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AIR MAIL EXCHANGE DEVICE

Filed Aug. 6, 1929

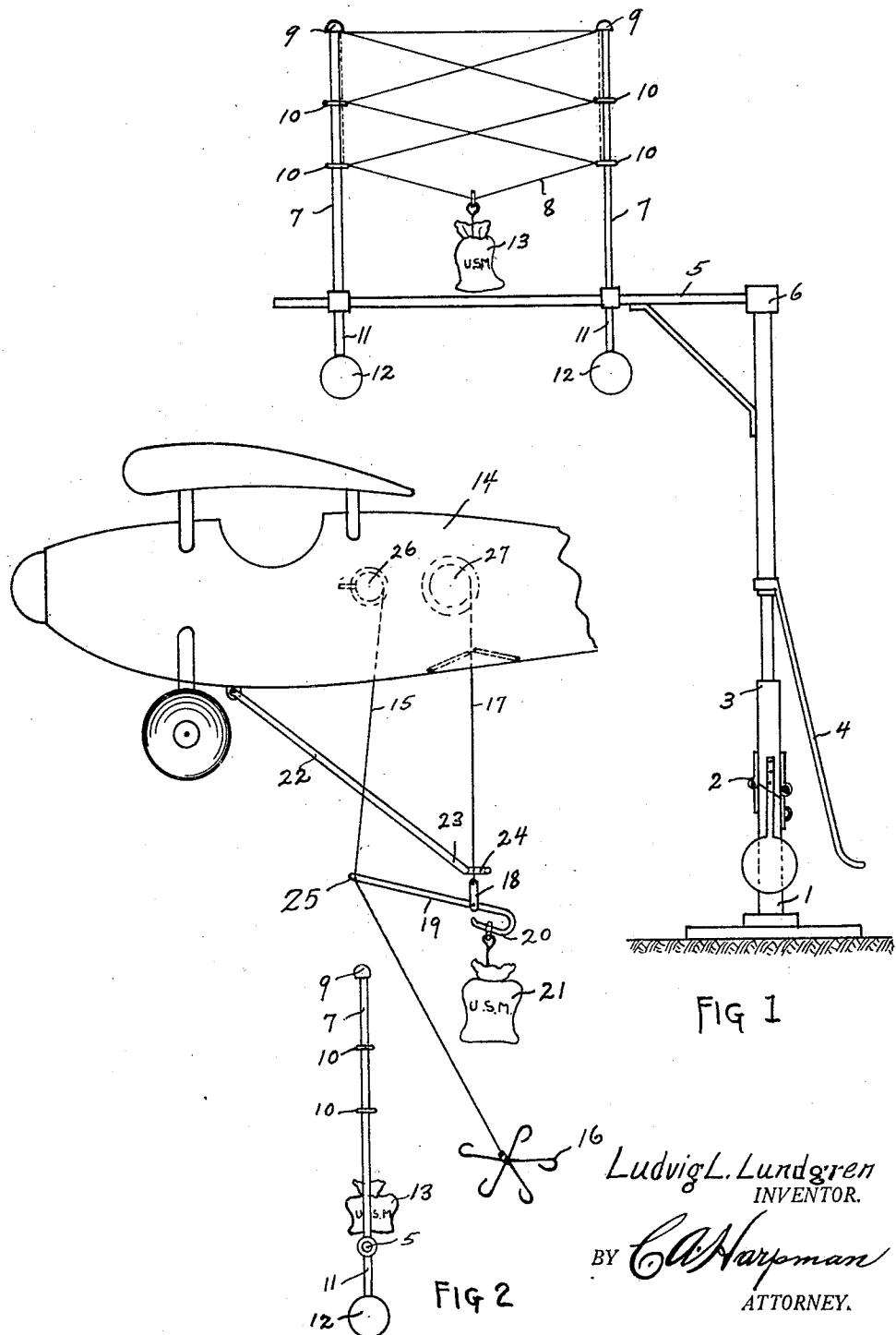


FIG 1

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# UNITED STATES PATENT OFFICE

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## AIR MAIL EXCHANGE DEVICE

Application filed August 6, 1929. Serial No. 383,842.

This invention relates to the handling of air mail and more especially in a device for taking on air mail and dropping air mail by an airplane operator in order that the mail **5** may be collected and discharged at the same time.

Another object of the invention is to provide a vertical support member secured to the ground. This support member is provided **10** with a horizontal arm which in turn carries two perpendicular, parallel support members for the carrying of mail to be taken up by the airplane.

Another object of the invention is to provide means for dropping mail at the same time mail is taken on by the airplane.

A still further object of the invention is to provide a vertical support member which may be folded downwardly to the ground **20** when desired and means for rotating the same in order to swing the arm carrying the mail to be taken on in the proper position for planes travelling in different directions.

With the foregoing and other objects in **25** view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that **30** changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a view in elevation of the device showing the ground part supporting mail to be taken on.

Figure 2 is a side elevation of the device **40** showing an airplane with an equipment in a position to pick up air mail and to drop air mail.

By referring to Figure 1 it will be seen that I have provided a vertical support member 1 which is hinged at point 2 in order that the same may be folded down to the ground when adjusting the device holding mail to be taken on. This vertical support member 1 is telescoped at point 3 in order to allow for rotation. The device may be rotat-

ed by means of a lever 4. There is provided a horizontal arm 5 at the extreme upper end **55** 6 of the vertical support member 1. This horizontal arm 5 is utilized for the purpose of supporting two vertical, parallel members **60** 7 pivotally secured to the horizontal arm 5. These vertical, parallel members 7 are utilized for the purpose of holding a net 8 which is supported at its upper end by means of a cap 9 placed over upper ends of the vertical, parallel members 7. The lower portion of the net 8 is held between the vertical, parallel members 7 by means of slidable rings **65** 10. It will be noticed each of the vertical, parallel members 7 is provided with dependent weight arms 11 carrying suitable weights 12 in order to hold the device for holding a mail bag 13 in a position above the horizontal arm 5.

By referring to Figure 2, it will be seen **70** that as the airplane 14 flies directly over the net 8, the operator releases a cord 15 which carries at its lower end a grappling hook 16. At the same time a cord 17 is lowered. The lower end of this cord 17 is provided with a **75** swivel link 18 which carries a pivoted discharge arm 19 which is provided with a discharge hook 20 upon which is supported a mail sack 21 about to be dropped. In order to prevent the pivoted discharge arm 19 from **80** unnecessarily swaying or twisting there has been provided a stabilizer arm 22 having an extreme lower end 23 with an eye opening 24 through which the cord 17 passes.

When the airplane 14 passes directly over the net 8, the grappling hook 16 engages the net 8, and the net is caused to slip over the top of the vertical, parallel members 7 carrying the mail bag 13 which is being taken on to the plane. The cord 15 is secured to the **85** pivoted discharge arm 19 at point 25 in order that the pivoted discharge arm 19 may be pulled down thereby causing the mail bag 21 to drop from off the discharge hook 20.

It is obvious that the cords 15 and 17 must **90** be wound and unwound and this is accomplished by means of drums 26 and 27.

It will also be understood that in equipping a complete device of this character, it **95** will be advisable to provide an ordinary net **100**

for the reception of the mail bag 21 when dropped, in order to prevent damage to the mail.

What I claim is:—

- 5 1. In a device of the class described, a pivoted discharge arm suspended from an airplane, a discharge hook formed on said pivoted discharge arm for the purpose of supporting a mail bag in a dischargeable manner, means for preventing unnecessary swaying of said pivoted discharge arm, means for automatically discharging a mail bag held on said discharge hook, and means for picking up and taking on the airplane a mail bag, substantially as described.
- 10 2. In a device of the class described, a discharge arm held in a pivoted manner and suspended from an airplane, a discharge hook formed on said pivoted discharge arm for the purpose of holding a mail bag and discharging the same, means for automatically tripping said pivoted discharge arm, and means for taking up a mail bag at the same time as a mail bag is discharged from the discharge hook.
- 15 25

In testimony whereof I affix my signature.  
LUDVIG L. LUNDGREN.

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