T. B. ASHFORD.

COMBINED SIGNAL AND LOCK FOR RAILWAY SWITCHES.

APPLICATION FILED OCT. 21, 1908.

948,266. Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

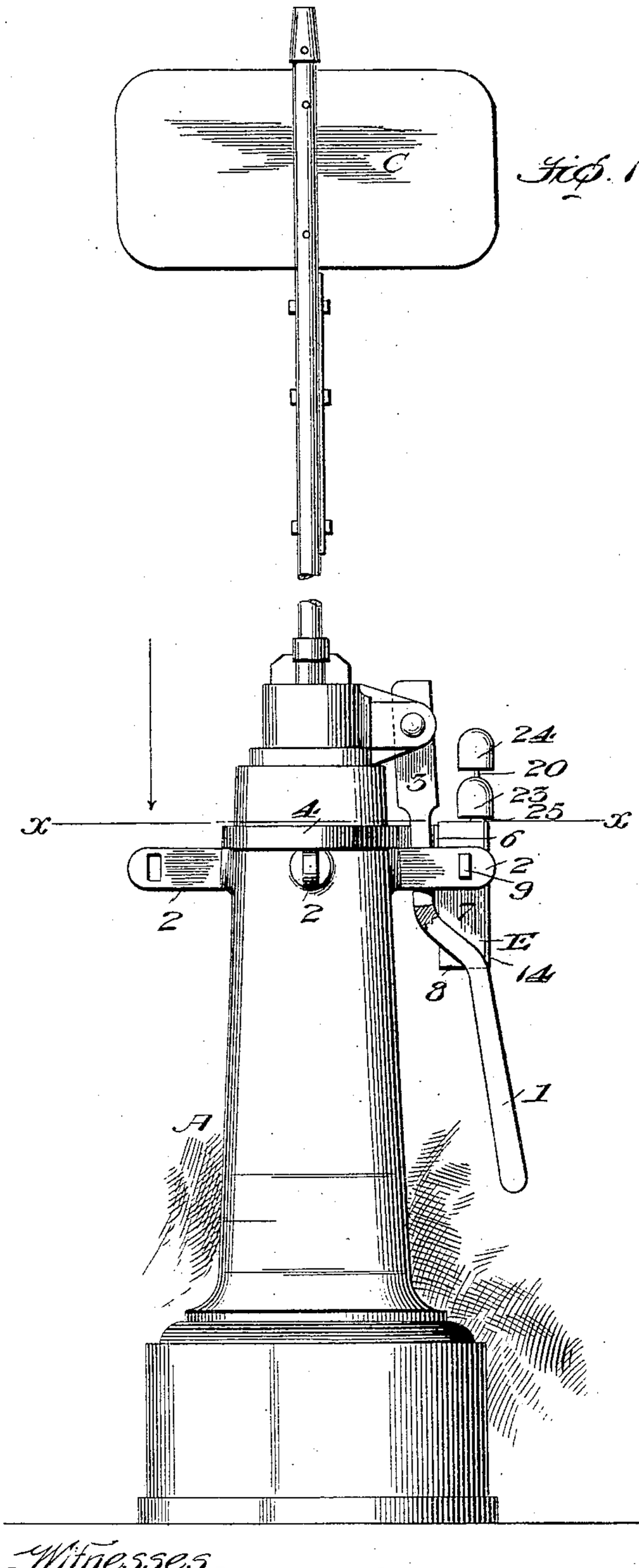
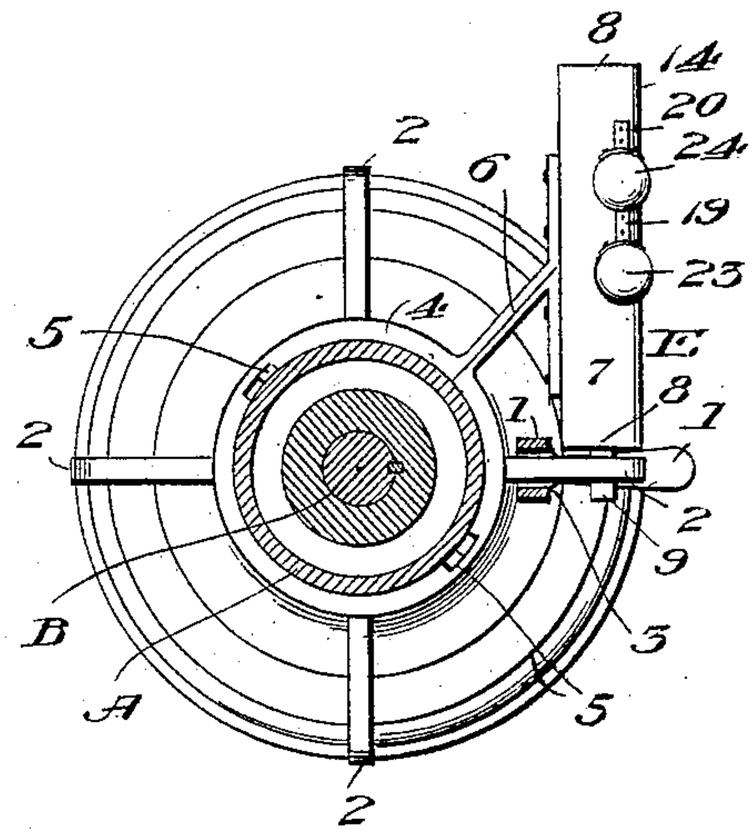


Fig. 2.



Witnesses.

M. A. Freeman

Inventor.

Thomas B. Ashford

by Louis Boggett & Co

his Attorneys.

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Fig. 3.

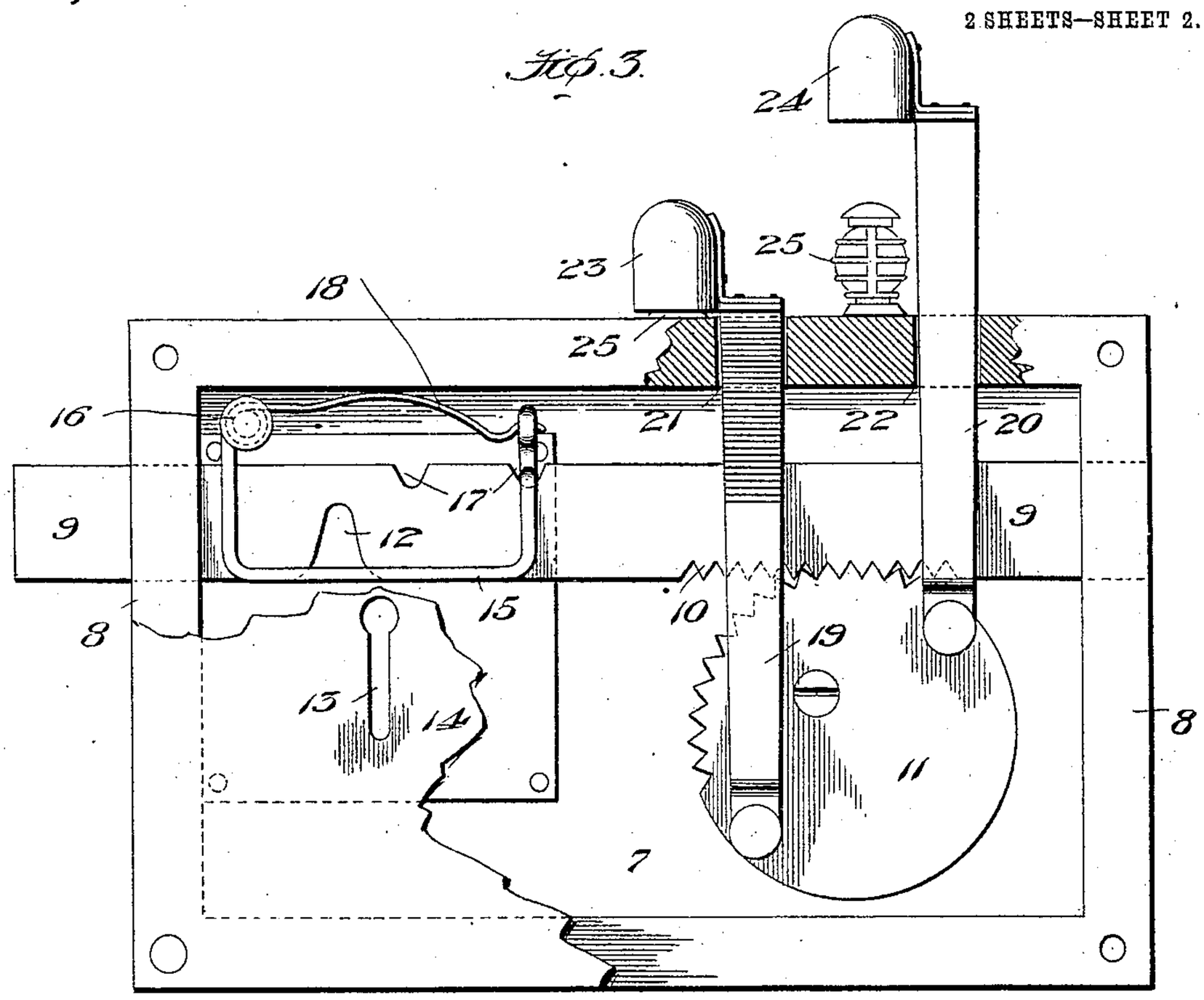

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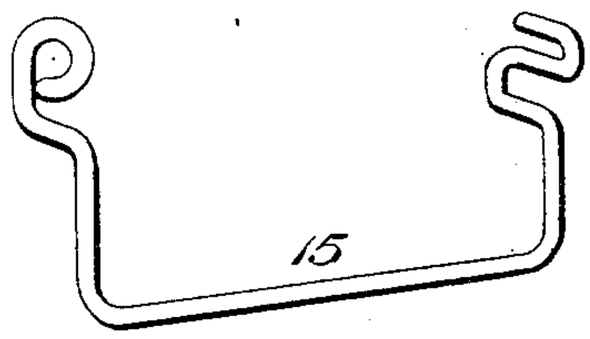
Fig. 4.



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his Attorneys

UNITED STATES PATENT OFFICE.

THOMAS BUTLER ASHFORD, OF KINSTON, NORTH CAROLINA, ASSIGNOR OF ONE-ELEVENTH TO JESSE W. GRAINGER, ONE-ELEVENTH TO JOHN E HOOD, ONE-ELEVENTH TO SOL OETTINGER, ONE-ELEVENTH TO JOHN H. BARWICK, ONE-ELEVENTH TO JACK ROBERT ROUNTREE, ONE-ELEVENTH TO SYLVESTER L. STOUGH, ONE-ELEVENTH TO JAMES F. TAYLOR, ONE-ELEVENTH TO WILLIAM C. FIELDS, ONE-ELEVENTH TO HENRY E. SHAW, AND ONE-ELEVENTH TO EDWIN J. BECTON, OF KINSTON, NORTH CAROLINA.

COMBINED SIGNAL AND LOCK FOR RAILWAY-SWITCHES.

948,266. Specification of Letters Patent. Patented Feb. 1, 1910.

Application filed October 21, 1908. Serial No. 458,853.

To all whom it may concern:

Be it known that I, THOMAS BUTLER ASHFORD, a citizen of the United States, residing at Kinston, in the county of Lenoir and State of North Carolina, have invented certain new and useful Improvements in Combined Signals and Locks for Railway-Switches, of which the following is a specification.

My invention relates to an improvement in a combined lock and signal for railway switches, and the object is to provide means whereby a signal will be displayed when the switch lever is in either locked or unlocked position. When the switch lever is locked the signal indicating that the switch is closed will be displayed, and when the switch lever is unlocked a signal will be displayed indicating danger.

The invention consists of certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings Figure 1 is a view in side elevation showing the invention applied to a switch stand; Fig. 2 is a horizontal sectional and plan view on the plane indicated by the dotted line *x*—*x* of Fig. 1; Fig. 3 is a view of the lock showing the interior with the cover removed. and Fig. 4 is a view of the latch.

A represents the switch stand and B the signal shaft upon which is mounted the usual signal shield C. Pivotally connected to the shaft is a lever 1, which is adapted to rotate the shaft in the stand A for turning the shield to "clear" or "danger." The usual staples 2, 2 are formed on the stand A. The lever 1 is provided with a slotted opening 3, in which is received the staple 2.

Supported upon the stand is a lock E. A collar 4 is mounted on the stand and is capable of a partial rotation upon the stand, it being limited in its movements by stops 5, 5. Connected to the collar is the lock E by an arm 6, which is formed on the collar, and it is connected to the casing 7 of the lock. Slidably mounted in the ends 8 of the casing is the lock-bolt 9. The lower side of the bolt is provided with rack-teeth 10, which are adapted to be engaged by a segmental gear 11, which is mounted in the casing. A recess 12 is formed in the bolt, in which a key is received passing through keyhole 13 in the cover 14. The key enters the recess and throws the bolt for locking the lever 1 against the stand after the switch has been thrown, the lock-bolt 9 entering the staple 2. A latch 15 is connected to a stud 16 and extends down along the lower edge of the bolt and thence upwardly, and is bent so as to enter the notches 17 formed along the upper edge of the bolt. A spring 18 connected to the stud 16 bears against the casing and free end of the latch 15 forcing it into one of the notches 17. When the key throws the bolt in either direction it first engages the latch, forcing it from engagement with the bolt, which permits of the key throwing the bolt. After the bolt has been thrown the spring will enter the other notch holding the lock in either locked or unlocked position.

Connected to the segmental gear 11 are arms 19 and 20, which arms extend through openings 21 and 22 formed through the top of the casing. When the bolt is thrown into locked position the arm 20 is forced upward showing a white signal, the arm being painted white to indicate that the switch arm or lever 1 is in locked position. If the arm 19 is extending upwardly showing a red signal indicating danger, it shows that the bolt has been thrown through the staple 2 for unlocking the lever 1. This means for locking the switch lever in locked position will notify the engineer whether or not the switch is closed. If a white signal is displayed he will know that the switch is closed, but if the red signal is displayed he will know that the switch is open and that the switch lever is in unlocked position.

It will be necessary to provide means for disclosing these signals at night to an engineer, and to accomplish this end I have provided hoods 23 and 24, which are detachably connected to the arms 19 and 20. Lamps 25 can be placed upon the casing, one light in-

dicating danger and the other a clear track. If the arm 19 is extending upwardly the bolt will not be thrown into locked position and a red light would be disclosed and the other light would be concealed beneath the hood 24. If, however, the arm 20 is forced upwardly the red light will be concealed and the light indicating clear track will be exposed, which will indicate that the lever is in locked position and locked by the bolt 9.

By this invention a trainman will be notified whether or not the switch lever is in locked position. If the switch lever is merely thrown to its locked position and not locked in position, there is danger of the switch being jarred open, thereby causing the engine to leave the rails. The switch lever might be thrown sufficient to indicate a clear track by the shield C, but if the lever is not thrown to its proper position and locked the result above named will be caused. The danger of the shield indicating a clear track and the switch lever being in an unlocked position can be avoided by my invention, for the reason that a signal will be displayed indicating that the bolt is not in locked position and that the lever has not been locked in its proper position. When the signal is displayed on the lock showing that the bolt has locked the lever in its position the engineer will know, upon his examination of the signals, that he has a clear track.

It is evident that more or less slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to be limited to the exact construction herein set forth, but:—

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a combined lock and signal for railway switches, the combination with a switch stand and switch lever, of a lock casing, a bolt therein adapted to hold the switch lever in locked position, and means engaging the bolt for holding the bolt in locked or unlocked position.

2. In a combined lock and signal for railway switches, the combination with a switch stand and switch lever, of a lock casing, a bolt therein adapted to lock the switch lever in position, and a latch engaging the bolt for holding it in locked or unlocked position, and means operated by the bolt for indicating whether the switch lever is in locked or unlocked position.

3. In a combined lock and signal for railway switches, the combination with a switch stand and switch lever, of a lock casing, a bolt therein, a segmental gear in engagement with the lock bolt, signal arms connected to the segmental gear and actuated when the bolt is operated for locking and unlocking the switch lever to indicate whether the switch lever is locked or unlocked.

4. In a combined lock and signal for railway switches, the combination with a switch stand and switch lever, of a lock casing, a bolt in the casing for locking the switch lever in position, signal arms actuated by the bolt, and hoods connected to the arms for disclosing or concealing different colored lights.

In testimony whereof I affix my signature, in the presence of two witnesses.

THOMAS BUTLER ASHFORD.

Witnesses:

C. A. NEALE,

WATTS T. ESTABROOK.