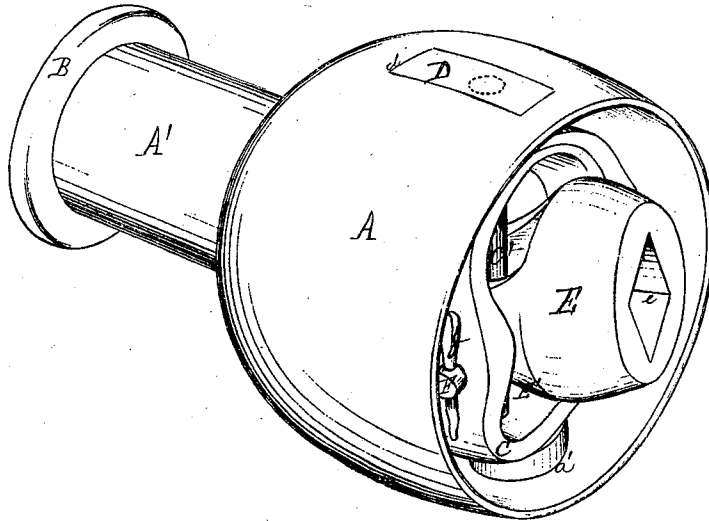
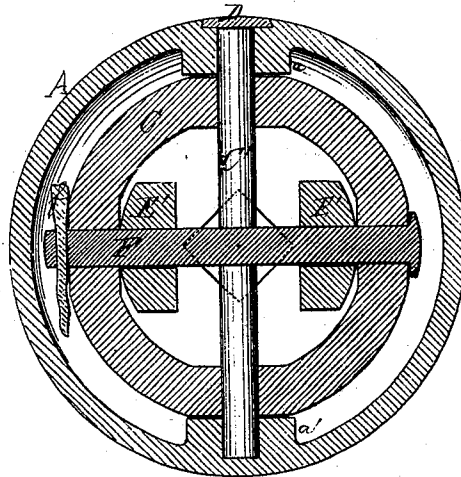


*W. Smeed,*  
*Shaft Coupling,*  
*No. 102,846. Patented Dec. 6. 1870.*

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*Alex Mahon*  
*H. H. Doubleday*

*William Smeed*  
*by his Attorney*  
*A. M. Smith*

# United States Patent Office.

WILLIAM SMEED, OF ROCHESTER, ASSIGNOR TO HIMSELF AND GLEN & HALL MANUFACTURING COMPANY, OF BRIGHTON, NEW YORK.

Letters Patent No. 109,846, dated December 6, 1870.

## IMPROVEMENT IN SHAFT-COUPPLINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM SMEED, of Rochester, county of Monroe and State of New York, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a perspective view of my improved coupling, and

Figure 2 is a transverse sectional view.

The invention relates to that class of couplings known as universal or tumbling joints, and which are inclosed by a casing, to prevent anything from becoming entangled with said coupling when it is in motion.

The invention consists in certain features of construction, which are designed to secure economy, durability, convenience in taking apart or putting together, and perfect security when in operation, as will be fully set forth and explained in the following description.

In the drawing—

A represents a hollow shell or casing, of a globular form, and provided upon one side with a neck or arm, A', cast, by preference, in one piece with the shell.

Neck A' is cast with a socket, of suitable form and size, to receive one end of the shaft to which the coupling is to be attached.

B is a rim or flange upon the outer end of neck A', and the neck between this flange and the shell may be made to serve as a bearing, to support the coupling and shafting.

Upon the inside of shell A, at its greatest diameter, are two bosses, *a a'*, placed diametrically opposite to each other, one of which, *a*, is perforated, said perforation extending entirely through the shell, as shown in fig. 2, while the other one, *a'*, is provided with a socket or eye, which does not extend through the shell, but is left blind.

C is an intermediate or connecting ring, made substantially like those generally employed in this class of coupling, and connected with shell A by means of bolt or pin C'.

One end of this pin rests in a socket in boss *a'*, and the other end in the perforation in a boss, *a*.

D is a sliding plate, confined in a dovetailed groove, as is plainly shown in fig. 2.

After ring C and bolt C', are placed in proper position, plate D is slipped in, and said bolt is thereby securely held in place.

At the rear end of the dovetailed groove there is a recess at *d*, into which the inner end of plate D may be upset, so that it cannot be accidentally displaced, while at the same time it can be driven out by means of a hammer and set or cold chisel.

E is a hub, provided with a suitable socket for the reception of a shaft, as at *e*, fig. 1, and is expanded into ears E'.

Each of these ears is perforated and connected with intermediate rings C, by means of bolt F, which passes through said ring at right angles to bolt or pin C', bolt F being secured by latch *f* or its equivalent.

In casting the various parts forming this coupling, I find it desirable to chill all of the holes through which the pins or bolts pass, as the durability of joint is very much increased thereby.

It will be readily seen that the inside bosses *a a'* serve not only to furnish an additional length of bearing for pin C', but also to maintain C in a central position with reference to shell A.

It will also be apparent that by casting shell A in a spherical form, I not only reduce its size, but also give it the greatest possible strength for the weight of iron required.

Having now described my invention,

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

1. The shell A, provided with a socket or blind eye, as at *a'*, adapted to receive and support one end of the pin *c'*, to which are attached the remaining parts of the coupling, substantially as described.

2. The shell A, provided with bosses *a a'* upon its inner surface, for the purpose of maintaining the ring C, in a central position, as set forth.

3. The shell A, provided with the dovetailed groove, in combination with the sliding plate D, for securing the pin C' in the perforation at *a*, and the blind eye at *a'*, substantially as set forth.

WILLIAM <sup>his</sup> X SMEED.  
mark.

Witnesses:

EUGENE GLEN,  
JOHN G. GLEN.