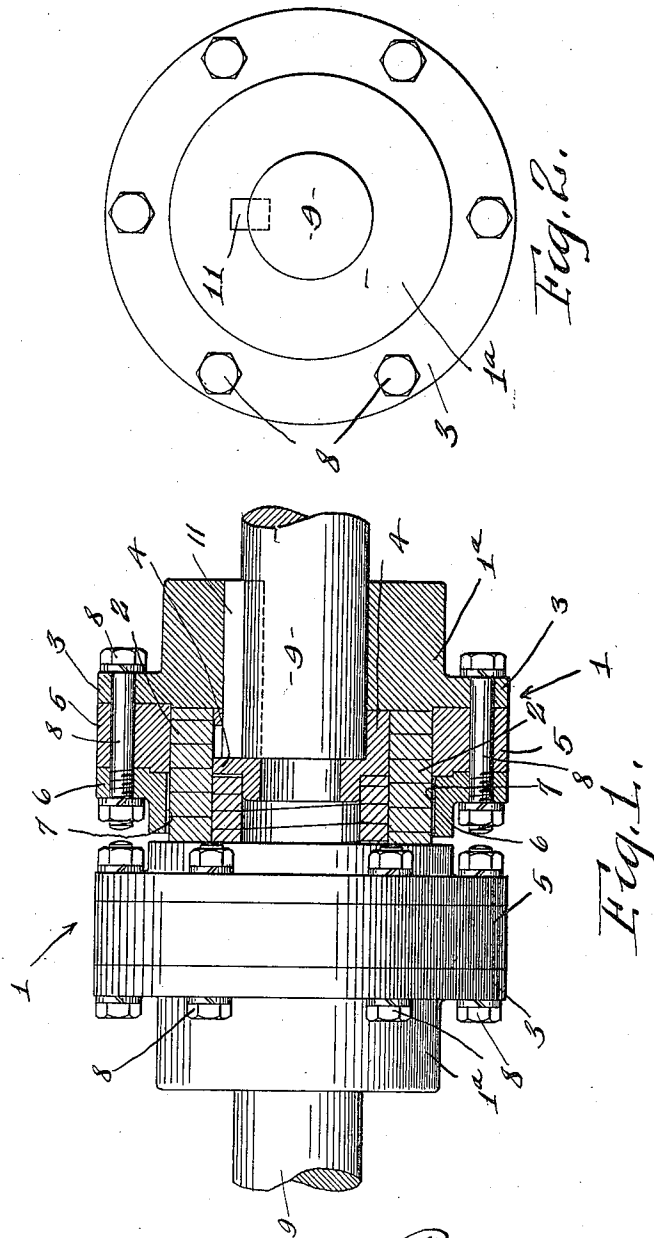


M. R. KARGE.  
FLEXIBLE COUPLING.  
APPLICATION FILED AUG. 19, 1920.

1,429,147.

Patented Sept. 12, 1922.



*Marcell R. Karge*

INVENTOR.

BY

*Parsons & Rodell*

ATTORNEYS.

Patented Sept. 12, 1922.

1,429,147

# UNITED STATES PATENT OFFICE.

MAXWELL ROY KARGE, OF PHOENIX, NEW YORK.

## FLEXIBLE COUPLING.

Application filed August 19, 1920. Serial No. 404,652.

*To all whom it may concern:*

Be it known that I, MAXWELL R. KARGE, a citizen of the United States, and a resident of Phoenix, in the county of Oswego and State of New York, have invented a certain new and useful Flexible Coupling, of which the following is a specification.

This invention relates to flexible couplings of the type set forth in my pending applications, Sr. No. 273,548, filed January 28, 1919; Sr. No. 285,762, filed March 28, 1919; Sr. No. 364,712, filed March 10, 1920; Sr. No. 264,713, filed March 10, 1920; Sr. No. 391,067, filed June 23, 1920; Sr. No. 391,068, filed June 23, 1920, and Sr. No. 391,069, filed June 23, 1920; and has for its object a particularly simple and efficient means for securing the coils of the torsion spring to the headers without weakening the headers, and the invention consists in the novel features, and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is an elevation, partly in section, of a coupling embodying my invention.

Figure 2 is an end view looking to the left, in Fig. 1.

This coupling in so far as my present invention is concerned, comprises a pair of headers having means for connection to shafts to be coupled together, a coiled torsion spring secured at its ends to the headers respectively, the headers having means for securing the end coils of the spring thereto and also means for limiting the expansion of the intermediate coils of the spring.

1 designates the headers; 2 is the coiled torsion spring. Each header includes a body 1<sup>a</sup> having a hub and an annular flange 3, plugs as 4 inserted in the end coils of the spring, an intermediate ring 5 enclosing the end coils and being shrunk thereon to clamp such end coils between such intermediate ring and the plug 4, an end ring or sleeve 6, the inner circumferential wall 7 of which is spaced apart from the intermediate coils of the spring to provide a clearance for the expansion of the spring as in my pending applications referred to.

The rings 5, 6 and the flange 3 are secured together by clamping means as bolts

8 extending transversely through the flange 3 and said rings 5, 6 and nuts threading on the bolt. The body 1<sup>a</sup> and the ring 6 are formed of cast iron and the ring 5 which is shrunk on the end coils of the spring is formed of steel. In order not to weaken the headers during the shrinking operation the ring 5 is formed separately from the body 1<sup>a</sup> and ring 6. The plugs 4 and the hubs of the body of each header are secured to the shafts 9 to be coupled together in any suitable manner as by keys 11.

What I claim is:

1. A flexible coupling comprising opposing headers, and a coiled spring having its ends fixed to the headers respectively, each header comprising a body having means for connection to a shaft, a ring encircling the end coils of the contiguous end of the spring, a ring encircling the intermediate coils of the spring, and means for clamping the body and said rings together, substantially as and for the purpose described.

2. A flexible coupling comprising opposing headers, and a coiled spring having its ends fixed to the headers respectively, each header comprising a body having means for connection to a shaft, a ring encircling the end coils of the contiguous end of the spring, a ring encircling the intermediate coils of the spring, and means for clamping the body and said rings together, the ring which encircles the end coils of the spring being shrunk on the end coils of the spring and the ring which encircles the middle coils of the spring having its inner circumferential face spaced apart from such middle coils of the spring to provide a clearance for the intermediate coils of the spring, substantially as and for the purpose specified.

3. A flexible coupling comprising opposing headers, and a coiled spring having its ends fixed to the headers respectively, each header comprising a body having means for connection to a shaft, a ring encircling the end coils of the contiguous end of the spring, a ring encircling the intermediate coils of the spring, and means for clamping the body and said rings together, the ring which encircles the end coils of the spring being formed of steel and shrunk on the end coils of the spring, and the ring which encircles the intermediate coils of the spring being spaced apart from the intermediate coils of the spring to provide a clearance,

substantially as and for the purpose set forth.

4. A flexible coupling comprising oppos-  
ing headers, a coiled spring having its ends  
5 secured respectively to the headers, each  
header comprising a body having means for  
connection to the shaft, the body abutting  
against the contiguous end of the spring, a  
plug inserted in the end coils of the spring;  
10 an intermediate clamping ring encircling  
the end coils of the spring and shrunk  
thereon, an outer ring adjacent the inter-

mediate ring and having its inner circum-  
ferential face spaced apart from the inter-  
mediate coils of the spring, and means for 15  
clamping the body and the rings together,  
substantially as and for the purpose de-  
scribed.

In testimony whereof, I have hereunto  
signed my name, at Phoenix, in the county 20  
of Oswego, and State of New York, this  
23rd day of July, 1920.

MAXWELL ROY KARGE.