

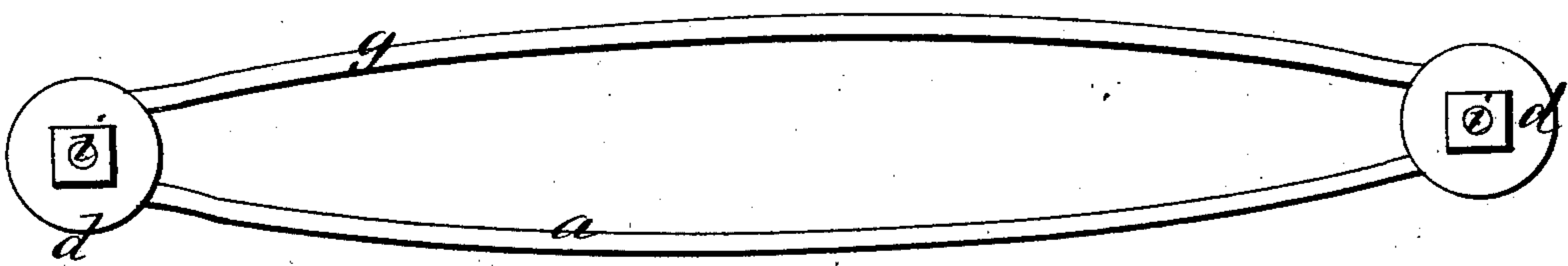
(Model.)

C. H. PARSONS.  
ELLIPTIC SPRING.

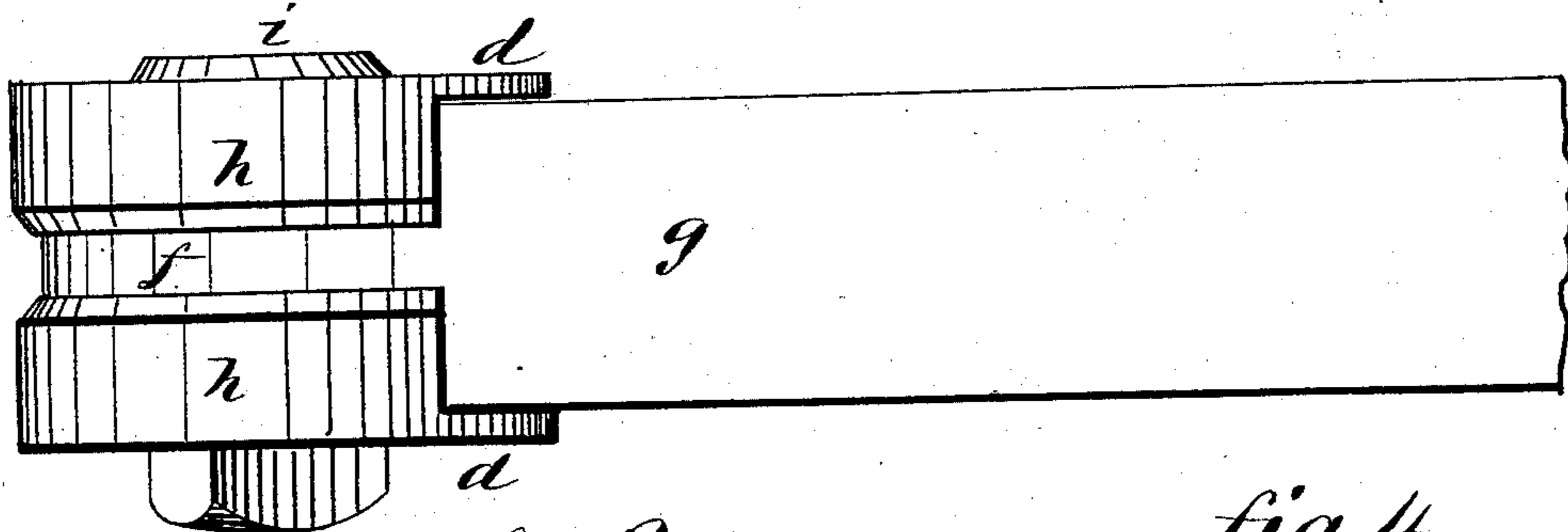
No. 278,175.

Patented May 22, 1883.

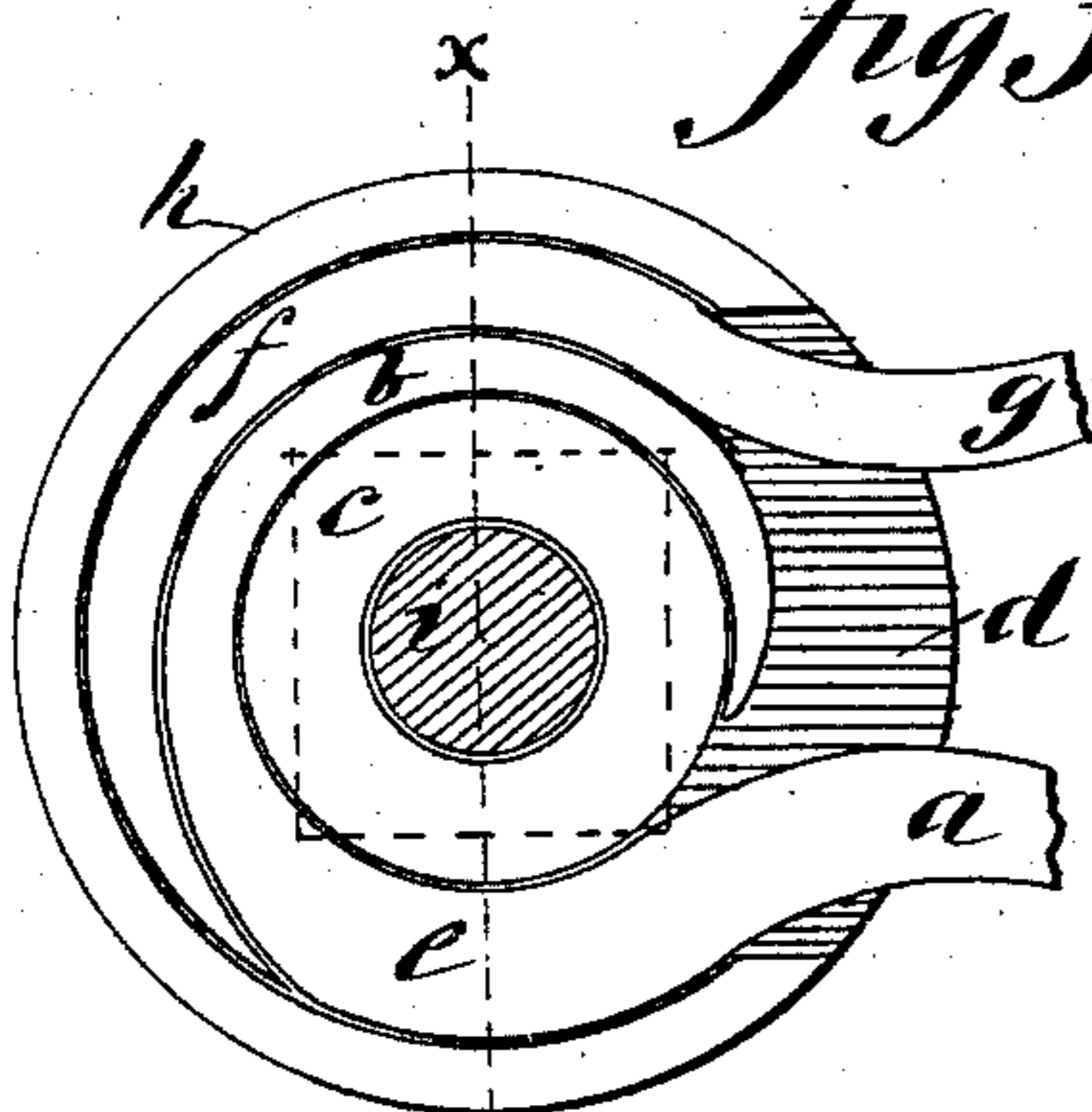
*fig 1.*



*fig 2.*



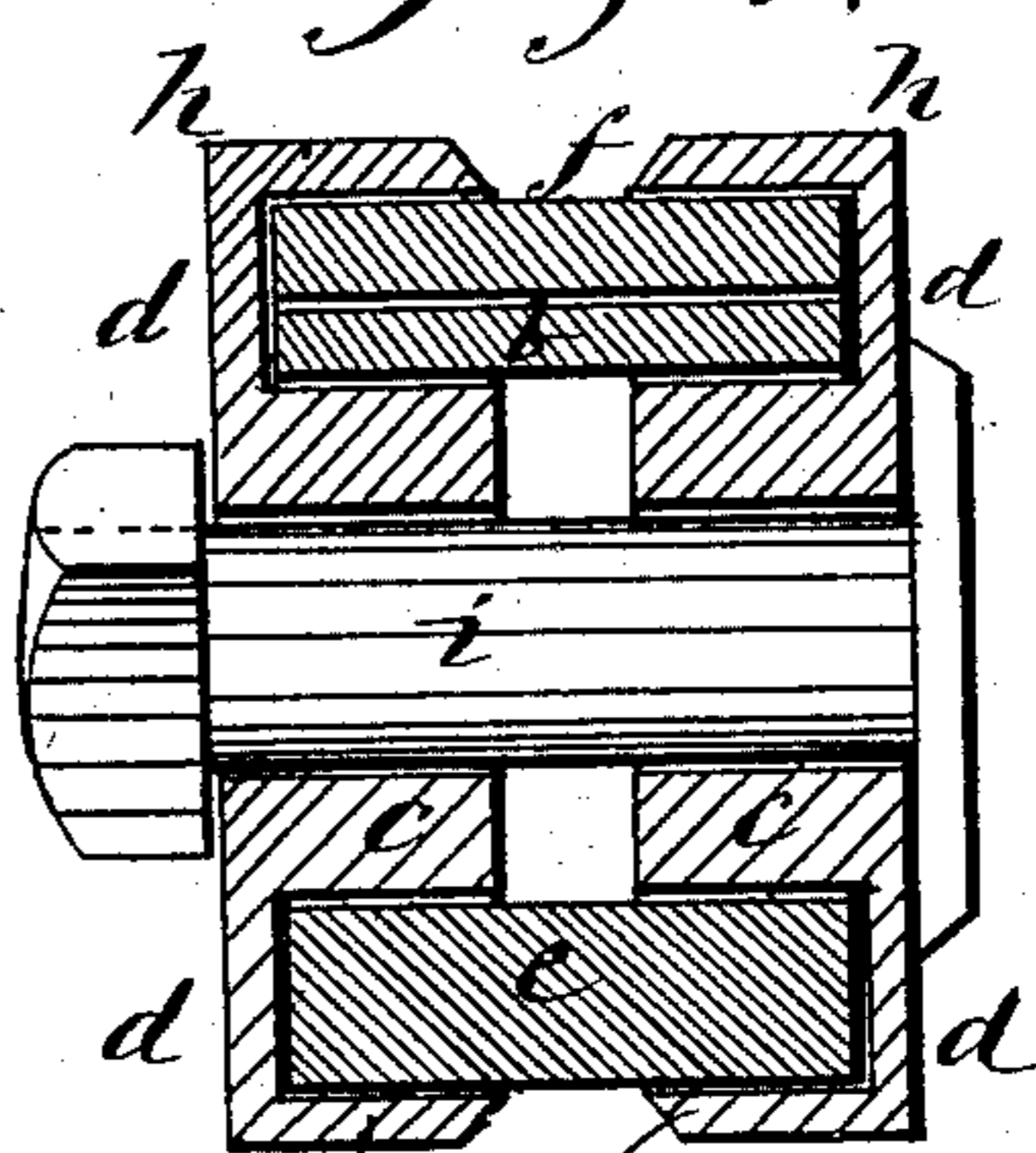
*fig 3.*



WITNESSES:

*Chas F Howell,*  
*C. Sedgwick*

*fig 4.*



INVENTOR:

*C. H. Parsons*

BY

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# UNITED STATES PATENT OFFICE.

CHARLES H. PARSONS, OF SHAUCK'S, OHIO.

## ELLIPTIC SPRING.

SPECIFICATION forming part of Letters Patent No. 278,175, dated May 22, 1883.

Application filed January 15, 1883. (Model.)

*To all whom it may concern :*

Be it known that I, CHARLES H. PARSONS, of Shauck's, in the county of Morrow and State of Ohio, have invented a new and useful Improvement in Elliptic Springs, of which the following is a full, clear, and exact description.

My invention consists of an improved contrivance for the joints of the ends of the plates or leaves of elliptic springs, whereby the lower plate is made to hold caps employed to keep the plates together, and the upper one rests on the coil of the lower one, so as to relieve the joint-bolt of wear, and so that the welding of ears or flanges on one of the plates to support the pivot-bolt is avoided, and the injury thereby caused to the metal is prevented, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of an elliptic spring having joints contrived according to my invention. Fig. 2 is a top or plan view of one of the joints. Fig. 3 is a side view of one of the joints, one of the caps being removed and the bolt being sectioned; and Fig. 4 is a section of the joint on line *x x* of Fig. 3.

The lower plate, *a*, of the spring has the small coil *b*, in which the hollow central studs, *c*, of caps *d* are fitted to rest, said coil being

the whole thickness of the plate in the part *e*, which sustains the said caps, but is reduced to half that thickness in the rest of its length, in order that the coil *f* of upper plate, *g*, may rest on it and fit within the circular flanges *h* of the caps *d*. The bolt is passed through the caps and holds them securely on the plates, being protected from wear, and the caps securely hold the two plates together, as will be clearly understood. Thus the plates only have to be coiled at the ends, besides tapering them a little, if desired, and thinning the lower one, all of which may be readily done without injury to the metal; and it will be seen that the joint is very substantial and durable.

The combination of the ends of two sections of a spring with an independent cap through which the bolt passes for the purpose of rendering lugs or punched holes unnecessary and to prevent the spring from stretching longitudinally is not new; but

What I do claim as new and of my invention is—

The combination, with the spring ends *e f* and bolt *i*, of the caps *d*, having circular flanges *h* and hollow central studs, *c*, as shown and described.

CHARLES HENRY PARSONS.

Witnesses:

GEORGE R. HOLLOWAY,  
BEN. L. SHUMA.