(No Model.)

J. H. OSBORN.

SHAFT COUPLING.

No. 298,398. Patented May 13, 1884.

FIG. 1.

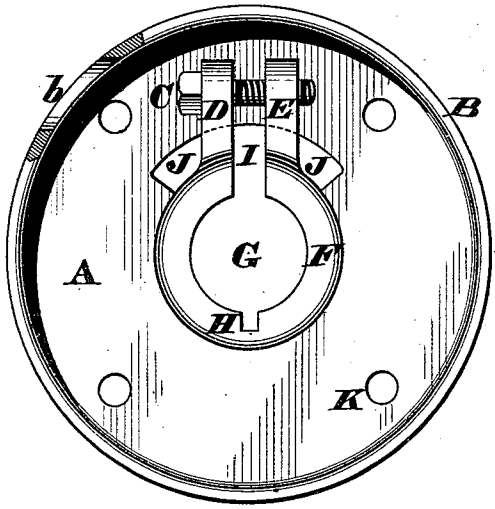


FIG. 2.

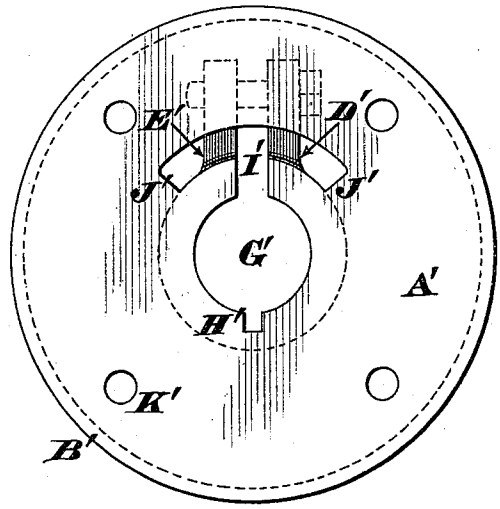


FIG. 3.

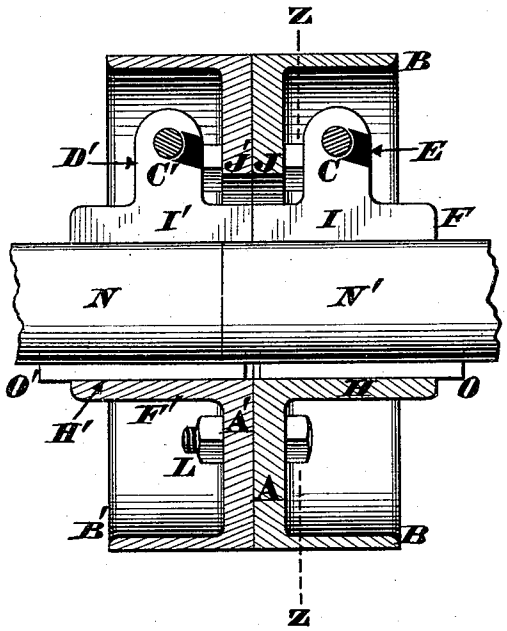
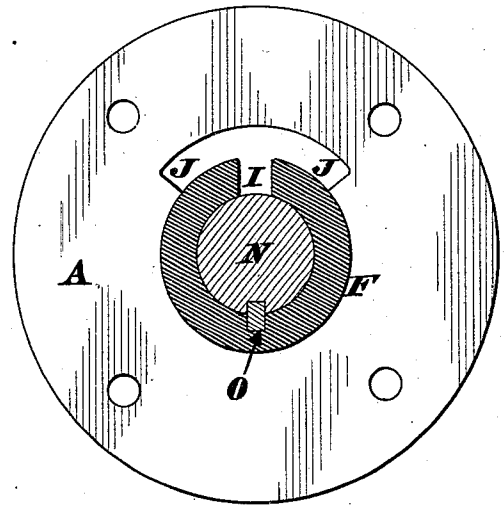


FIG. 4.



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UNITED STATES PATENT OFFICE.

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SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 298,398, dated May 13, 1884.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. OSBORN, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to enhance the utility of those shaft-couplings which include a pair of cylindrical boxes whose hubs are slotted for the purpose of being readily clamped around the abutting ends of the shaft-sections.

The present improvement consists in providing the head or disk of each box with a concentric slot that extends such a distance around the circumference of the hub as to enable the latter to be more tightly compressed around the shaft, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is an elevation of the outer end of one of the cylindrical boxes, a portion of the rim of the same being sectioned. Fig. 2 is an elevation of the inner end of the other cylindrical box. Fig. 3 is a vertical section showing the two sections bolted together and clamped around the shaft-sections. Fig. 4 is a vertical section of a modification of the invention, said section being taken at the line Z Z of Fig. 3.

Referring to Fig. 1, A represents the head of a cylindrical box of any suitable diameter, and B is the rim or annular flange thereof, said rim being pierced at *b* to admit the clamp screw or bolt C, which latter is tapped in lugs or ears D E, that project laterally from the hub F. This hub is cast with the head or disk A, and has a cylindrical bore, G, with which latter communicates a key-seat, H. Furthermore, this hub has a slot, I, that opens into the bore G, and serves to separate the lugs or ears D E, previously alluded to, this slot being in most cases diametrically opposite the key-seat H. Communicating with this slot I is a circular slot, J, in the head A, the inner periphery of said slot J being coincident with the outer periphery of the hub F, as more clearly seen in Fig. 2. This concentric slot J may extend as far as may be necessary to impart the desired elasticity to the hub.

K are holes in the head or disk to receive bolts L, wherewith a pair of boxes are firmly united together.

The above-described arrangement of parts is exactly duplicated in constructing the other cylindrical box, as seen at A′ B′ C′ D′ E′ F′ G′ H′ I′ J′ K′ in Figs. 2 and 3.

N N′ are the abutting ends of the shaft-sections, and O O′ are keys that unite them to the hubs F F′.

In fitting together my coupling it is preferred to have the end of one of the shafts-sections, as N′, to enter a suitable distance into the bore G′ of the contiguous box and abut against the other section, N, as seen in Fig. 3, the keys O O′, that are driven into the seats H H′ of the hubs F F′, and also into grooves of said sections, compelling the latter to rotate simultaneously. The bolts C C′ being now screwed home, the hubs F F′ are caused to clamp the shaft-sections in the most secure manner, the slots J J′ of the heads A A′ allowing a degree of compression on the part of said hubs that would otherwise be unattainable. The cause of this unusual elasticity of the hub will be apparent by referring to Fig. 2, which shows that the concentric opening J′ allows said hub to spring throughout its entire length, or, in other words, from its outer to its inner end. It is also apparent that if this curved opening should be omitted the junction of the head with the hub would render the latter so rigid as to prevent any yielding except at its outer end. Consequently the hub would not be sufficiently elastic to produce the desired results.

In Fig. 4 the coupling-head A″ is represented as a plain disk, the rim B (seen in Fig. 1) being omitted, thereby indicating that the invention is not confined to the cylindrical form of box; but that the member A can be changed to suit circumstances, provided it is made with a slotted hub, F I, and an opening, J. Finally, in the drawings the lugs D E have been intentionally elongated, so as to enable bolt C to be shown without concealing the slot J; but in practice said bolt should be located quite close to the hub F.

I claim as my invention—

1. As a new article of manufacture, the head or disk A, having a hub, F, lugs D E, key-seat

H, slot I, and opening J, the inner periphery of the latter being coincident with the outer periphery of said hub, as herein described.

2. A cylindrical coupling-box consisting of the head A, perforated annular flange or rim B *b*, bolt C, lugs D E, hub F, key-seat H, slot I, and opening J, the inner periphery of the latter being coincident with the outer periphery of said hub, for the purpose specified.

3. The combination, in a shaft-coupling, of heads A A′, bolts C C′, lugs D D′ E E′, hubs F F′, key-seats H H′, slots I I′, openings J J′, holes K K′, keys O O′, and retaining devices L, substantially as herein described.

In testimony whereof I affix my signature in signature in presence of two witnesses.

JOHN H. OSBORN.

Witnesses:

LOUIS LECHNER,

A. C. HAWKINS.