(No Model.)

W. HEWITT.

LIGHTNING ROD JOINT.

No. 287,286. Patented Oct. 23, 1883.

Fig. 1.

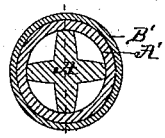


Fig. 2.

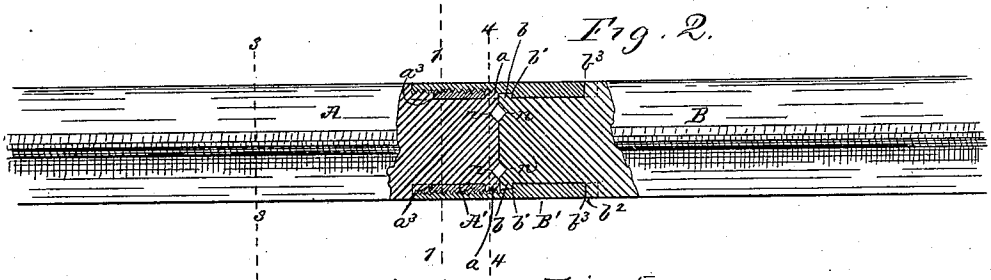


Fig. 3.

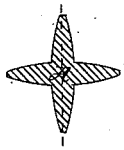


Fig. 4.

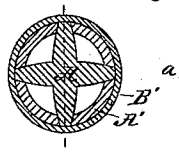


Fig. 5.

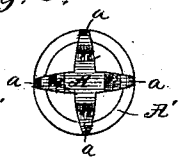


Fig. 6.

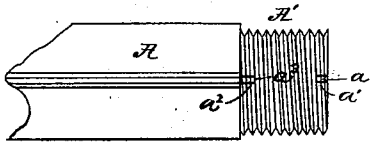
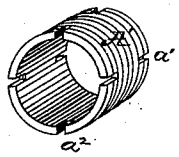


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM HEWITT, OF LONDON, ONTARIO, CANADA.

LIGHTNING-ROD JOINT.

SPECIFICATION forming part of Letters Patent No. 287,283, dated October 23, 1883.

Application filed August 16, 1881. Renewed June 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HEWITT, of London, in the county of Middlesex and Province of Ontario, Canada, have invented certain new and useful Improvements in Lightning-Rod Joints; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to flanged lightning-rod joints, wherein the adjacent rods are connected by a coupling which holds the rod-sections end to end; and it is more particularly intended for use in that form of coupled joint described in another patent granted to me, wherein the spaces between the coupling and the angles of the rod are left open, for the ready passage and escape of water. In said patented construction of the joint a rivet used to secure the several parts of the coupling to the rods not only weakens the rod, but it in some degree obstructs the passages within the coupling. Moreover, the rivet is not in this case an entirely secure fastening, owing to the distance between its bearings upon the several parts connected thereby.

The object of the present invention is to remedy these faults; and to this end said invention consists in the novel features of construction hereinafter described and claimed.

In the drawings, Figure 1 is a cross-section of the rod and coupling at 1 1 of Fig. 2. Fig. 2 is a longitudinal section of the rods and coupling through opposite rod-flanges. Fig. 3 is a cross-section of the rod at 3 3 of Fig. 2. Fig. 4 is a cross-section of the rod and coupling at 4 4 of Fig. 2. Fig. 5 is an end view of the section of rod having the male part of the coupling secured thereto in accordance with my present improvement. Fig. 6 is a side elevation of the section of the rod having the male part of the coupling secured thereto. Fig. 7 is a perspective view of the male part of the coupling, detached.

A and B are sections of flanged or "star" lightning-rod. A′ is a male-threaded thimble secured to the rod-section A, and B′ is a female-threaded thimble secured to the rod-section B. Said parts of the coupling surround the flanges of the rods, but do not fill the spaces between the flanges, or, in other words, do not fill the entering angles of the rod. The rod-flanges are reduced, preferably, by the thickness of the parts of the coupling thereto applied, so as to form shoulders a^3 b^3, against which the ends of the parts A′ and B′ may respectively abut.

The principal novel feature of the present invention consists in securing the several parts of the couplings to the rods to which they are thus fitted by swaging the ends of the rod-flanges outward radially over the metal of the coupling parts, forming hooked projections *a* *b* at the rod ends, which firmly hold the thimbles on the rods, thereby dispensing with the use of rivets for this purpose. To admit the projections *a b*, the thimble A′ is preferably provided with notches *a′*, into which the metal of the flanges is forced in the act of swaging. By means of such notches said projections not only hold the thimble from withdrawal, but also from rotation on the rod. The opposite or inner end of the thimble may be given similar notches, a^2, to admit the flange-shoulders a^3, which, if thus confined, are less likely to upset and thereby allow the thimble to loosen. The notches a^2 are not in themselves new, but in the construction above described they serve the new purpose last above stated.

The outward swaging of the rod-flanges may be performed by any suitable tool—as, for example, a blunt cold-chisel—the use of which, for the purpose named, is plainly indicated in Figs. 2 and 5 by the deep notches *n n*. After the metal of the rod has been forced out into such end notches of the thimble A′, the thread may be recut or the threading-die reapplied thereto with the effect of cutting the threads across the surfaces of the rod metal exposed in the notches of the thimble, so as to thereby materially strengthen the rod-joint.

The thimble or coupling part B′ is secured in essentially the same way as described above of the thimble A′; but instead of providing notches to receive the outwardly-swaged metal of the rod-flanges, said metal is shown as being forced over the shoulder b', which equals in width the thickness of the thimble A′. In this case the notches b^2 (corresponding with a^2 of the thimble A′) mainly serve to hold the thimble B′ from rotation, as well as to confine the inner flange-shoulders. Notches may, how-

ever, be provided in the shoulder b', either by cutting or casting, but with no material advantage, probably.

I claim as my invention—

1. In a coupled joint of a lightning-rod, the flanges of the rod shouldered at the inner end of the thimble and swaged outward at their extremities over the end or shoulder of said thimble, substantially as and for a purpose stated.

2. In the joint essentially as described, the thimble A′, having the notches a', combined with the rod-flanges, outwardly bent at their extremities, to occupy said notches, substantially as described, and for a purpose set forth.

3. The combination, in the coupling described, of the thimble having the inner notches, a^2 b^2, and the shouldered flanges entering said notches, and at their extremities bent outward to engage said thimble in opposition to the said shoulders, substantially as described.

4. In the joint described, the rod-flanges shaped to occupy notches provided in the exteriorly-threaded thimble A′, and threaded in continuation of the threads of said thimble, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

WILLIAM HEWITT.

Witnesses:
M. E. DAYTON,
PETER J. ELLERT.