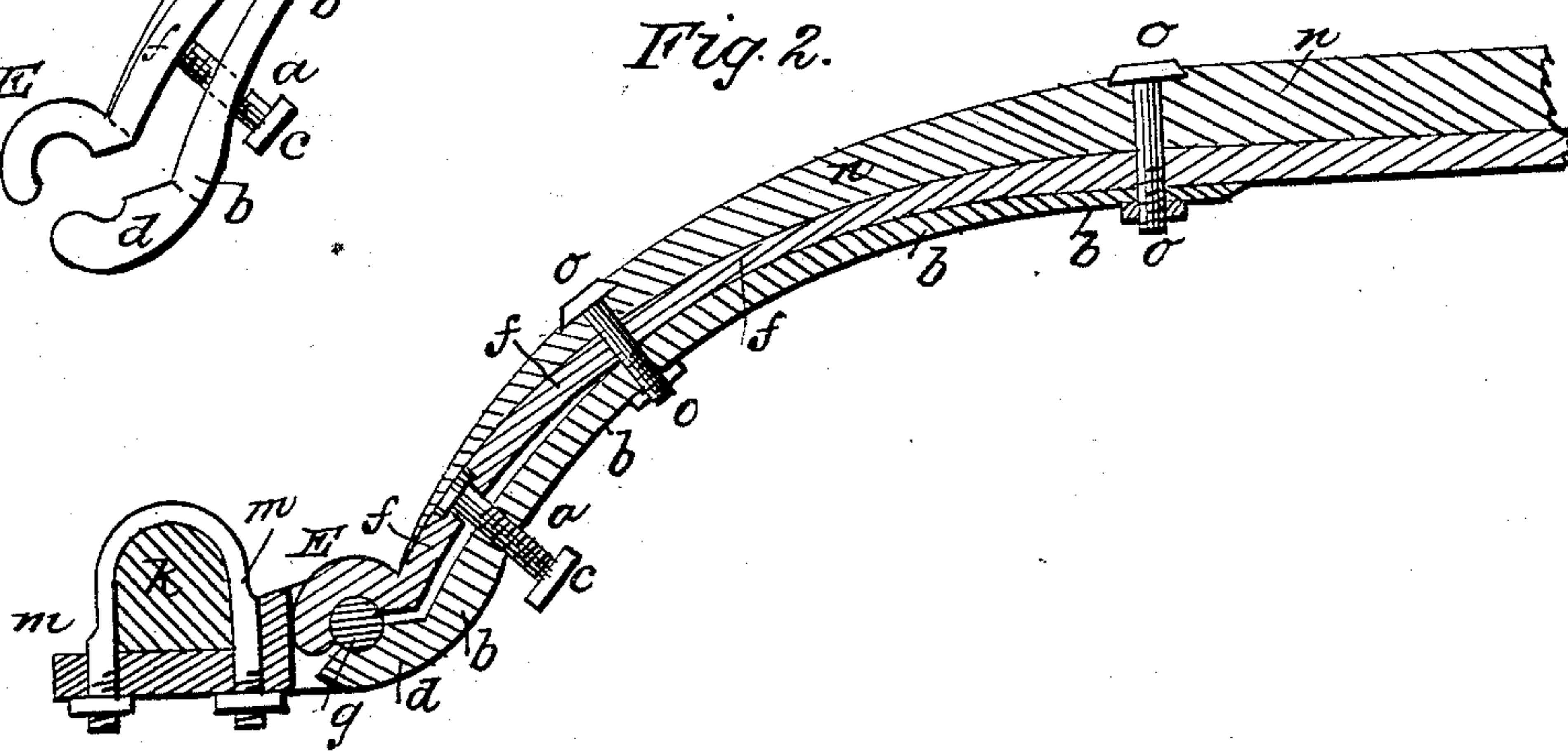
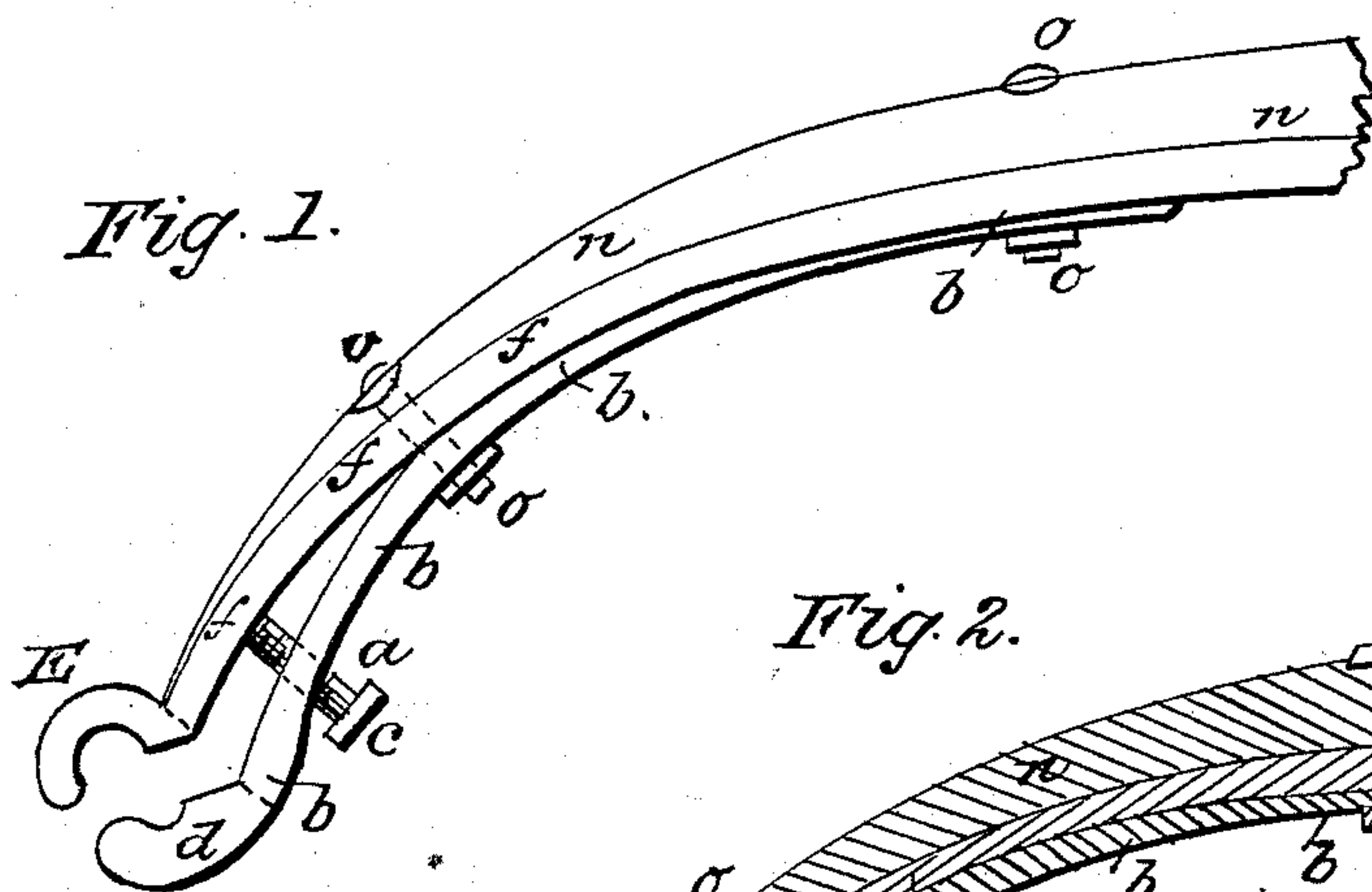


W. W. ANDERSON.

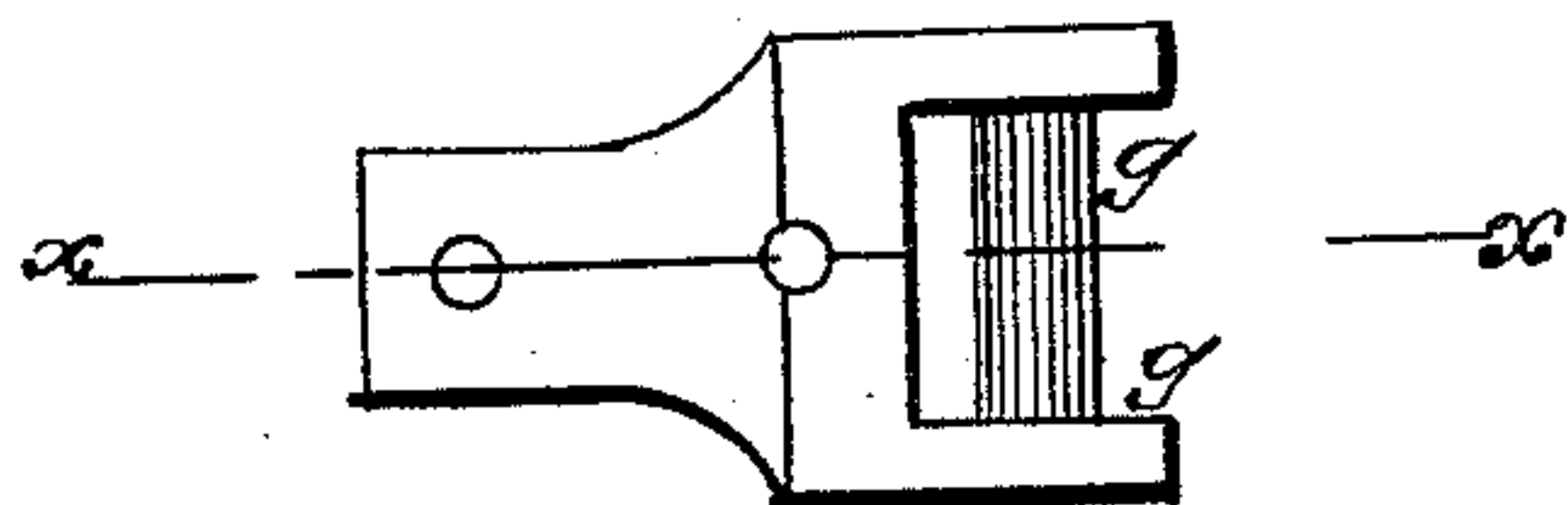
Thill Coupling.

No. 84,077.

Patented Nov. 17, 1868.



*Fig. 3.*



Witnesses  
R. W. Walker,  
Jas. Selden

Inventor.  
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# United States Patent Office.

WILLIAM WALLACE ANDERSON, OF CAMDEN, NEW JERSEY.

Letters Patent No. 84,077, dated November 17, 1868.

## IMPROVEMENT IN THILL-COUPLING.

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

To all whom it may concern:

Know ye that I, WILLIAM WALLACE ANDERSON, of the city of Camden, county of Camden, and State of New Jersey, have invented a "Shaft or Pole Coupling," being a new and useful improvement for attaching the shafts and poles of vehicles thereto; and I do hereby declare the following to be a full and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, like letters indicating like parts.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

My invention relates to attaching to the lower side of the rear end of a shaft-iron, when secured to a shaft by ordinary methods, a steel spring, which is bolted to the shaft-iron and shaft. The spring acts towards the lower surface of the former, and is opened by a screw working upon a thread in a hole in the spring, near the end thereof. This screw has a shoulder below and a head above, and between the shaft-iron and shaft, so that it turns or revolves without danger of becoming detached, and is operated by a fixed head upon that part of the screw below the spring, by means of which the spring is opened or brought up against the shaft-iron with increased pressure. The spring terminates in an arched piece or segment of a hollow cylinder. Immediately above this, on the end of the shaft-iron, is another segment of a cylinder of similar proportions. The latter is passed over the shaft-pin in such manner that the lesser curve in it rests upon the shaft-pin. By the action of the spring, the segment at its end is brought up so that the lesser curve thereof fits upon the lower side of the shaft-pin, which is thus almost entirely encompassed by the two segments, and forms an axle upon which the partial cylinder works.

The two segments are provided with lips on their rear portions, which curve, the upper upward and outward, the lower downward and outward, to form an opening for admission of shaft-pin. These segments do not touch each other, but only the shaft-pin. This is so arranged in order that the spring may exert a steady pressure upon the shaft-pin, preventing rattling or de-

taching of shaft without requiring the pressure which may be obtained by using the screw.

In the drawings hereto annexed, and made a part of this specification—

Figure 1 represents a side elevation of a portion of a shaft, with spring *b* attached.

Figure 2 represents a central vertical section through the line *x-x*, fig. 3, showing shaft-box, fig. 3, attached to axle *k*, by means of ordinary clip, *m*; also, the position and operation of screw *a*, and method of attaching shaft *n* to shaft-iron *f*, by the bolts *o o*.

Figure 3 represents a plan view of shaft-box, showing shaft-pin *g*.

### Operation.

To attach shaft, by means of the screw *a*, open the spring *b*, pass the arch *E*, at the end of the shaft-iron *f*, over the shaft-pin *g*. Turn the screw *a* in a reverse direction to first movement, which brings the concavity in the arch *d*, at the end of the spring *b*, directly against the lower part of the shaft-pin *g*, which is thus partially enclosed in a hollow cylinder, the upper and lower parts of which do not meet. By this fact, the pressure is upon the shaft-pin *g* alone, and rattling as well as detaching is prevented, as the screw *a* operates only to open the spring *b*, but may be used if greater pressure upon the shaft-pin *g* is required.

To detach the shaft, throw open the spring *b*, by means of the screw *a*. The shaft may be then readily removed.

In the construction of my invention, any metal possessing strength and elasticity may be used, but for the spring *b*, and the shaft-pin *g*, steel is preferred.

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

The steel spring *b*, in combination with the segments or arches *d* and *E*, which bear upon the shaft-pin *g*, but do not touch each other, and with the screw-bolt *a*, the whole arranged and operated substantially as and for the purposes herein set forth.

WM. WALLACE ANDERSON.

Witnesses:

R. W. WALKER,  
JAS. SELDEN.