No. 894,591. PATENTED JULY 28, 1908.

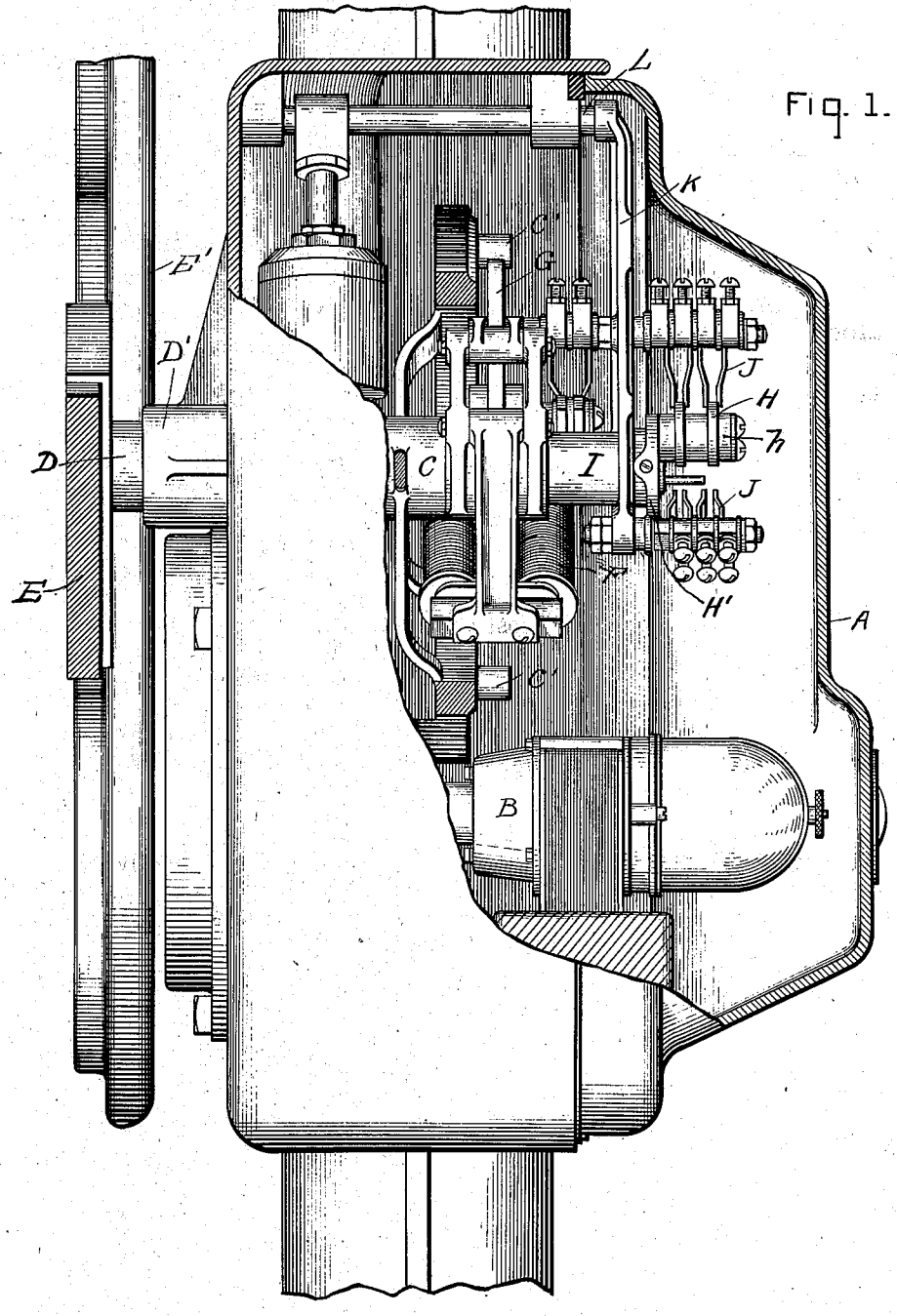
W. W. BROWN & A. G. CLARK.

SEMAPHORE SIGNAL.

APPLICATION FILED MAR. 21, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

W. Ray Taylor.

J. Ellis Glen

INVENTORS

WALTER W. BROWN.

ARBA G. CLARK.

by Albert G. Davis

Atty

No. 894,591. PATENTED JULY 28, 1908.

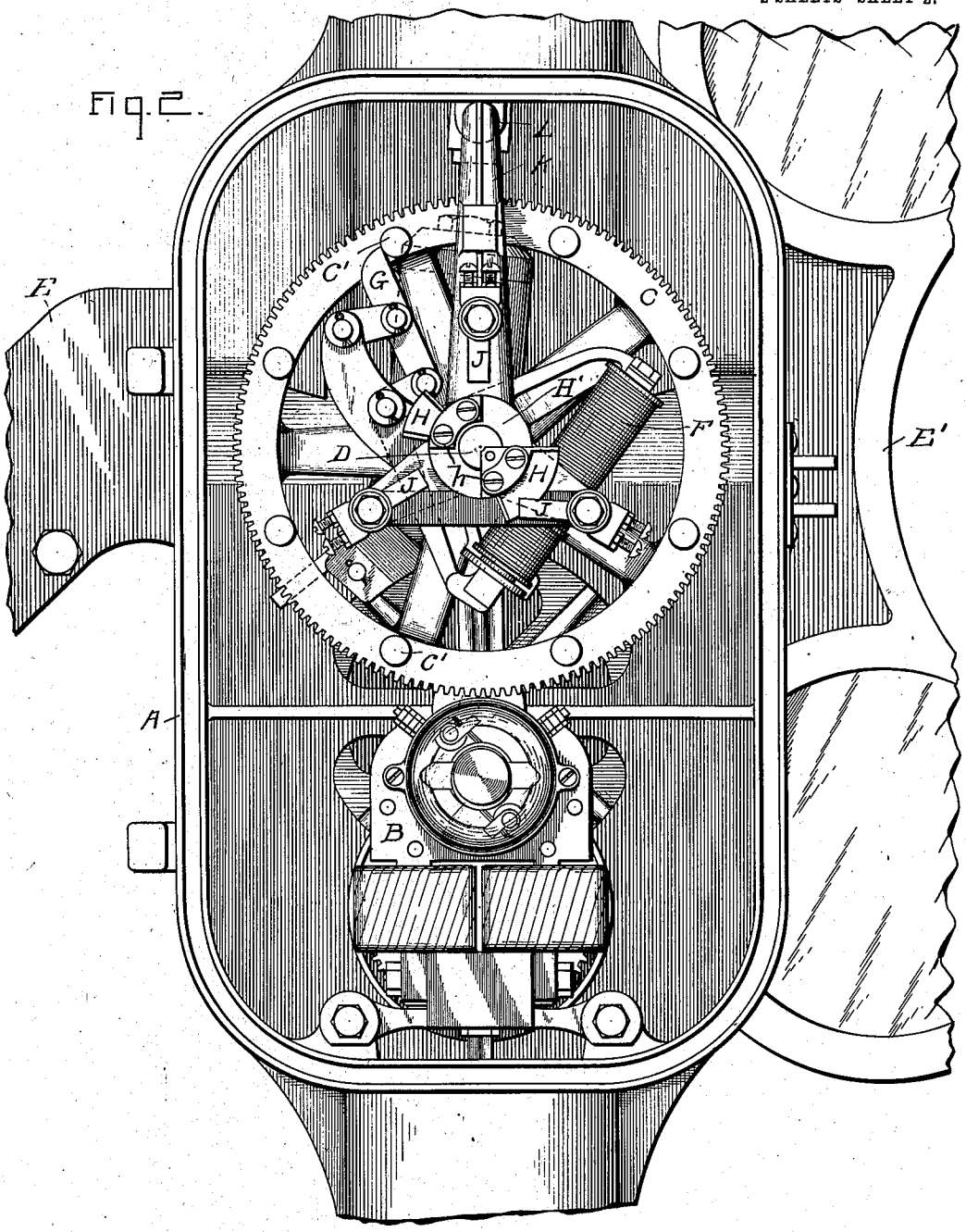
W. W. BROWN & A. G. CLARK.

SEMAPHORE SIGNAL.

APPLICATION FILED MAR. 21, 1907.

2 SHEETS—SHEET 2.

Fig. 2.



WITNESSES

W. Ray Taylor.

J. Ellis Glen

INVENTORS

WALTER W. BROWN.

ARBA G. CLARK.

by Albert G. Davis Atty

UNITED STATES PATENT OFFICE.

WALTER W. BROWN AND ARBA G. CLARK, OF SCHENECTADY, NEW YORK, ASSIGNORS TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

SEMAPHORE-SIGNAL.

No. 894,591. Specification of Letters Patent. Patented July 28, 1908.

Application filed March 21, 1907. Serial No. 363,580.

To all whom it may concern:

Be it known that we, WALTER W. BROWN and ARBA G. CLARK, citizens of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Semaphore-Signals, of which the following is a specification.

Our invention relates to electrically-operated semaphore signals, and particularly to what is known as top-post signals in which the operating mechanism is inclosed in a casing surrounding the drive-shaft of the semaphore-arm, and its object is to reduce the size and cost of such signals. It has been customary heretofore in such signals to provide standards or brackets within the casing in which the drive-shaft is journaled. These standards increase the size and add to the cost of the signal. It is possible to journal the drive-shaft itself in the walls of the casing, but since this shaft ordinarily carries contacts coöperating with fixed contacts controlling the signal mechanism, the removal of the standards removes the usual support for the fixed contacts.

Our invention consists in supporting the fixed contacts on the drive-shaft itself, and providing suitable means for preventing their rotation; thereby rendering possible the complete elimination of standards or brackets.

Our invention will best be understood by reference to the accompanying drawings, in which

Figure 1 shows a side elevation, with the casing partly broken away, of a semaphore signal arranged in accordance with our invention; and Fig. 2 shows a back elevation of the same with the cover of the casing removed.

In the drawings, A represents an inclosing casing in which is mounted an electric motor B, which is connected through suitable speed-reducing gearing, not shown, to a drive-wheel C loosely mounted on the main drive-shaft D, which is journaled in a stud or boss D′ in the wall of the casing, and carries the semaphore-arm E and its counter-weight E′. In order to clutch the drive-wheel C to the shaft D, a suitable clutch or slot mechanism is provided comprising magnet-coils F and a locking piece G controlled thereby and adapted to engage studs C′ on the periphery of the drive-wheel C. When the coils F are energized, the locking piece G is thrust outward into the path of the studs C, as shown in the drawings. When the magnets are de-energized, their armature falls away, withdrawing the locking piece G from engagement with the studs.

For controlling the motor B and magnets F, contacts H are mounted on the shaft D. These contacts are carried on insulating studs *h* projecting from a collar H′, which is secured to shaft D by a set screw as shown in Fig. 1. A sleeve I is placed on the shaft D carrying contacts J coöperating with the contacts H on the shaft. To avoid complicating the drawing, the connections of these contacts are omitted since the particular connections employed form no part of our invention. To prevent rotation of the sleeve which carries the contacts J, an arm K is provided, which engages the casing. For this purpose a pin L projecting from the casing is provided, and the end of the arm K is formed with a socket into which the end of the pin L enters. By means of this construction the contacts J are supported in position without requiring any standards or brackets for this purpose, and the construction is such that the contacts may readily be removed.

We do not desire to limit ourselves to the particular construction and arrangement of parts here shown, but aim in the appended claims to cover all modifications which are within the scope of our invention.

What we claim as new and desire to secure by Letters Patent of the United States, is,—

1. In a semaphore signal, a casing, a shaft journaled in said casing, a semaphore-arm carried by said shaft, electric operating mechanism in said casing for driving said shaft, contacts fixed on said shaft for controlling said mechanism, contacts loosely mounted on said shaft coöperating with the first-mentioned contacts, and means for preventing rotation of said loosely-mounted contacts.

2. In a semaphore signal, a casing, a shaft journaled in said casing, a semaphore-arm carried by said shaft, electric operating mechanism in said casing for driving said shaft, contacts fixed on said shaft for controlling said mechanism, a sleeve on said shaft, means for preventing rotation of said sleeve, and contacts carried by said sleeve coöperating with the first-mentioned contacts.

3. In a semaphore signal, a casing, a shaft journaled in said casing, a semaphore-arm carried by said shaft, electric operating mechanism in said casing for driving said shaft, contacts fixed on said shaft for controlling said mechanism, a sleeve on said shaft, an arm extending from said sleeve and engaging said casing, and contacts carried by said sleeve coöperating with the first-mentioned contacts.

4. In a semaphore signal, a casing, a shaft journaled in said casing, a semaphore-arm carried by said shaft, electric operating mechanism in said casing for driving said shaft, contacts fixed on said shaft for controlling said mechanism, a sleeve on said shaft, an arm extending from said sleeve, said arm and said casing being provided one with a socket and the other with a projection adapted to enter said socket, and contacts carried by said sleeve coöperating with the first-mentioned contacts.

In witness whereof, we have hereunto set our hands this 20th day of March, 1907.

WALTER W. BROWN.
ARBA G. CLARK.

Witnesses:
BENJAMIN B. HULL,
HELEN ORFORD.