



W. L. MAINER.  
MAIL HANDLING APPARATUS.  
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1,028,755.

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2 SHEETS—SHEET 2.

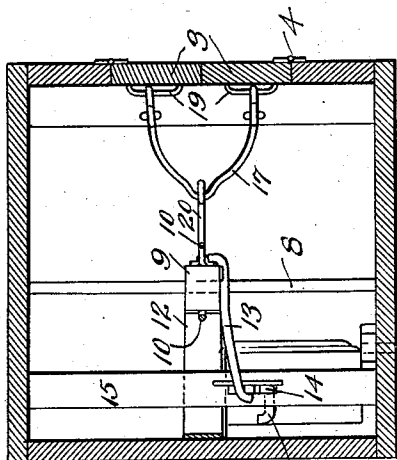


Fig. 4.

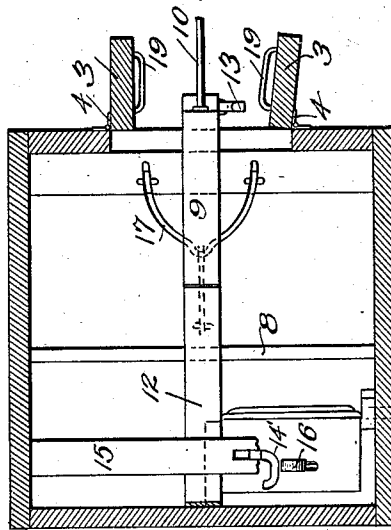


Fig. 5.

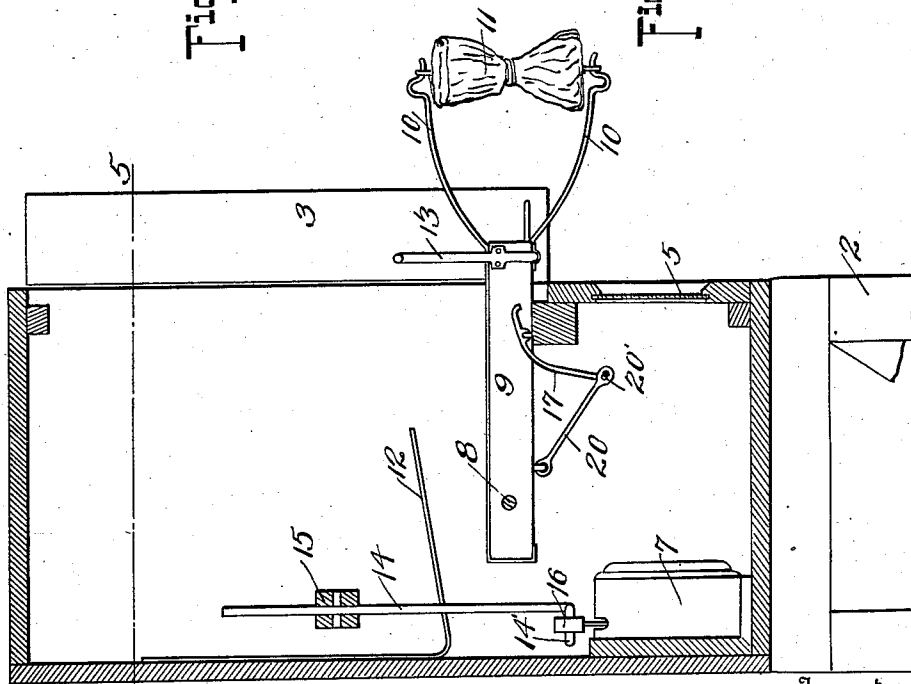


Fig. 6.

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Witnesses

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# UNITED STATES PATENT OFFICE.

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## MAIL-HANDLING APPARATUS.

1,028,755.

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*To all whom it may concern:*

Be it known that I, WILLIAM L. MAINER, a citizen of the United States, residing at Lamb, in the county of Liberty and State of Texas, have invented certain new and useful Improvements in Mail-Handling Apparatus, of which the following is a specification.

This invention relates to handling of mail and particularly to apparatus for delivering mail to moving trains.

The method practised ordinarily in transferring mail to a moving train necessitates the active supervision of the above operation by a station master who, by reason of the usually valuable nature of the mail, must needs place the same upon the delivery crane just before the passing of the train which is to catch the mail for transportation.

The object of the present invention broadly is to provide an apparatus wherein the mail bag or pouch may be safely locked in a casing or housing, special delivery means being provided to support the mail pouch in the casing against unauthorized removal, and protected from the elements as well. The said delivery means, however, is automatically operable at a predetermined time, approximating that at which the train passes, whereby to project the mail bag from the inclosing casing into a position in which it may be readily caught by a suitable mechanism on the train.

So far as I am aware, no apparatus operating in the above manner has been devised.

For a full understanding of the present invention, reference is to be had to the following description and to the accompanying drawings, in which—

Figure 1 is a front elevation of mail delivery apparatus embodying the invention, the doors and front portion of the casing being broken away to show the arrangement of certain interior parts. Fig. 2 is a vertical sectional view through the casing, showing the delivery arm in retracted position therein. Fig. 3 is a view similar to Fig. 2, the delivery arm, however, having been released to assume its delivering position. Fig. 4 is a horizontal sectional view on the line 4—4 of Fig. 2. Fig. 5 is a similar section taken on the line 5—5 of Fig. 3. Fig. 6 is a fragmentary view taken about on the line 6—6 of Fig. 2, looking toward the front of the casing, and showing the delivery arm retracted.

Throughout the following detail descrip-

tion and on the several figures of the drawings, similar parts are referred to by like reference characters.

In its general organization, the present invention embodies a casing, housing or receptacle of any suitable general construction, in which is mounted a time controlled device associated with the delivering means which comprises a delivery arm capable of supporting a mail pouch, said arm being normally locked in a position in which it is entirely closed by the casing. The time controlled device coöperates with the delivery arm to release the same at a predetermined time, and said arm is then automatically projected from the casing, its movement unlocking certain doors by which access may be had to said casing, thereby permitting the pouch to be placed in a position in which it may be caught by the passing train.

Specifically describing the preferred embodiment of the present invention, 1 in the drawings denotes a casing of any conventional construction, being of box-like form, and supported by a stand 2 which will, of course, be located adjacent to a railroad track. The casing 1 is provided with the main doors 3, hinged or otherwise supported thereon, as shown at 4. Below the doors 3 are auxiliary doors 5 adapted to be locked by any suitable lock means, shown at 6, said doors 5 being preferably provided to permit of ready access to a time controlled device 7 in the casing. A cross bar 8 in the casing constitutes the axis or pivotal support of the mail delivery arm 9 pivoted thereto between its ends, and said arm 9 has the yieldable spaced pouch supporting members 10 with which the mail pouch 11 may be engaged in any conventional way. A spring 12 is secured to the rear wall of the casing 1 and is adapted to engage the upper portion of the arm 9 to forcibly project the latter from the casing. A lock member 13 projects rearwardly from the upper portion of the arm 9 and is engaged by a trip lever 14 pivoted to a cross piece 15 in the casing 1. The lower end of the trip lever 14 has an extension 14' arranged in the path of movement of a hammer 16, forming a part of the time controlled device 7, the latter being preferably a clock mechanism of some sort.

While the auxiliary doors 5 of the casing will be locked by a key, or the like, in the possession of the station master, the main doors 3 are locked closed, when the parts

are in the position shown in Fig. 2, by a double catch lever 17, the catches 18 of which engage with loops 19 on the doors. A link 20 connects the inner end of the catch lever 17 with an arm 9 at a point above the pivotal support 8 of the latter, and the connection between the parts 17 and 20 permits of slight relative play, as shown at 20', desirable in order to properly set the lever 17 in a position locking the doors 3 closed.

The foregoing sets forth the general construction of the parts of this apparatus and, in operation, it will be understood that as soon as the mail is made up by the station master, the pouch or bag containing the same will be engaged with the members 10 of the arm 9, and the various parts of the mechanism described will be set in the positions shown in Fig. 2, with the casing locked against unauthorized access thereto, and with the time controlled device 7 set to operate the hammer 16 at a predetermined time, say a few minutes before the arrival of the train which is to catch the mail from the delivery apparatus. On operation of the time controlled device 7, the hammer 16 will strike the trip lever 14 and disengage the latter from the lock member 13, whereupon the spring 12 will force the arm 9 outwardly toward the doors 3. The initial movement of the arm 9 through its connection 20 with the catch lever 17, raises the catches 18 from engagement with the loops 19 of the doors 3, unlocking or releasing said doors. Further movement of the arm 9 causes the outermost member 10 and the mail pouch to impinge against the doors in such a way as to open the latter, whereupon the arm 9 drops into delivering position wherein it is supported horizontally by a sill 21 in the manner shown clearly in Figs. 3 and 4 of the drawings. If the operation of the time controlled mechanism is accurate, it will be apparent that the mail bag will remain in delivering position a comparatively short time only before it is engaged and caught by the passing train.

While the apparatus above described is particularly designed for use at stations along a track, with slight modification it will be obvious that the invention may be readily adapted for use on railway cars to set a mail catching arm instead of a mail delivering arm, as hereinbefore described, for which reason the arm 9 may be considered broadly to be a mail supporting arm normally inoperatively positioned and adapted to be actuated automatically at a predetermined time to assume an operative position.

Having thus described the invention, what is claimed as new is:

1. In mail handling apparatus, the com-

bination of a casing, doors normally closing said casing, a mail supporting arm, means normally holding said arm retracted in the casing, automatic means for releasing said arm, and means for projecting the arm from the casing.

2. In mail handling apparatus, the combination of a casing, a mail delivery arm, means normally holding said arm retracted in the casing, means for releasing the arm, means for projecting the arm from the casing when released, doors closing said casing, and means for locking said doors operable by the delivery arm.

3. In mail handling apparatus, the combination of a casing, a mail delivery arm, means normally holding said arm retracted in the casing, means for releasing the arm, means for projecting the arm from the casing when released, and doors for closing said casing adapted to be opened by the delivery arm when projected from the casing.

4. In mail handling apparatus, the combination of a casing, a mail delivery arm, means normally holding said arm retracted in the casing, means for releasing the arm, means for projecting the arm from the casing when released, doors closing said casing, and means for locking the doors closed adapted to be released by movement of said arm, said doors being in the path of movement of the arm to be forcibly opened thereby when the arm is released.

5. In mail handling apparatus, a casing, a delivery arm pivoted in said casing, means normally holding said arm retracted in the casing, and a time controlled device for releasing the arm from said retracting means.

6. In mail handling apparatus, a casing, a delivery arm pivoted in said casing, means normally holding said arm retracted in the casing, a time controlled device for releasing the arm from said retracting means, and a spring for projecting the arm from the casing when released.

7. In mail handling apparatus, a casing, a delivery arm pivoted in said casing, means normally holding said arm retracted in the casing, a time controlled device for releasing the arm from said retracting means, a spring for projecting the arm from the casing when released, doors closing the casing, a catch lever cooperating to lock said doors closed, and a connection between the catch lever and the delivery arm.

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

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Witnesses:

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