H. T. Hunt.

Pump Rod Coupling.

No. 87,778. Patented Mar. 16, 1869.

Fig. 1.

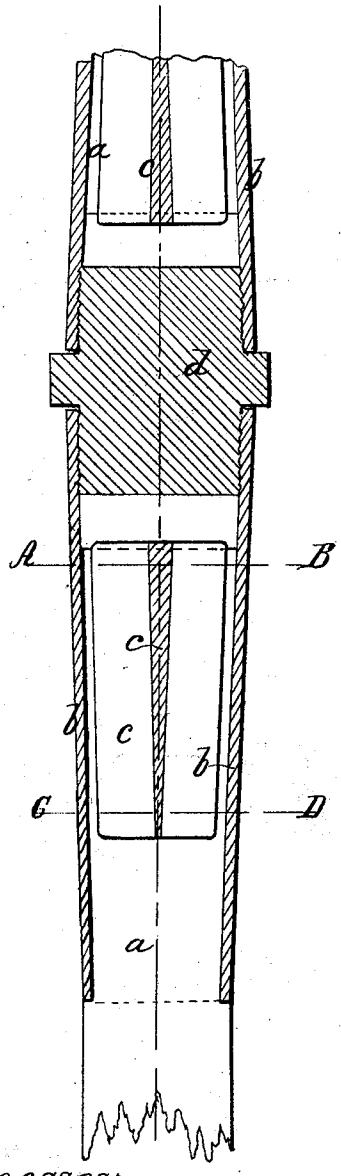


Fig. 2.

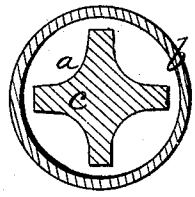


Fig. 3.

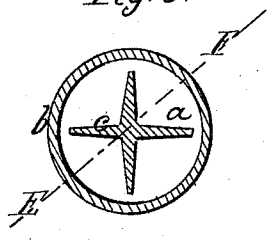
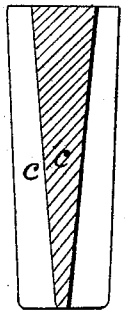


Fig. 4.



Witnesses;
James H. Hill
Levin C. Tindleton

Inventor;
H. T. Hunt
by A. B. Rowland
attorney

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

United States Patent Office.

H. T. HUNT, OF TITUSVILLE, PENNSYLVANIA.

Letters Patent No. 87,778, *dated March* 16, 1869.

IMPROVEMENT IN PUMP-ROD COUPLING.

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, H. T. HUNT, of the city of Titusville, county of Crawford, and State of Pennsylvania, have invented a certain new and improved Coupling for Pump-Rods; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical or longitudinal section of the coupling;

Figure 2 is a transverse section, on line A B;

Figure 3, a transverse section, on line C D; and

Figure 4, a longitudinal section of the expander, on line E F of fig. 3.

My invention is especially adapted for the coupling or joining together of the wooden pump-rods used in artesian wells, where a continuous rod, from six hundred to eight hundred feet in length, is required.

Said rods are subjected to severe tensile strain in both directions; and as a large number of couplings are required, they should not only be rigid and durable, but cheap and simple in construction, so that well-operators, who are not usually skilled mechanics, may be able at any time to cut and splice the rods to any required length, or to repair or renew broken ones, and at the same time to keep the rods and joints in perfect alignment. It is also applicable to all other joints of a similar nature.

In the drawings—

a represents the end of the wooden rod.

b is an annular metal ferrule, of a tapering form, the inner end fitting closely to the rod *a*, while the outer end is somewhat larger, as shown.

c is a double wedge, or expander, made of metal, and of the peculiar sectional form shown in figs. 2, 3, and 4.

The end of the rod *a* being first sawed or slitted, to receive the point of the expander, the tapering ferrule *b* is slipped over it, and the expander *c* is driven firmly into the end of the wooden rod, thus expanding the same to the full size of the ferrule throughout its length.

A female thread is cut upon the outer end of the ferrule, and the rods are connected rigidly together by means of a nipple, *d*, provided with a square or hexagonal collar in the centre, and a male-screw thread upon each end, corresponding with the thread upon the ferrule, all as shown.

The expander *c* is made of such cross-sectional form as to split the end of the rod, within the ferrule, into equal parts.

The outer edges of the expander taper to correspond with the taper of the ferrule, while both the central portion and the wings of the same also taper longitudinally.

The result is, that when it is driven firmly within the ferrule, the entire outer surface of the rod is pressed radially against and completely fills the ferrule, thus making a connection firm and rigid in every direction, and preserving a perfect alignment of the rods and joints.

This latter feature is of vital importance to the smooth working and durability of the rods, and is not attained by the various joints in common use, except by a much greater expenditure of time and labor than the consumers are willing to pay for.

I am aware that the use of a single flat wedge, for securing ferrules upon tool-handles, &c., is a common practice; but when used in securing said pump-rods, the practical difficulty is that it only expands the wood in one direction, and the joint soon becomes loose, and the alignment is destroyed.

The essential feature of my invention is, that by the use of the device represented, the joint is perfectly rigid against both tensile and transverse strains, while the perfect alignment of the rods and joints is preserved under all circumstances, and the whole arrangement is cheaply made.

Having thus described my device,

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

The expander *c*, of the peculiar tapering sectional form shown, in combination with the ferrule *b* and rod *a*, substantially as and for the purposes set forth.

H. T. HUNT.

Witnesses:

J. J. HOLDEN,

FRED. BATES.