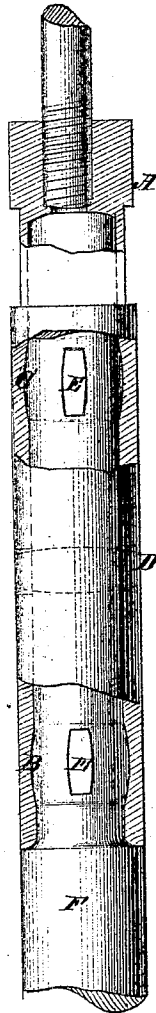


F. J. Hanna,

Shaft Coupling.

No. 105199.

Patented July 12. 1870.



Witnesses:

Wm. Becker.
S. S. Mabee

Inventor:

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PER

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UNITED STATES PATENT OFFICE.

FRANCIS J. HANNA, OF PETROLEUM CENTRE, PENNSYLVANIA.

IMPROVEMENT IN ROD-COUPPLINGS.

Specification forming part of Letters Patent No. **105,199**, dated July 12, 1870.

To all whom it may concern:

Be it known that I, FRANCIS J. HANNA, of Petroleum Centre, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Rod-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in rod-couplings; and consists in an improved means for connecting the socketed metallic joints for wood rods to the same.

The drawing is an elevation of one of my improved coupling-sections, partly sectioned.

A is a cast-metal socketed joint-section, to which the other section is to be connected at the top by screwing or otherwise, as may be found best. I core out this socket at B, C, and D, where key-holes E are made for driving keys through the wooden rod F, so that the diameter will be larger than elsewhere, to

allow the wedges or keys to bulge the wood into the enlarged places, to prevent the wood rods from drawing out of the sockets, and I make the wedges oval—that is, larger transversely at the centers than at the ends—so that when driven into the wood it will prevent them from working out, the wood closing down at the sides where the wedges are driven in after the thick parts have been forced into the center.

In this way a very simple, cheap, and permanent connection is made. I may use one, two, or more keys, as preferred.

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

Securing the socketed metallic rod-coupling sections A to the wooden rods by means of the enlargements B of the sockets and the oval keys, all substantially as specified.

FRANCIS J. HANNA.

Witnesses:

JOSEPH MCKINLEY,
SEBASTIAN GROSS.