(No Model.)

G. C. PYLE.

SHAFT COUPLING.

No. 446,123. Patented Feb. 10, 1891.

Fig. 1.

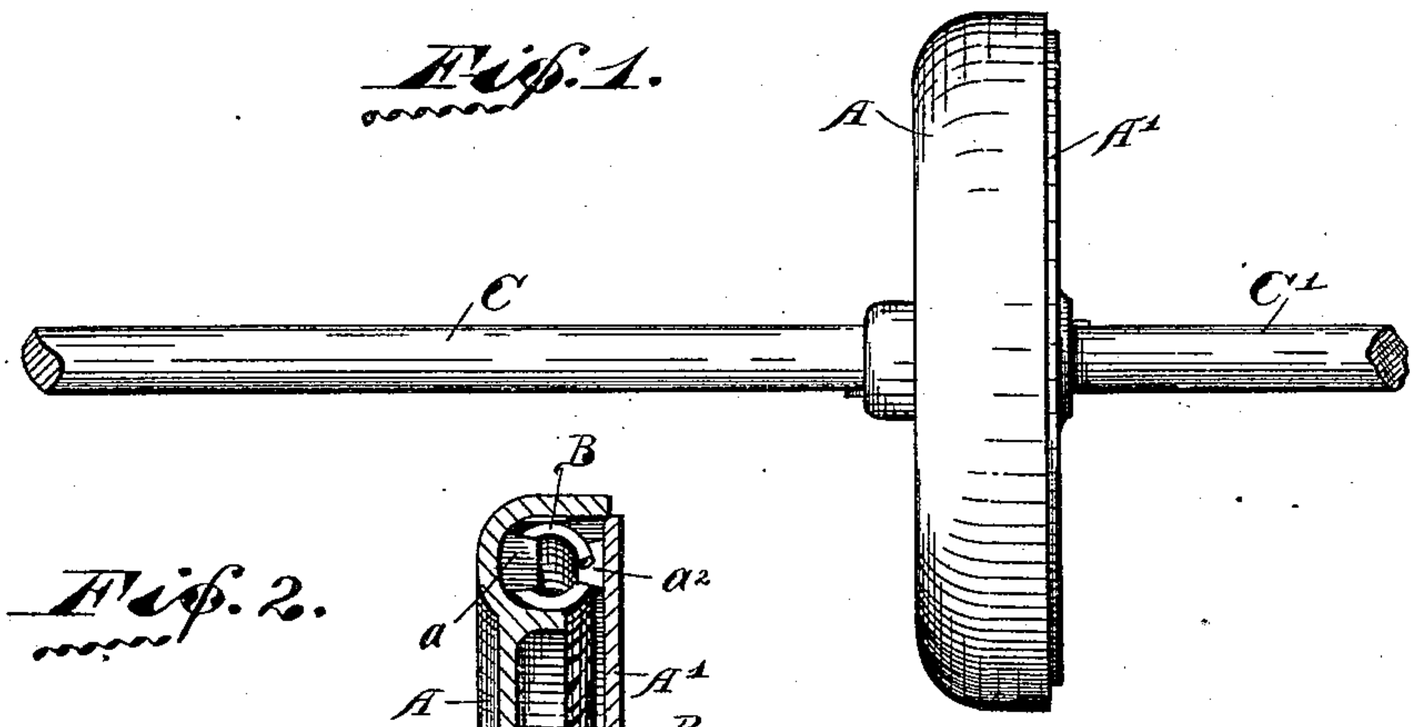


Fig. 2.

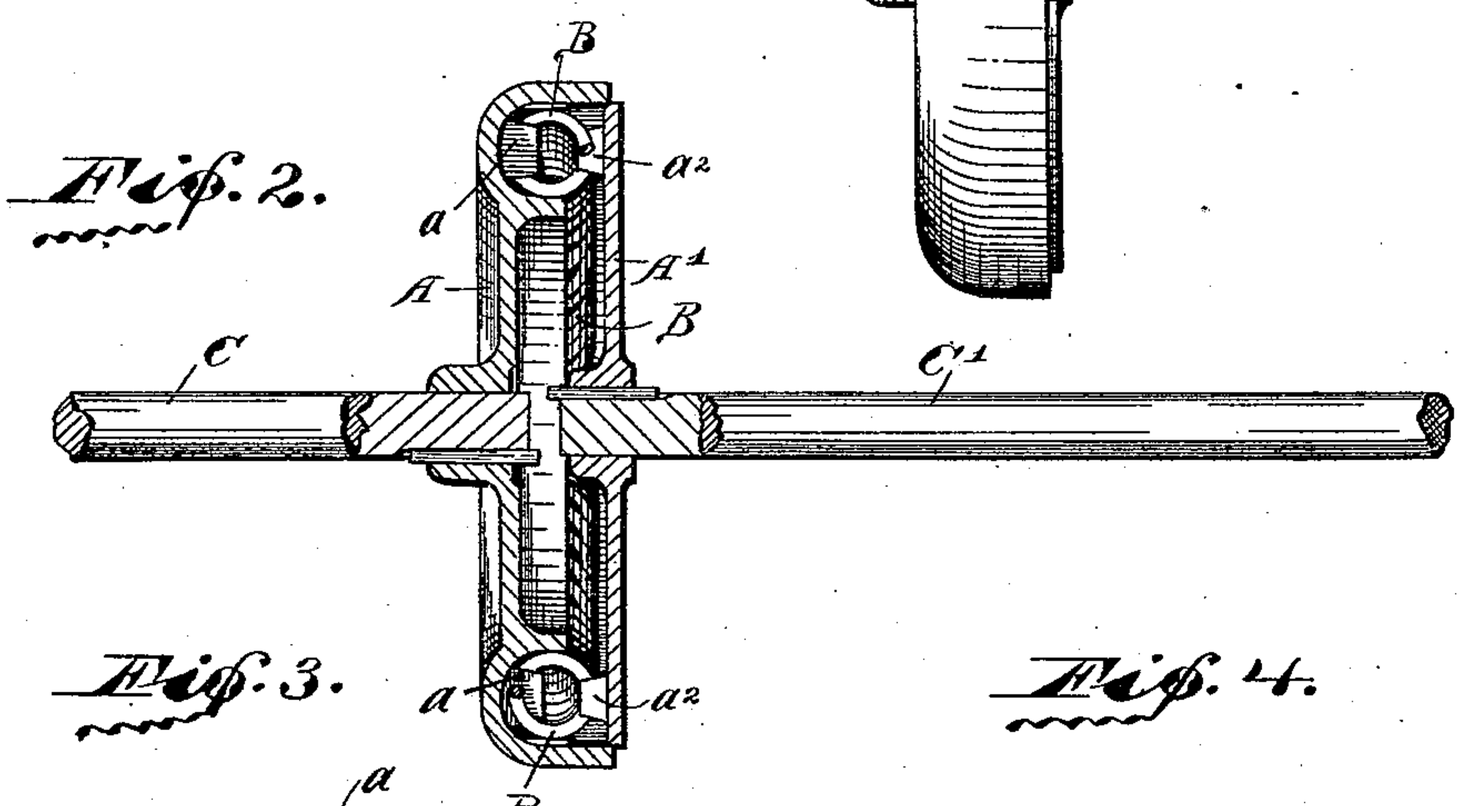


Fig. 3.

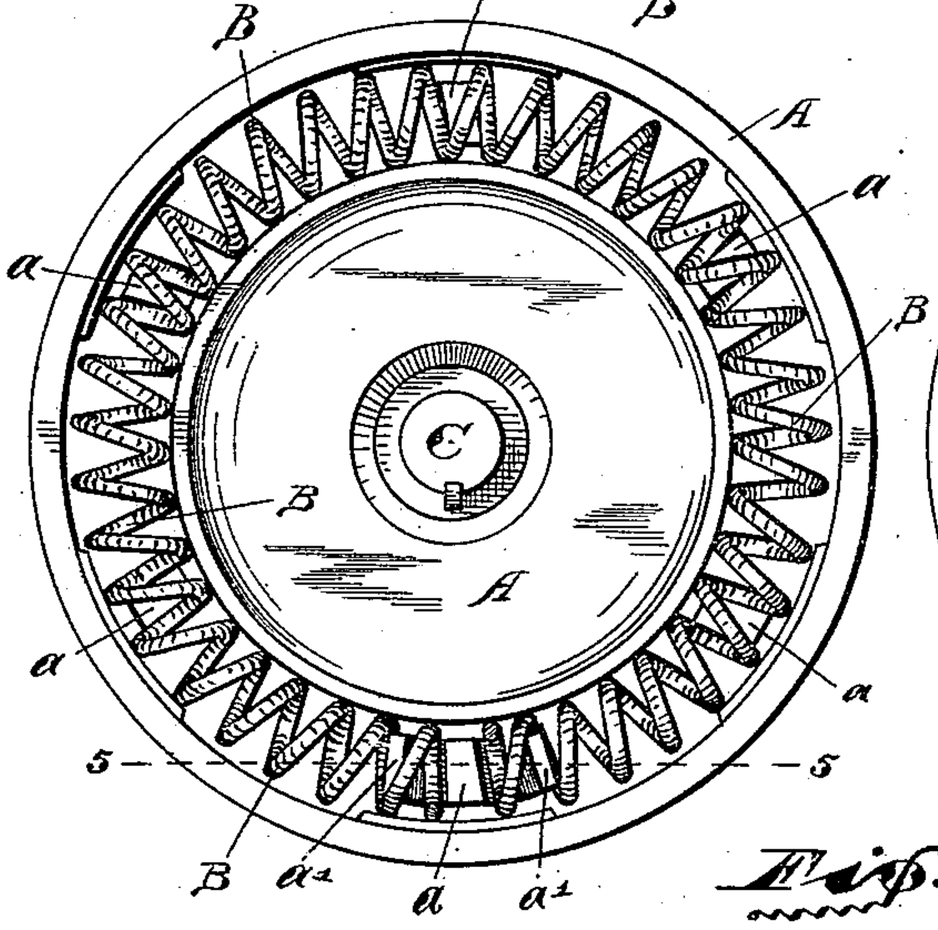


Fig. 4.

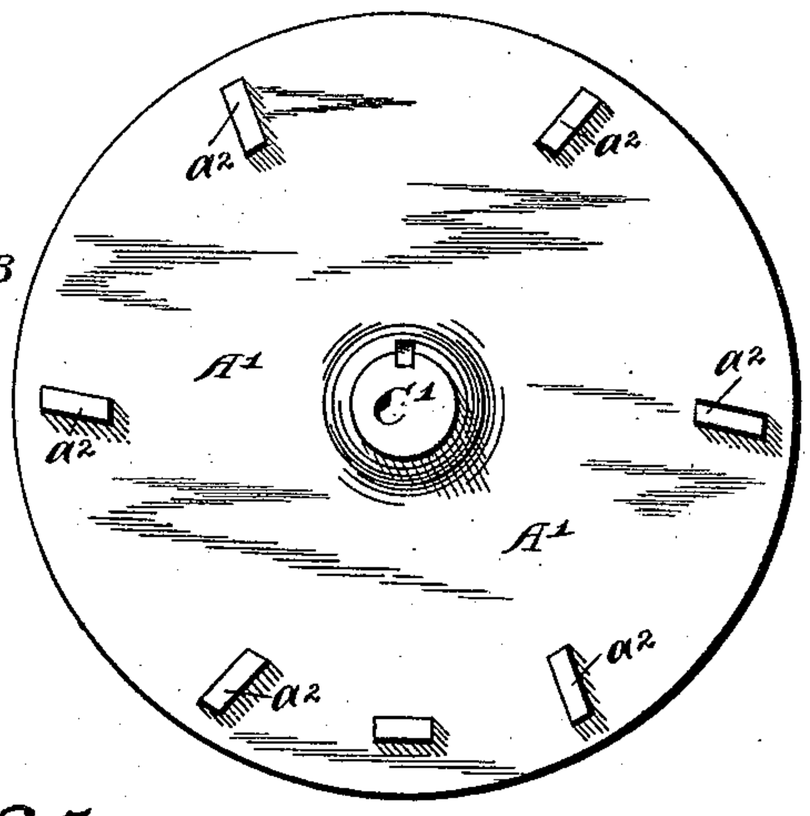
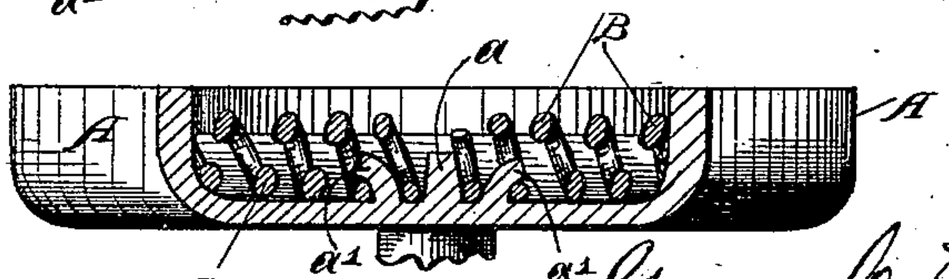


Fig. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE C. PYLE, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE NATIONAL ELECTRIC HEAD LIGHT COMPANY, OF SAME PLACE.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 446,123, dated February 10, 1891.

Application filed January 21, 1890. Renewed January 8, 1891. Serial No. 377,108. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. PYLE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a specification.

The object of my said invention is to produce a coupling for shafts, rods, and such like devices which, while forming a perfect union between the abutting ends of the two shaft or rod sections, shall be capable of yielding somewhat in both a longitudinal and rotary direction. This object is accomplished by interposing between the two flanges or coupling-halves on the ends of the shaft-sections, a spiral spring suitably seated in an annular groove in said coupling-halves, or one of them, and providing said coupling-halves with projections which engage at intervals with the coils of said spring, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a shaft in two pieces coupled by means of my improved coupling; Fig. 2, a central vertical sectional view of the same; Fig. 3, an inside view of one of the coupling-halves containing the spring; Fig. 4, an inside view of the other coupling-half, and Fig. 5 a sectional view looking upwardly from the dotted line 5 5 in Fig. 3.

In said drawings the portions marked A A′ represent the two halves of the shell of my improved coupling, B the spring, and C C′ the two sections of the shaft. The two halves of the coupling I prefer to form substantially as shown. The half A embodies an annular groove containing the spring, and its outer or peripheral rim extends out beyond the inner wall of said groove far enough, so that the half A′ may be partially or wholly inclosed. This construction completely incloses and more firmly holds the spring in place, and also permits the parts to easily vary somewhat in their relation to each other.

In the annular groove I provide a number of lugs *a*, (six are shown,) besides preferably two other lugs *a*′, near one of the principal lugs for holding the free ends of the spring. These six principal lugs *a* extend up between coils of the spring at points preferably substantially equidistant from each other, and thus hold said spring from being moved around in said groove. At the point where the ends of the spring approach each other the two other lugs *a*′ are formed just far enough from one of the principal lugs, so that the ends of the spring may each pass between said principal lug and said fastening-lugs, one on each side. After the spring is in position I prefer to bend these fastening-lugs outwardly somewhat over the adjacent coils of said spring, and thus hold said spring firmly into said groove, effectually preventing its displacement therefrom. Upon the coupling-half A′ are corresponding lugs a^2, which also pass between the coils of the spring at points substantially opposite to the points where the lugs in the bottom of the groove are, and thus the two halves of the coupling are kept from revolving independently of each other through the medium of said spring. There being no rigid union between the halves of the coupling and the connection being by means of a spring, which, of course, is more or less yielding, not only may there be some departure from alignment between the two shaft portions, but more or less yielding circumferentially under the strain of sudden stopping or starting of that part to which the power is applied. The spring B is preferably an ordinary spiral spring laid into the annular groove in the coupling-half A and secured therein by means of projections or lugs, as before described.

While I have described six projections on each coupling-half, it is perfectly obvious that a greater or less number may be employed, if desired, without departing from my invention. It is also obvious that the coupling halves or parts may be both formed alike, each having a shallower annular groove than that shown in the half A, which will receive half the spring only, and the form may also be varied in other ways so long as the coupling embodies parts attached to the shaft portions with a spring interposed between them.

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

1. The combination, in a shaft-coupling, of a coupling-half having an annular groove and a peripheral rim extending out beyond the other portions of said coupling-half, a second coupling-half adapted to fit within said peripheral rim, a continuous spiral spring laid within said groove between said two coupling-halves, and lugs extending out toward each other from said two coupling-halves and engaging with the coils of said spring, substantially as set forth.

2. The combination of two sections of shafting C and C′, arranged in line with each other, a coupling-half A, mounted upon one of said sections and provided with an annular groove and a peripheral rim extending beyond the other parts thereof, with lugs in the bottom of said groove, a second coupling-half A′, secured to the other shaft-section, the same being in the form of a flat plate of a diameter adapted to fit within the peripheral rim of the other coupling-half and provided with lugs projecting toward the lugs on the other coupling-half, and a spring interposed between said two coupling-halves with which said lugs will engage, whereby one section of the shaft may be driven from the other section through said spring and an elastic or yielding motion thereby secured.

3. The combination of a shaft-coupling composed of two coupling-halves, one of which has an annular groove with lugs in the bottom of said groove, a continuous spiral spring laid in said groove and extending throughout its length, two of said lugs being bent outwardly over the coils of said spring and thereby holding it in position, and the second coupling-half adapted to fit into the first coupling-half and also provided with lugs which engage with the coils of said spring, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 25th day of November, A. D. 1889.

GEORGE C. PYLE. [L. S.]

Witnesses:
CHESTER BRADFORD,
JAMES WALSH.