journal-sleeve, and in which the latter may rotate; substantially as shown and described.

2. In shaft-journals and bearings for willow doors, the combination, with the willow door of a shaft of polygonal cross section upon which the same is mounted, a peripherally tongued journal-sleeve upon the shaft, a grooved journal-bearing to receive the shaft with its journal-sleeve, and a suitable crank-lever for rocking the shaft; all substantially as shown and described.

WILLIAM SCHOFIELD.

Witnesses:
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