

(No Model.)

T. H. PATEE.
COUPLING FOR LIGHTNING RODS.

No. 297,290.

Patented Apr. 22, 1884.

Fig. 1.

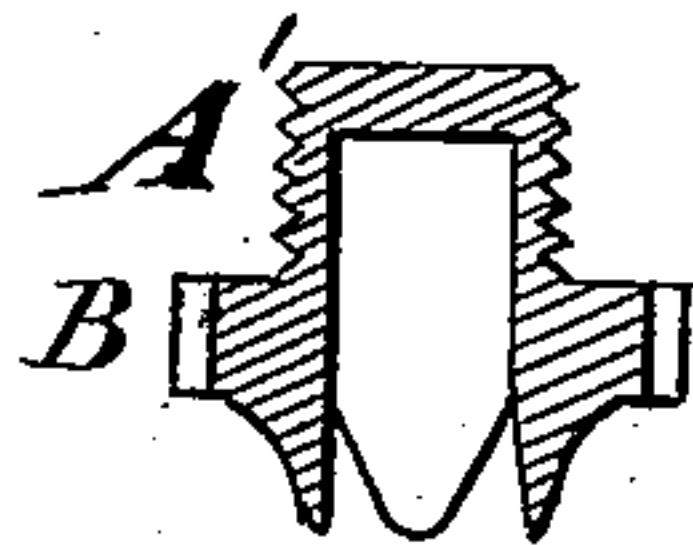
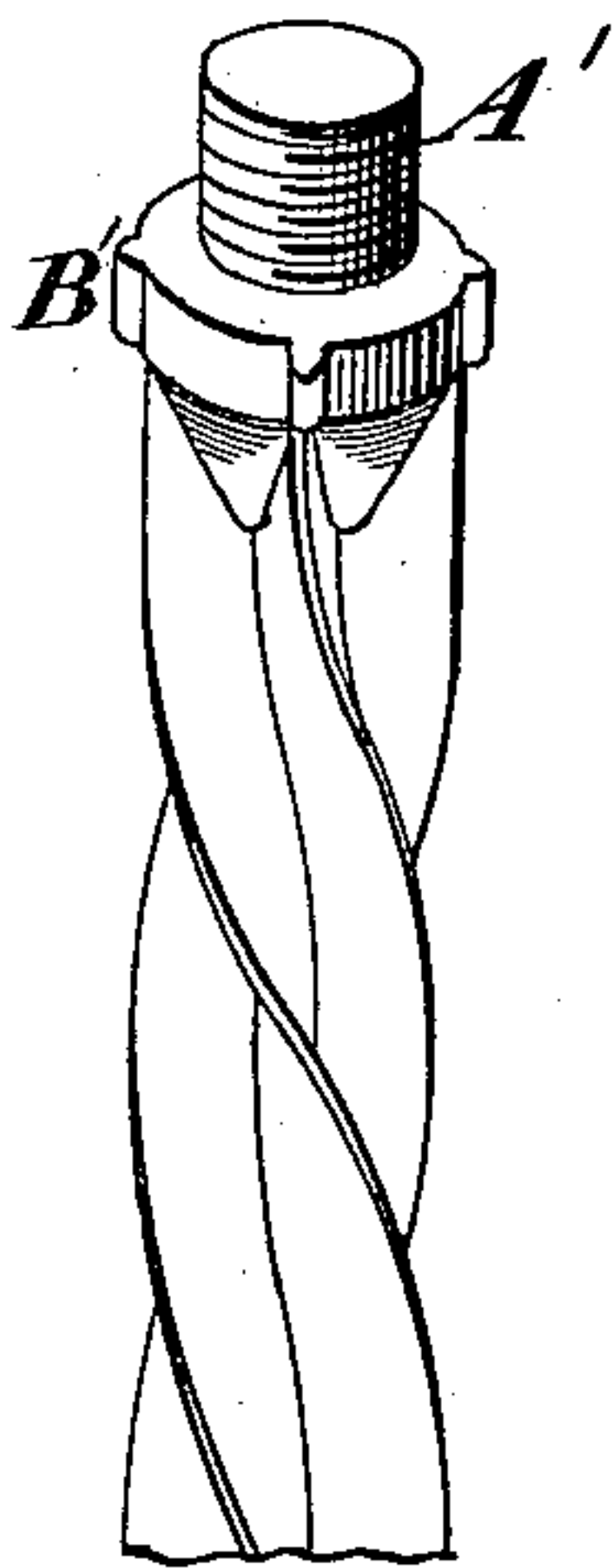


Fig. 2.

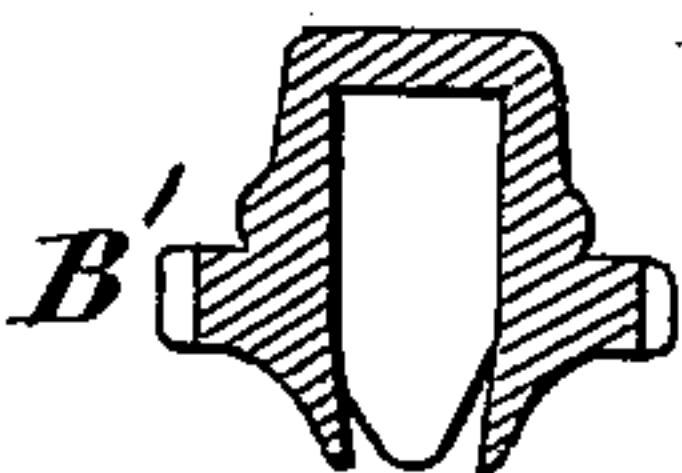


Fig. 3.

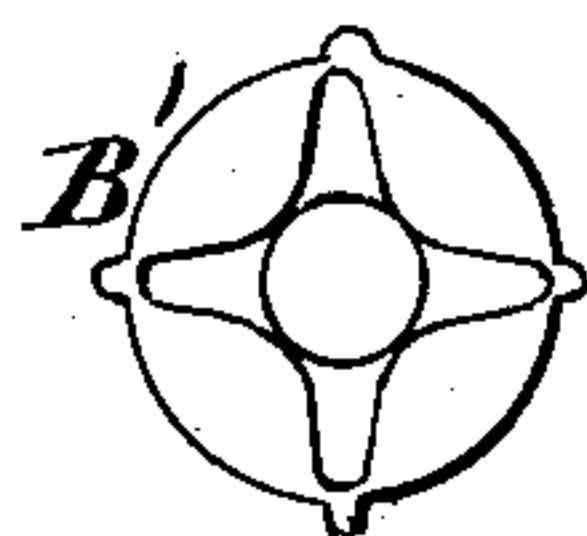


Fig. 4.

Fig. 5.

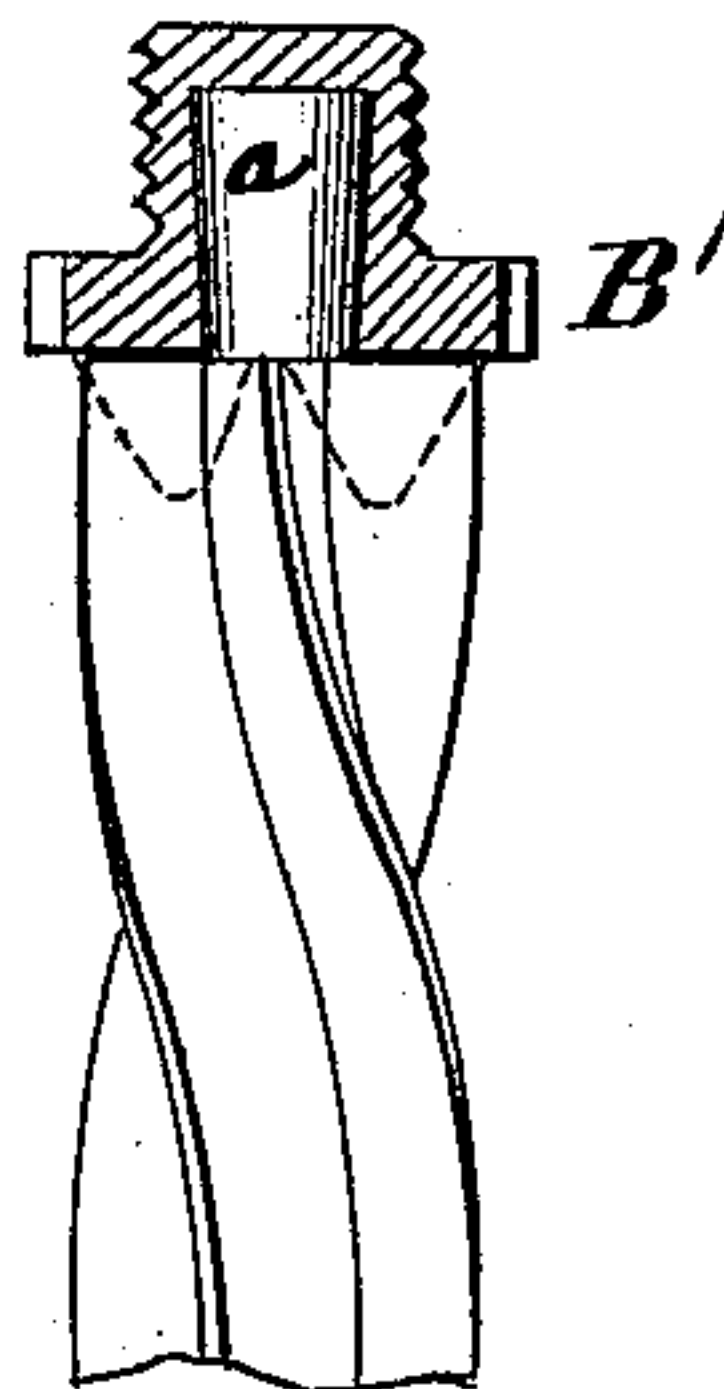
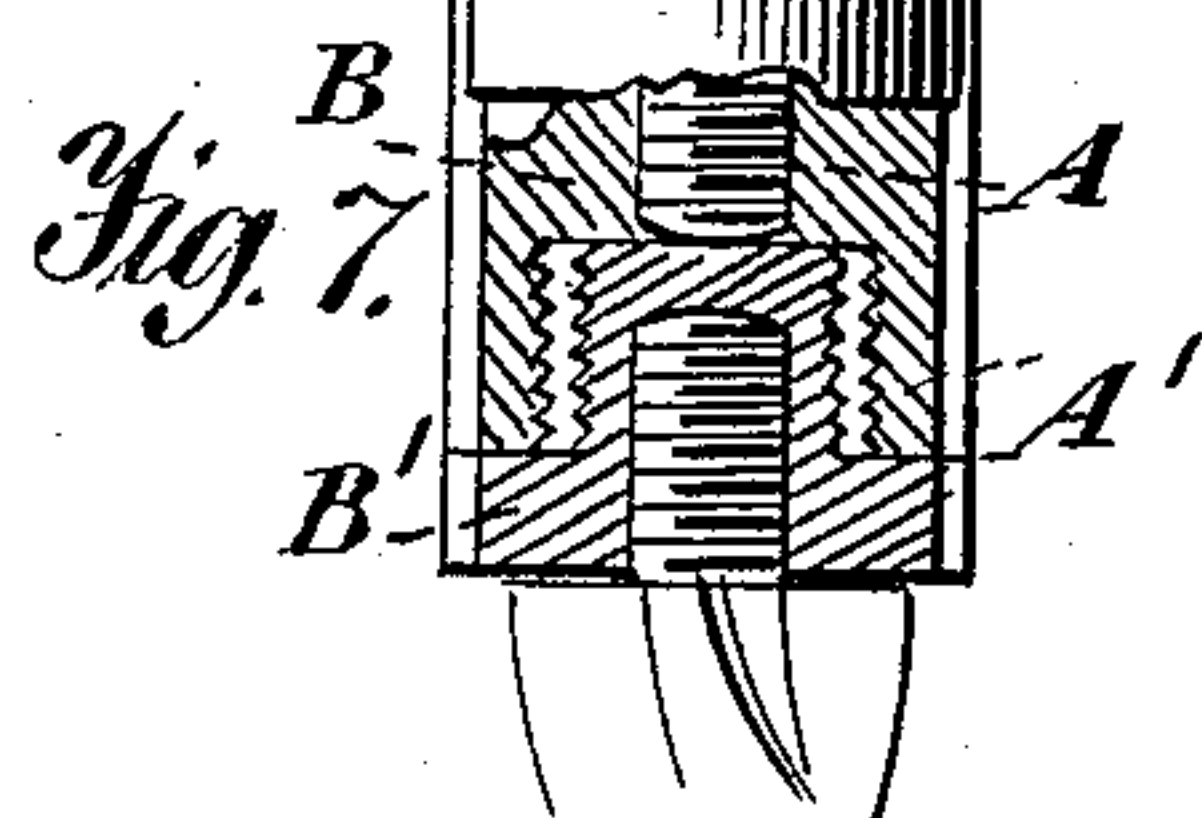
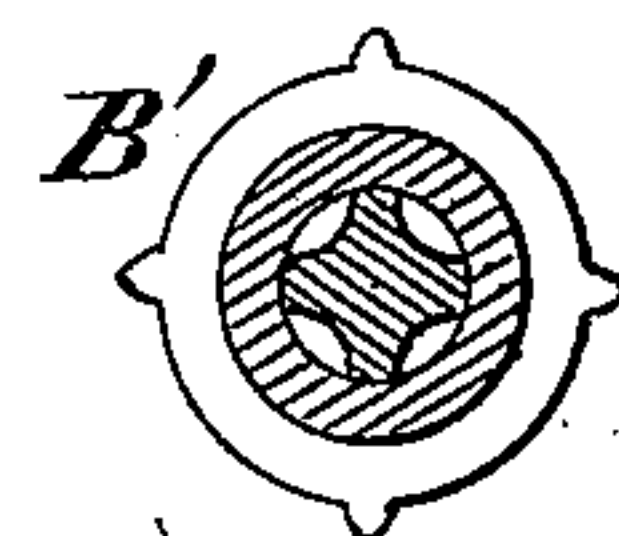
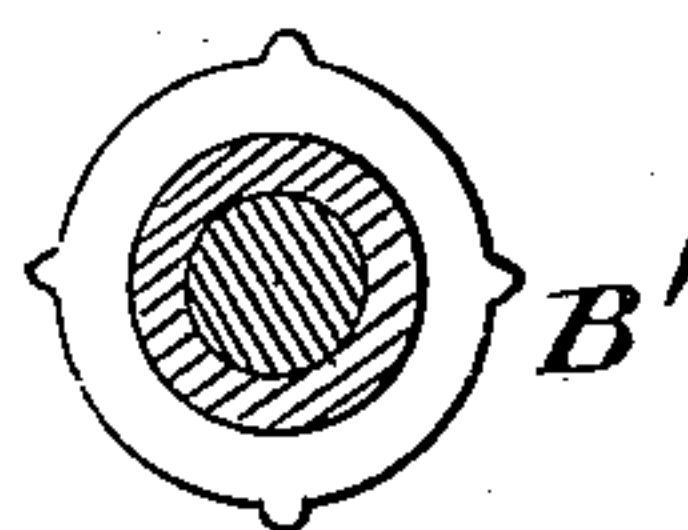
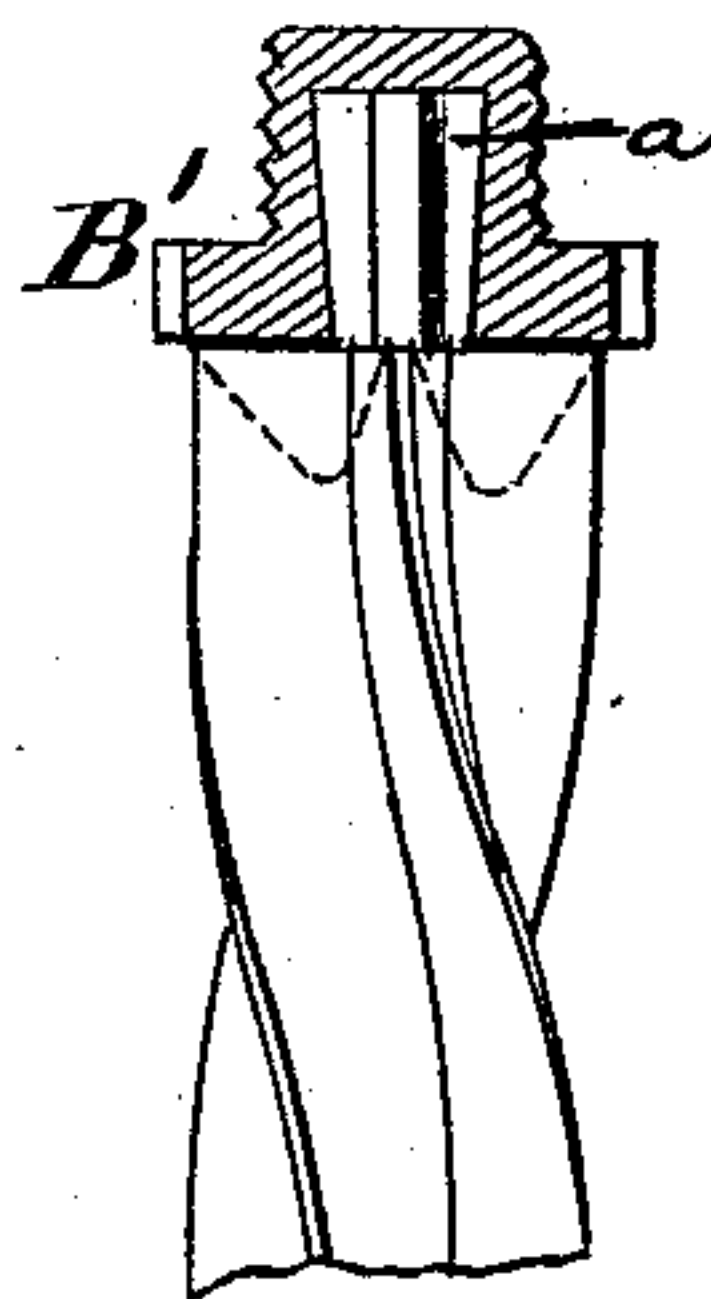


Fig. 6.



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COUPLING FOR LIGHTNING-RODS.

SPECIFICATION forming part of Letters Patent No. 297,290, dated April 22, 1884.

Application filed November 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, THEODORUS H. PATEE, a citizen of the United States, residing at Greencastle, in the county of Putnam and State of Indiana, have invented certain new and useful Improvements in Couplings for Lightning-Rods; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to lightning-rods; and the object of my improvement is to produce a new method of attaching the coupling-sections to the cast-metal ends of the spirally or otherwise formed intermediate sections of such rods. This is an improvement on the invention for which Letters Patent No. 257,890 were formerly issued to me. I attain this object sought by the method illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing parts of two sections of a lightning-rod of the usual spiral form with a part of the coupling-section attached to each, the parts being separated for the purpose of showing how the two parts of the coupling-section are united. Fig. 2 is a sectional elevation of one of the parts of the coupling-section as it appears when finished and ready for use in connection with the screw-threaded intermediate section. Fig. 3 is a sectional elevation of one part of the coupling-section as it appears when ready to be applied to an intermediate section, the end of which is cylindrical in form, but largest at its inner end. Fig. 4 is an end view of the parts shown in Figs. 2 and 3. Fig. 5 is an elevation, partly in section, of a portion of one, showing the intermediate or spiral sections of the rod having the tenon or projection *a* upon its end enlarged at its outer end, and as it appears when the coupling-section has been swaged or pressed down upon it. It also shows a cross-section of the coupling part; and Fig. 6 is an elevation, partly in section, of a portion of one part of a coupling-section, and showing in elevation a portion of a spirally-formed intermediate section having a tenon or pro-

jection with ribs on it, its outer end being the largest, and the coupling part swaged down upon it, a cross-section being also shown. Fig. 7 shows in vertical section the coupling or joint of rod before being compressed.

Similar letters refer to similar parts in the several views.

It has been customary heretofore to secure the portions of the coupling-sections of lightning-rods to the intermediate or spiral sections in various ways, usually by screwing them onto said intermediate sections or by riveting them thereto; but these methods have been found more or less objectionable, on account of the amount of labor required in the process.

In securing coupling-sections to the intermediate parts by my improved method, I prepare the ends of the spirally or otherwise formed sections of the rods by forming thereon a straight cylindrical portion and cutting a thread thereon, as shown at A A' in Fig. 7.

For the reception of the screw-threaded tenon or projection there are formed in the parts B B' of the coupling-sections holes the diameters of which are sufficiently large to admit of the threaded tenon being passed into it without having any screw-thread in the coupling parts. The tenons are passed into these holes, when, for the purpose of holding the parts firmly together and preventing them from turning one upon the other, the coupling parts (which are to be made of cast metal sufficiently malleable to admit of its being done) are to be swaged, hammered, or pressed down upon the screw-tenon, the effect of which is to cause a portion of the metal composing the coupling-sections to be embedded in the thread of the tenon, which will secure the parts of the coupling-section firmly thereto.

The swaging, hammering, or pressing is best done when the parts of the coupling-sections are in the condition shown in Figs. 3 and 4 of the drawings, after which they can be turned or milled and have a screw-thread formed on them, as shown in Fig. 2, for the purpose of uniting them to the parts B, which have had a female screw-thread formed in them, after having been treated in the same manner, so far as the method of fastening them upon the

intermediate sections is concerned, as those already described.

It is evident that screw-threads may be formed on the inside of the dovetail couplings.

5 Instead of using the straight cylindrical tenon on the intermediate sections of the rod, as above described, the parts may be united by forming upon said intermediate parts a
10 tenon of the form shown in Fig. 5, it being largest at its outer end, as there shown, and forming in the parts B B' apertures large enough to permit the tenons to be passed into them, and then swaging, hammering, or pressing the parts of the coupling-sections down
15 thereon, as above described, when the parts will assume the form shown in the figure last alluded to, and their separation be effectually prevented.

Another modification of my method is shown
20 in Fig. 6, which is intended to provide for securing the parts together without forming a cylindrical tenon or projection upon the ends of the intermediate sections, and thus providing for attaching the coupling-sections to
25 the intermediate ones when of a spiral or any other flanged form. This modification contemplates the preparation of the coupling-sections by forming in them apertures for the reception of the ends of the intermediate sec-

tions, as above described, and then turning 30 or cutting off a portion of the outer surface of the flanges or of the rod, as shown, and thus forming a tenon largest at its outer end, upon which the metal of the coupling parts may be swaged, hammered, or pressed, as 35 above described.

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

1. The lightning-rod joint consisting of the 40 dovetailed tenons on the ends of the rod-sections, in combination with the coupling-pieces B B', provided with screw-threads, and with projecting portions for clasping the ends of the rod, as shown and described.

2. The lightning-rod joint consisting of 45 threaded tenons as shown, in combination with the internally-threaded coupling-pieces of larger diameter than said tenons, whereby the coupling-pieces are adapted to fit loosely on 50 said tenons and to be secured, as described.

In testimony whereof I affix my signature in presence of two witnesses.

THEODORUS H. PATEE.

Witnesses:

G. W. BALLOCH,
C. M. CONNELL.