

(No Model.)

A. A. STROM.
SEMAPHORE.

No. 469,002.

Patented Feb. 16, 1892.

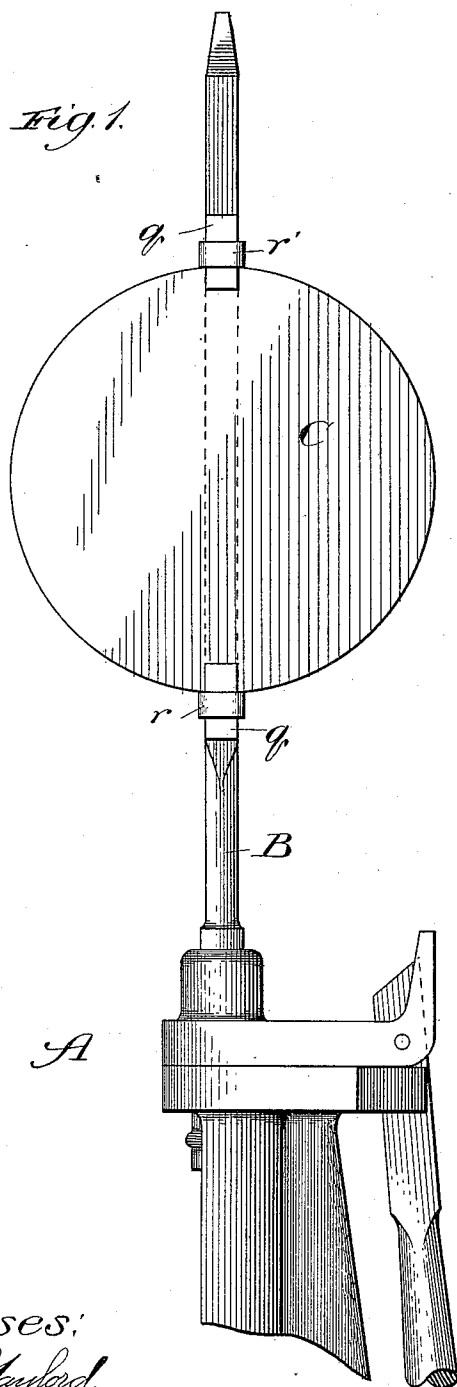


Fig. 2.

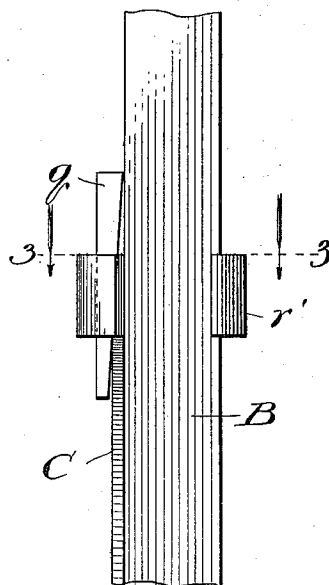
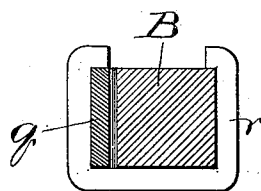


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

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SPECIFICATION forming part of Letters Patent No. 469,002, dated February 16, 1892.

Application filed October 20, 1891. Serial No. 409,301. (No model.)

To all whom it may concern:

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Semaphores, of which the following is a specification.

My invention relates, more definitely stated, to improved means for fastening the target forming the semaphore to the target rod or spindle. Hitherto it has been common to secure the target in place with bolts passed through it near its upper and lower ends and through the spindle and nuts applied to the bolts against the rear side of the spindle. The securing means thus afforded are found to be objectionable, as they too readily loosen with jarring to which the appliance is subjected in its use. Besides, such fastening means necessitate provision through the target-rod of two holes at right angles to each other for each bolt to enable the target to be applied to either face of the rod.

My principal objects are to provide a means in the nature of a clamping-fastener for securing the target to the target-rod which shall effectually resist the loosening tendency of the jarring and other causes, and to provide as an element of the securing means a form of band or "ring" to embrace the target-rod, which may be readily manipulated or removed from the latter for setting or resetting it without requiring to that end that it be slipped off the rod at the end thereof. To this end I connect the target and spindle by the fastening means illustrated in the accompanying drawings, in which—

Figure 1 is a broken view in elevation of a switch-stand provided with my improvement; Fig. 2, a view in side elevation of a broken section of the spindle carrying the target secured with my improved fastening means, and Fig. 3 a section taken on the line 3 3 of Fig. 2 and viewed in the direction of the arrows.

I show my improvement as applied to the target and spindle of a switch-stand, which may involve any of the well-known constructions operative with a semaphore-spindle B and target C. To secure the target C in place, I slip over the spindle B a desired num-

ber of rings r r' , which should conform on their inner sides to the cross-section of the spindle, than which, however, they are somewhat wider to afford between each and the spindle a space to receive a tapering key q , driven into it against the spindle. The number of rings employed may be, and preferably is, two, denoted, respectively, as r and r' , and then if a separate key q be provided for each, as shown, that for the lower ring is preferably driven into place in a downward direction, whereby its upper projecting portion clamps the target and holds it near its lower end firmly against the spindle. The other ring r' on the spindle affords with a key q a clamping device for the upper side of the target, the key being driven downward into the ring to overlap the upper edge of the target and securely clamp it on the spindle.

If only one ring and tapering key be employed, which, however, is not so desirable, they would have to be applied to or about at the center of the target, with the ring protruding through the latter to adapt the key to be driven into it along the face of the target. Where the two (or more) rings are employed, instead of providing a separate key q for each, obviously a single key may be used sufficiently long and tapering to reach through all the rings to lock the target, and I desire to be understood as including such modification in my invention, particularly as the target is thereby strengthened.

It will be noticed that the part of each clamping device referred to as a "ring," which term I desire to be understood as employing in its broadest sense, is not shown as continuous, but is open at one side, the opening being sufficiently wide to adapt the ring to be applied to and withdrawn from the spindle transversely thereof. This construction is peculiarly advantageous, as it avoids the necessity for moving the ring along the spindle from or toward its end whenever requiring to be applied or removed, which is a matter of material convenience when it is considered that the target is liable to be changed more or less frequently from one side to another of the target-rod at right angles to each other. I do not, however, wish to be understood as limiting my improvement to the non-continu-

ous ring, since the continuous form, though the less desirable, may be used.

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

- 5 1. In combination, a target-rod B, a target C, and ring-and-key clamping means securing the target to the rod, substantially as described.
- 10 2. In combination, a target-rod B, a target C, and ring-and-key clamping means securing the target to the rod, each ring of said clamping means being open on one side to a width adapting it to be applied on or withdrawn from the rod transversely thereof, substantially as described.
- 15 3. In combination, a target-rod B, rings on the said rod, and a target C, keyed against the rod through the rings, substantially as described.

4. In combination, a target-rod B, a target C, rings on the rod respectively at the upper and lower edges of the target, and keys *k* in the rings overlapping the respective said edges of the target and clamping it against the rod, substantially as described.

5. In combination, a target-rod B, a target C, rings *r* and *r'* on the rod respectively at the upper and lower edges of the target, each ring being open on one side to a width adapting it to be applied on or withdrawn from the rod transversely thereof, and keys *q* in the rings, overlapping the respective said edges of the target and clamping it against the rod, substantially as described.

AXEL A. STROM.

In presence of—
M. J. FROST,
J. N. HANSON.