No. 647,568. Patented Apr. 17, 1900.

W. KEARTON.

SIGNAL ARM.

(Application filed June 10, 1899.)

(No Model.)

Fig. 1.

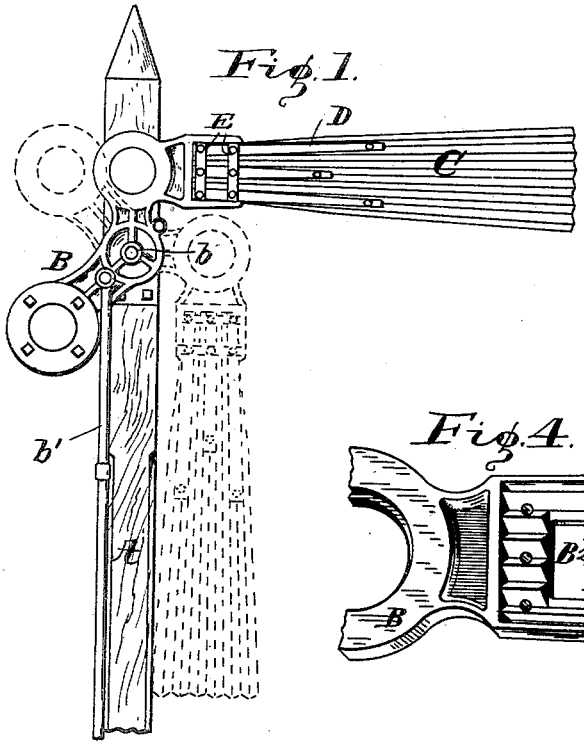


Fig. 3.

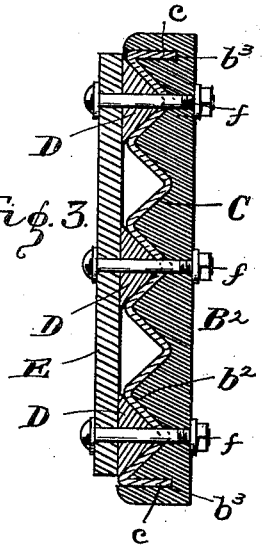
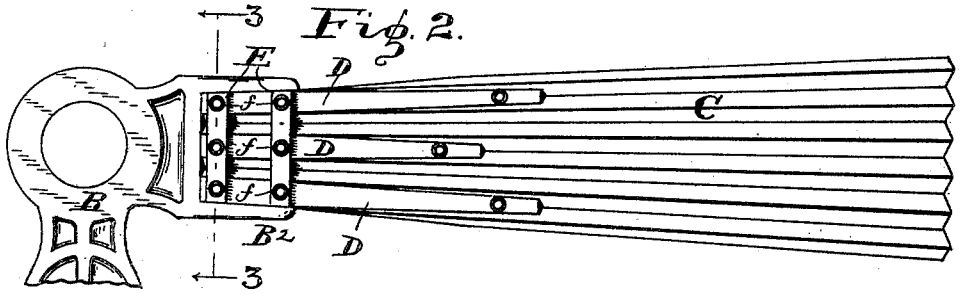


Fig. 4.

Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

WILFRED KEARTON, OF RICHMOND, INDIANA.

SIGNAL-ARM.

SPECIFICATION forming part of Letters Patent No. 647,568, dated April 17, 1900.

Application filed June 10, 1899. Serial No. 720,053. (No model.)

To all whom it may concern:

Be it known that I, WILFRED KEARTON, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Signal-Arms, of which the following is a specification.

This invention relates to improvements in semaphore-arms for railway signaling, and is applicable to the construction of windmill and other vanes.

The common practice in semaphore-arm construction is to provide a wooden arm which is bolted to the recessed side of an iron casting; but the weight of the wood in the swinging of the arm gives it such a momentum as to work it loose at the bolt-fastenings, and the decay induced by the gathering of moisture at the end of attachment of the blade greatly increases the destructive tendency. Another serious objection to the use of wood is the scarcity of the right kind of material, and as the supply is yearly decreasing the cost, which is now high, must continue to increase.

The object of this invention is to provide a metal arm which will be stronger in every way than the wooden arm, lighter in weight, more durable, and less expensive as to first cost and also less expensive to maintain.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a semaphore-post with my invention applied; Fig. 2, a side elevation of my invention on a larger scale than that of Fig. 1; Fig. 3, a vertical section on the dotted line 3 3 of Fig. 2, and Fig. 4 a detail in perspective of the end of the casting to which the metal arm is attached.

Like letters of reference indicate like parts throughout the several views of the drawings.

A represents the semaphore-post; B, the counterbalance-arm, which is pivoted at *b* to the post and has the usual up-and-down rod *b'*, connecting with the bell-crank and its operating mechanism at the base (not shown) of usual construction. The arm B is of usual construction throughout, with the exception that the end to receive the semaphore-arm C has a corrugated surface (see Figs. 3 and 4) to receive the latter. These corrugations b^2 in the end B^2 of the counterbalance-arm B correspond in size and shape with the corrugations of the arm C.

The arm C will be of the same general outline and size as the wooden arms now in common use, and will consist of a longitudinally-corrugated plate of sheet metal, preferably sheet-iron. The corrugations may be angular in cross-section, as shown, or of any usual and well-known pattern, it not being desired to limit the invention to the shape nor size of the corrugations.

D are stiffening-bars which are seated in the corrugations of the arm C, and lying on top of them are the transverse plates E. The plates E, bars D, and arm C are held together and united with the end B^2 by the bolts *f*.

The drawings show three stiffening-bars D, one for each alternate corrugation; but, if desired, a greater number of bars, as one for each corrugation, might be used, or the number might be less than three, the whole object being to provide a sufficient number to thoroughly stiffen and strengthen the arm C. The lengths of these arms may also vary from the lengths shown in the drawings, and, if desired, the ridged parts b^2 of the end B^2 may be extended on the other side of the arm C from the bars D to likewise stiffen the arm C. In practice, however, I have found the construction as shown in the drawings to give satisfactory results.

In order to more thoroughly brace the metal arm C in the corrugated seat provided for it in the arm B^2, I make the two outside flanges *c c* approximately at right angles to the plane of the plate C as a whole, and make corresponding seats b^3 in the plate B^2 to receive them. The intermediate surfaces of the corrugations are oblique to an edgewise strain on the arm C, tending to permit the plate to slide edgewise; but the right-angled outside flanges provide a positive stop to prevent such sliding movement or tendency.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a semaphore, a longitudinally-corrugated sheet-metal arm having tapering corrugations to give a taper to the arm, substantially as shown.

2. In a semaphore, the combination with a longitudinally-corrugated tapering sheet-metal arm of a correspondingly-corrugated seat to receive it, substantially as described and specified.

3. The combination of a longitudinally-corrugated sheet-metal arm, a corrugated seat to receive it and stiffening-bars seated in the corrugations of the arm, substantially as described and shown.

4. A longitudinally-corrugated arm having stiffening-bars seated in its corrugations, substantially as described and shown.

5. The combination of a longitudinally-corrugated arm having outside flanges at right angles with the plane of the arm and a corrugated seat having corrugations to fit all of the corrugations of the arm, substantially as described and shown.

6. The combination of a longitudinally-corrugated sheet-metal arm, a corrugated seat to receive it, stiffening-bars seated in the corrugations of the arm, plates transverse to the corrugated arm and bolts for uniting the several parts, substantially as described.

7. In a semaphore, a longitudinally-corrugated arm, a seat to receive the inner end of the arm and a stiffening bar or bars on the opposite side from the seat, substantially as shown and specified.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 20th day of May, A. D. 1899.

WILFRED KEARTON. [L. S.]

Witnesses:
J. A. MINTURN,
CHAS. FAILLES.