

W. K. HOWE.
SEMAPHORE MECHANISM.
APPLICATION FILED MAY 19, 1909.

962,960.

Patented June 28, 1910.

Fig. 1.

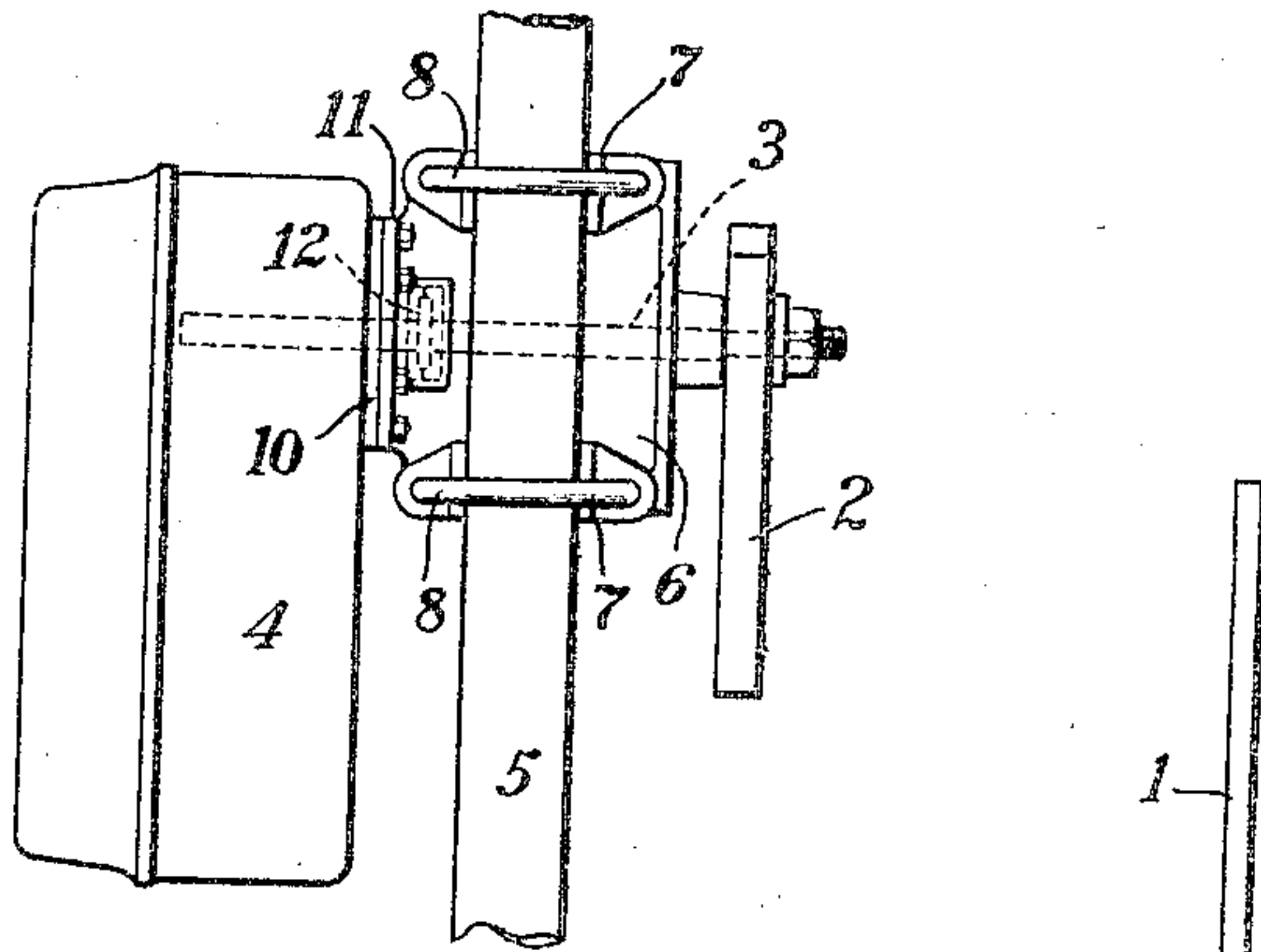


Fig. 2.

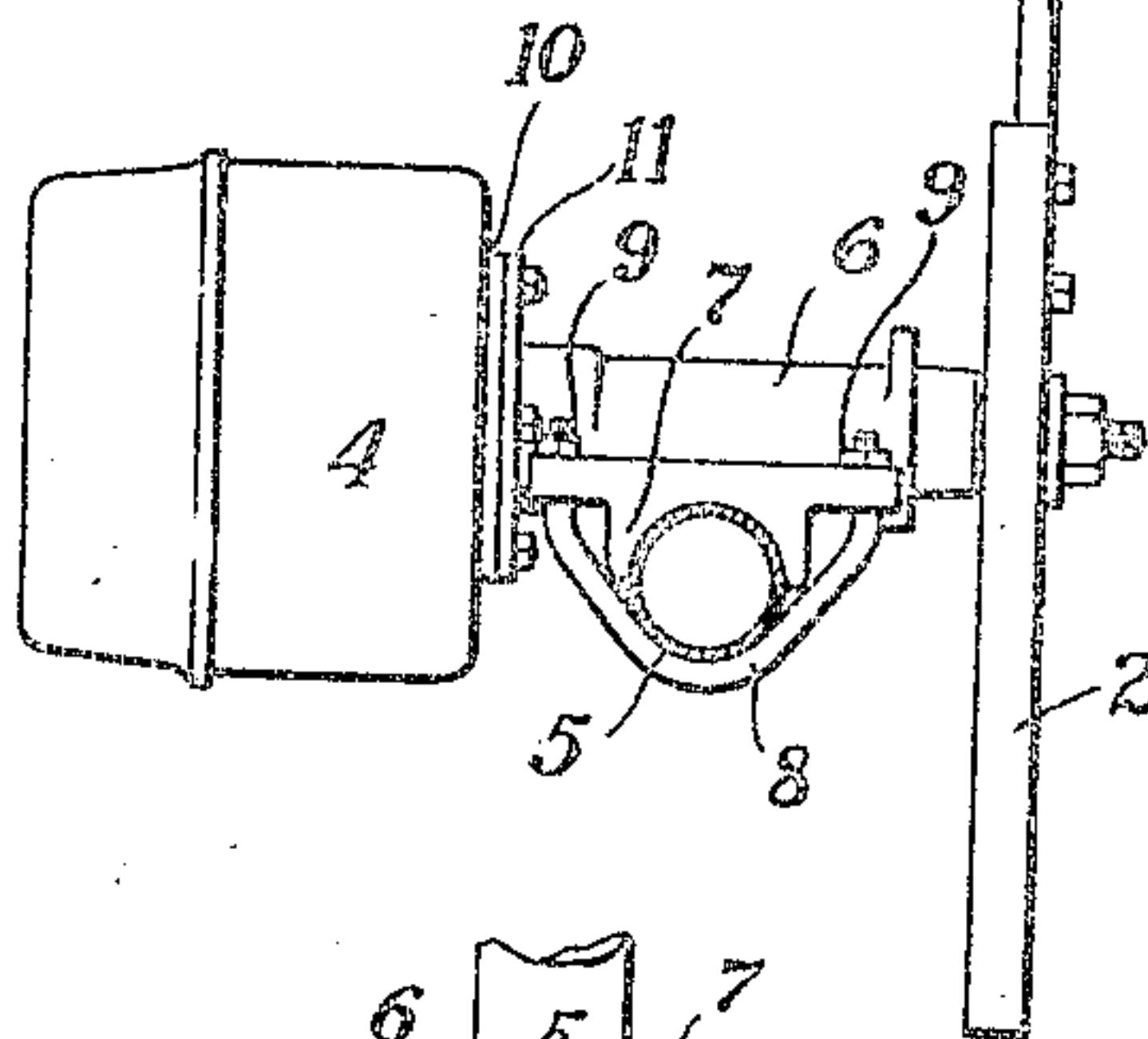
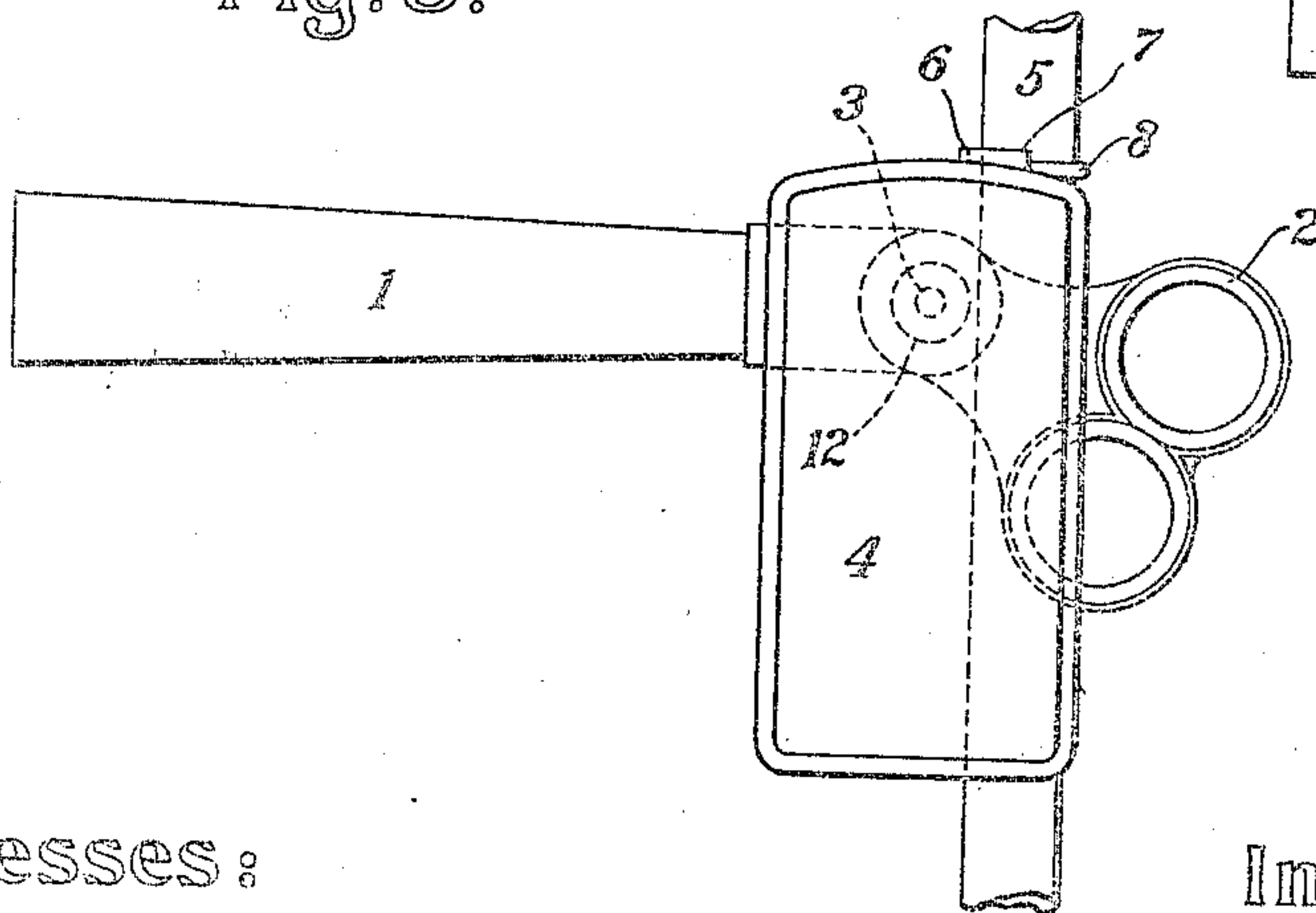


Fig. 3.



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SEMAPHORE MECHANISM.

962,960.

Specification of Letters Patent. Patented June 28, 1910.

Application filed May 19, 1909. Serial No. 497,125.

To all whom it may concern:

Be it known that I, WINTHROP K. HOWE, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Semaphore Mechanisms, of which the following is a specification.

This invention relates to electrically-controlled semaphores such as are used for signals in connection with railways, particularly to those of the self-contained or direct-connected type.

One object of the present invention is to improve semaphore mechanisms of the self-contained type by rendering them more convenient in erection and in repair. To this end, I so construct my novel semaphore mechanism that it may be applied to a round signal mast without any alteration in the mast, and in any position, either vertical or angular, thereon. I furthermore mount the controlling and actuating mechanism in a casing which is arranged to serve merely as a support and closure for such mechanism, and is removable from the signal mast together with the contained mechanism, independently of the semaphore, so that not only may the semaphore mechanism be more conveniently erected, owing to the possibility of handling its several parts separately, but also the casing with the inclosed mechanism may be conveniently removed for repair when necessary, without disturbing the semaphore itself.

Other objects and features of my invention will be set forth in connection with the following description of the illustrated embodiment thereof.

In the accompanying drawings: Figure 1 is a side elevation of a semaphore mechanism embodying the present invention; Fig. 2 is a plan view of the same mechanism; and Fig. 3 is a rear elevation of the semaphore.

The illustrated embodiment of my improved semaphore mechanism comprises a semaphore of ordinary form, an actuating and controlling mechanism connected with the semaphore, a casing inclosing the actuating and controlling mechanism, and a support which carries both the semaphore and the casing and is adjustably secured to the semaphore mast.

The illustrated semaphore comprises the usual blade 1, mounted on a spectacle cast-

ing 2. The semaphore is fixed to and carried by a horizontal shaft 3 in the usual manner, and this shaft is connected, through any ordinary or suitable mechanism, with the motor by which the semaphore is actuated.

The motor and the rest of the semaphore-controlling and actuating mechanism are inclosed within a weather-proof casing 4, which is mounted alongside the signal mast 5 instead of being interposed in, or mounted directly upon the top of the mast in the usual manner. Both the casing and the semaphore are supported by a semaphore-support 6, which is adjustably and removably mounted upon the mast 5. This support, as shown in Figs. 1 and 2, is provided with saddles 7 formed to fit against the round mast, and the support is clamped to the mast by means of U-bolts 8, which partly encircle the mast and pass through lugs on the support 6. By means of nuts 9 on the ends of the U-bolts, the support is firmly clamped to the mast in any adjusted position.

The casing 4 is removably secured to the semaphore-support near the upper end of the casing. To this end, the casing has a boss or projection 10 which fits against a flange 11 on the support and is bolted thereto.

The construction above described is such that all of the parts of the semaphore mechanism lie alongside of the mast, instead of being in line with it, so that the mechanism may be applied to a round mast at any height thereon, and may also be turned to any angular position in a horizontal plane, which affords great convenience in erecting or altering the signal. It should further be noted that the semaphore-shaft 3 is arranged close beside the mast, so that the semaphore occupies substantially the same position with respect to the mast as any semaphore mechanisms of ordinary construction. The spectacle portion of the semaphore projects, therefore, at one side of the mast, while the arm projects at the opposite side of the mast, when the semaphore is in danger position, as shown in Fig. 3, and this is a feature of practical value, since from this it results that a semaphore constructed in accordance with this invention presents substantially the same appearance as semaphores pre-

viously constructed, and therefore may be substituted for, or used in connection with, such semaphores without causing confusion or difficulty in the observation of the signals.

- 5 A further valuable feature of the construction above described resides in the fact that the casing does not serve as a support for any part of the mechanism, except the actuating and controlling mechanism in-
 10 closed within the casing. For this reason this casing may be made much lighter than in any semaphore mechanisms of the usual top-post type, thereby cheapening the construction of the semaphore mechanism and
 15 rendering it more convenient to transport and erect.

To permit the ready removal or replacement of the casing, together with the mechanism contained therein, the power-shaft
 20 and the semaphore-shaft are connected by a coupling 12 of any ordinary or suitable form.

My invention is not limited to the embodiment hereinbefore described and illustrated
 25 in the accompanying drawings, but may be embodied in various forms within the nature of the invention as it is defined in the following claims.

I claim:—

- 30 1. In combination with a round signal mast, a semaphore-support clamped around the mast and vertically and angularly adjustable thereon, and semaphore mechanism carried by said support and arranged en-
 35 tirely alongside the mast.

2. In combination with a round signal mast, a semaphore-support clamped around the mast and vertically and angularly ad-
 40 justable thereon, a semaphore carried by said support and located at one side of the mast, and semaphore-actuating mechanism connected with the semaphore and carried by the support on the opposite side of the mast.

3. In combination with a round signal
 45 mast, a semaphore-support clamped around the mast and vertically and angularly adjustable thereon, a semaphore carried by the support and located at one side of the mast, a casing mounted on the support on the op-
 50 posite side of the mast, and semaphore-actuating mechanism in the casing connected with the semaphore.

4. In combination with a round signal mast, a semaphore-support clamped around
 55 the mast and vertically and angularly adjustable thereon, a semaphore carried by the support and located at one side of the mast, a casing removably mounted on the support

on the opposite side of the mast, and semaphore-actuating mechanism in the casing
 60 connected with the semaphore.

5. In combination with a signal mast, a semaphore-support mounted on the mast be-
 65 tween the ends thereof, a shaft journaled in said support in horizontal position and close beside the mast, a semaphore mounted on one end of the shaft, semaphore-actuating mechanism connected with the other end of the shaft and located on the opposite side of the
 70 mast from the semaphore, and a casing inclosing and supporting said mechanism and removably mounted on the shaft.

6. In combination with a signal mast, a semaphore-support mounted on the mast
 75 between the ends thereof, a shaft journaled in said support in horizontal position and close beside the mast, a semaphore mounted on one end of the shaft and comprising a blade and a spectacle projecting on opposite
 80 sides of the mast, and semaphore-actuating mechanism carried by the support and connected with the opposite end of the shaft.

7. In combination with a signal mast, a semaphore-support mounted on the mast, a
 85 horizontal shaft journaled in the support, a semaphore carried by the shaft, semaphore-actuating mechanism connected with the shaft, and a casing inclosing said mechanism, the casing depending below the shaft
 90 alongside the mast and being removably secured, near its end, to the support.

8. In combination with a semaphore, semaphore-actuating mechanism, a shaft con-
 95 necting said mechanism and the semaphore, a detachable coupling in the shaft adjacent to said mechanism, a semaphore-support in which the shaft is journaled having a detachable connection with said mechanism, a
 100 mast, and means for clamping the semaphore support adjustably on the mast.

9. In combination with a semaphore, semaphore-actuating mechanism, a shaft con-
 105 necting the semaphore and said mechanism, a detachable coupling in the shaft adjacent to said mechanism, a semaphore-support in which the shaft is journaled having a detachable connection with said mechanism and a mast, the shaft-support comprising a clamp engaging opposite sides of the
 110 mast for securing the support adjustably upon the mast.

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Witnesses:

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