Dec. 26, 1922. 1,439,927

I. M. UPPERCU.
MAIL OPERATING DEVICE.
FILED SEPT. 5, 1919.

3 SHEETS-SHEET 1

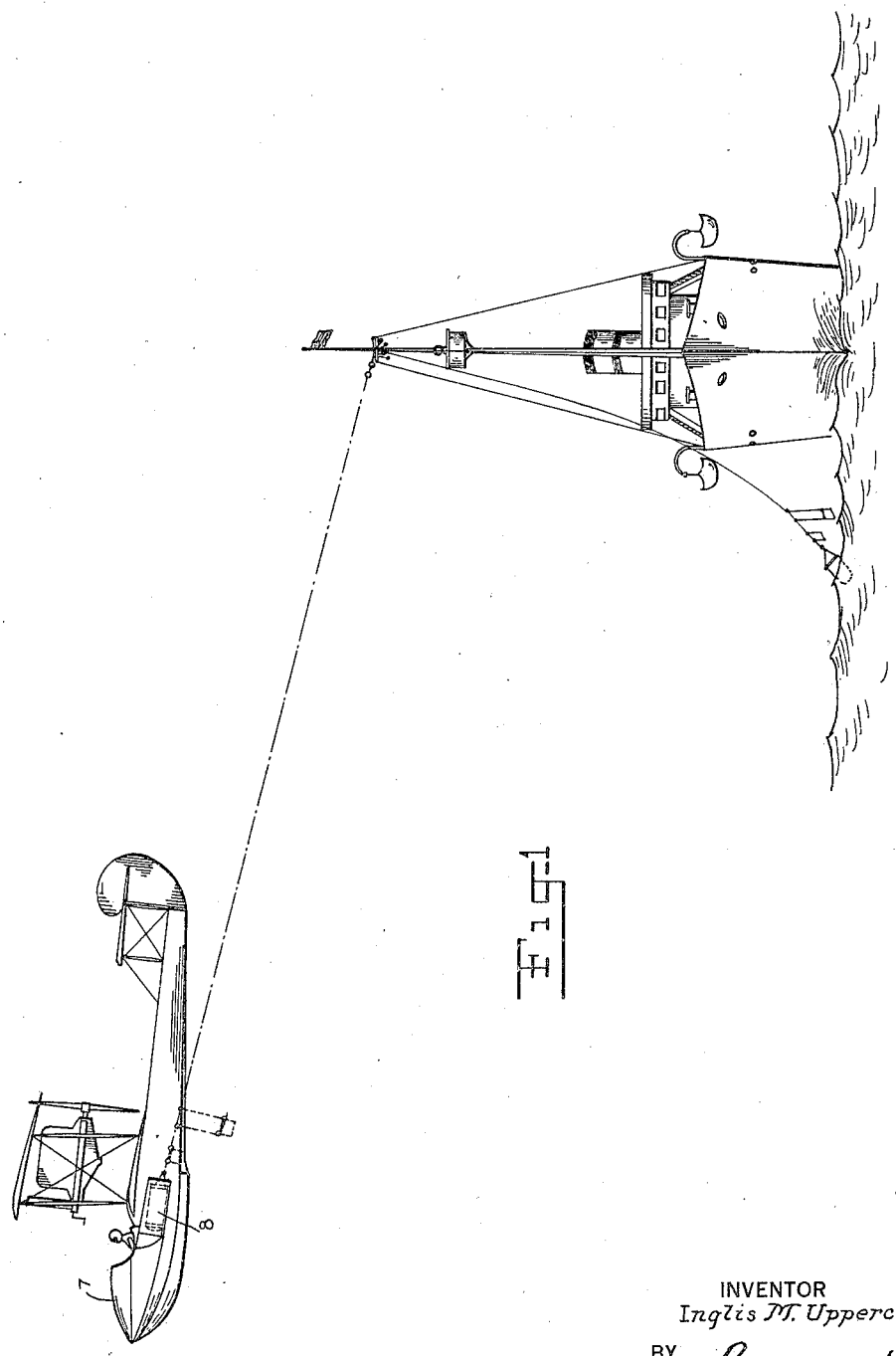


Fig. 1

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3 SHEETS-SHEET 2

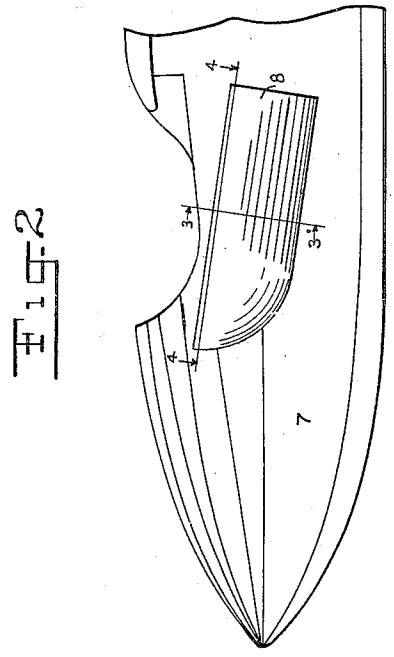


FIG-2

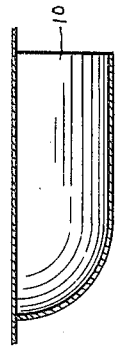


FIG-4

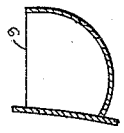


FIG-3

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3 SHEETS-SHEET 3

FIG. 5

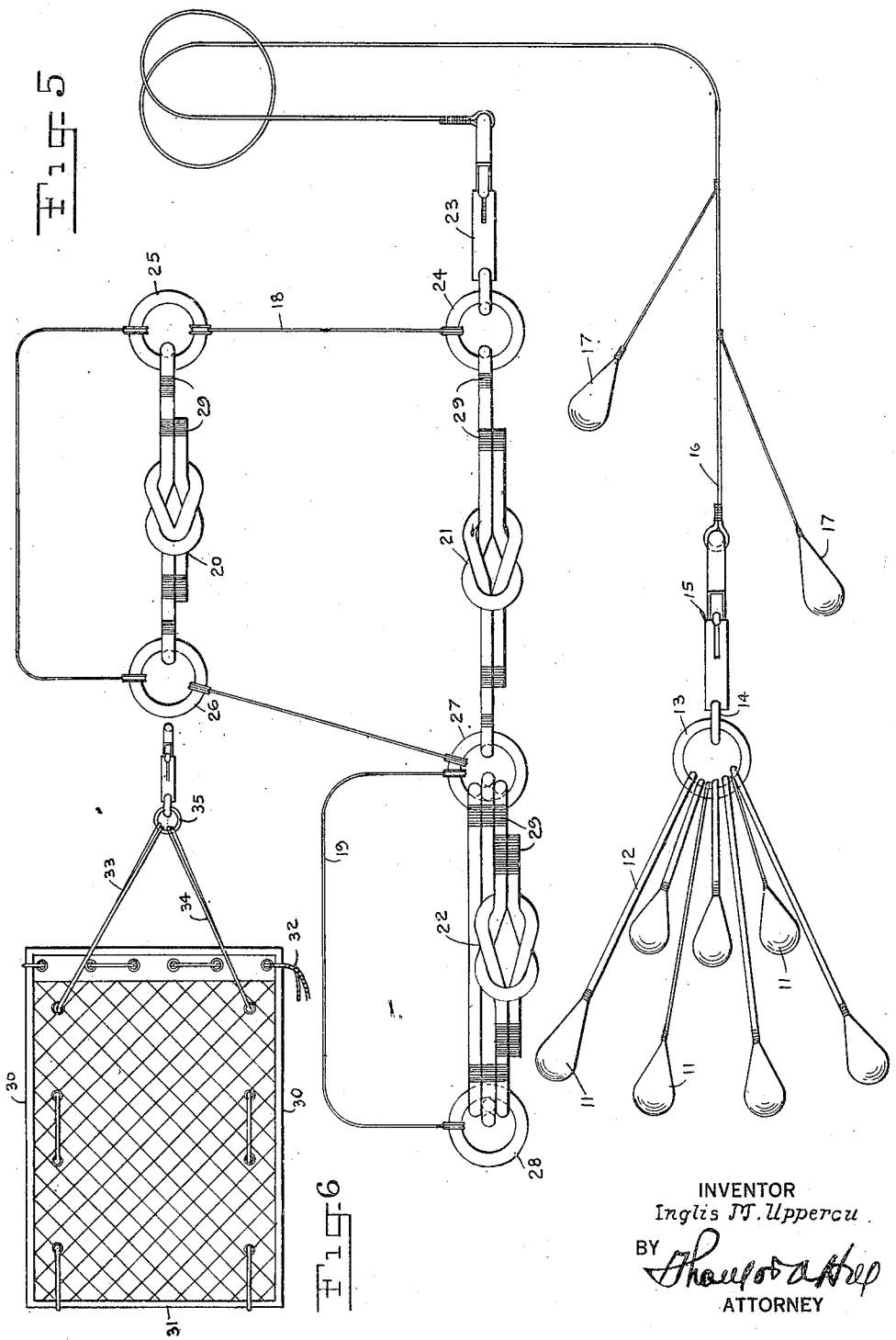


FIG. 6

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Patented Dec. 26, 1922. 1,439,927

UNITED STATES PATENT OFFICE.

INGLIS MOORE UPPERCU, OF NEW YORK, N. Y.

MAIL-OPERATING DEVICE.

Application filed September 5, 1919. Serial No. 321,973.

To all whom it may concern:

Be it known that I, INGLIS MOORE UPPERCU, citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Mail-Operating Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in mail operating devices and more particularly has reference to means in combination with an aircraft such as an aeroplane for transferring mail therefrom to a moving vehicle such as a marine vessel.

The practice of dropping bags of mail upon such vessels is objectionable and dangerous for several reasons. These sacks are usually heavy containing perhaps 100 pounds of mail and are liable to do damage to both life and property even assuming that the aviator successfully lands the bag, but the further difficulty is encountered in making sure of landing the bag upon the vessel whereas according to my present invention, the bag is not landed upon the vessel directly and there is no difficulty in getting the bag upon the vessel once it is dropped by the aviator as I prefer to employ a long cable or rope attached to the bag the free end of which is first thrown into engagement with the vessel after which the bag is released and may then be drawn aboard the vessel without difficulty.

In the accompanying drawings, I have illustrated in Fig. 1 in perspective, a suitable aircraft and vessel showing the manner of attaching the mail to the vessel so that the same can be drawn on board. Fig. 2 is an enlarged detail partly broken away illustrating the forward portion of the air-boat with the mail chamber in position thereupon. Fig. 3 is a cross section on the line 3—3 of Fig. 2 looking from left to right thereat and Fig. 4 is a longitudinal section on the line 4—4 looking down upon the mail chamber. Fig. 5 is a diagrammatic view of the cable or line attached to the mail bag and Fig. 6 is a side view of the bag within which the mail bag may be introduced. 7 indicates the air-boat and 8 the chamber at the side thereof within which the mail bag and line are carried. This chamber is open at the top as indicated at Fig. 3 at 9 and as indicated at Fig. 4 at 10, although of course it is understood that any suitable form of chamber or box may be provided if desired or the mail bag and line can be carried inside of the boat proper. When a separate chamber is employed, the front is preferably shaped in such a manner as to reduce air resistance and the chamber is preferably inclined substantially as shown to insure a ready release of the bag once the line has taken hold of the ship.

The line is preferably provided at its outer extremity with a sort of cat o' 9-tail arrangement of weights such as bags 11 which may be filled with shot, sand or other material and secured by suitable ropes such as 12 to a ring such as 13. These tails or fingers are preferably made of different lengths and may be connected by another ring 14 to a suitable snap lock or swivel 15 upon the end of the line 16 as shown and other weighted members such as 17 may also be provided above the end of the line as shown. The other end of the line may also be looped as indicated at 18—19 and within the loop may be secured resilient members such as 20—21—22, that is to say the line may be provided with another swivel or lock connection such as 23 engaging the ring 24 and the line may be divided in sections by other rings such as 25—26—27—28 between which the shock absorbers 20—21—22 inclusive may be introduced as shown. These shock absorbers are preferably made of heavy rubber strands the ends of which may be secured in sailor knot fashion as shown and the strands may be bound by cord or other material as indicated at 29, if desired. This cushions the shock or drag of the bag when the bag lands and takes up the slack of the line.

The bag illustrated in Fig. 6 is preferably made of suitable tough material such as heavy canvas which may be closed at the sides 30 and bottom 31, being open at the top to receive a hermetically sealed bag of mail which is then retained within the bag shown in Fig. 6 by suitable tie cords such as 32—33—34 which indicate suitable loops of rope or cable which may be threaded around the bag shown in Fig. 6 as shown and attached to the ring 35 at the end of the line. This outer bag with the hermetically sealed bag fastened therein is then placed within the chamber 8 upon the air-boat and the coil of rope or line is placed alongside.

Referring now to Fig. 1, it will be observed that when the aviator is sufficiently close to the vessel upon which the mail is to be landed, he flies preferably across the same sufficiently close to insure attaching the line thereto and at the proper moment releases the outer end of the line containing the weighted fingers 11—17 which coming in contact with the rigging, rail or other part of the vessel at the speed at which the aviator is traveling across the same, immediately winds itself fast to the part engaged and as the aviator continues, the line draws the bag of mail out of the end of the container 8 allowing it to drop overboard, the line dragging against the side of the vessel as shown in the lower part of Fig. 1. The line shown in dotted outline in the upper part of said figure, illustrates the position at the moment the mail leaves the aircraft. With the line hanging to the side of the vessel as shown in full outline, it is a simple matter for the bag of mail to be drawn aboard after which the line can be released from the rigging or other part of the vessel to which it has become attached and will be laid aside for future use.

From the foregoing, it will be readily observed that there is no danger to life or property from the weight of a heavy mail bag thrown possibly from great height and yet there is every assurance that the line will be made fast to the vessel so that the bag can be easily drawn aboard almost immediately after it strikes the water. Furthermore, the loops formed in the line with cushioning means prevents any sudden shock or jar upon either the aircraft or vessel to which the bag is attached and also prevents any possible breaking of the line.

Of course, it will be understood that various modifications may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

I claim:

1. A device of the class described for effecting a transfer from an aerial vessel to another vessel, comprising a cast-off line carried by the aerial vessel provided at one end with weighted means adapted to become entangled in the other vessel, and means at the opposite end of the line for attaching the same to the object to be cast off.

2. A device of the class described for effecting a transfer from an aerial vessel to another vessel, comprising a cast-off line carried by the aerial vessel provided at one end with weighted means adapted to become entangled in the other vessel, and means at the opposite end of the line for attaching the same to the object to be cast off, together with resilient means in the line adapted to take up the pull upon the line at the moment of entanglement.

3. Means for effecting a transfer from an aerial vessel to another vessel, comprising a cast-off line carried by the aerial vessel having weighted members at one end adapted to become entangled in the other vessel and the object to be cast off attached to its other end.

4. Means for effecting a transfer from an aerial vessel to another vessel, comprising a cast-off line carried by the aerial vessel, one end of which is attached to the article to be cast off from the aerial vessel and the other end of which carries a plurality of weighted terminals adapted to wrap about a portion of the other vessel as they are trailed across it.

5. In an apparatus of the class described a line provided at one end with a series of flexible weighted members, a resilient loop in said line and a hermetically sealed bag at the opposite end thereof.

6. The method of transferring articles from one moving vessel to another comprising providing a line carried by one moving vessel having means of entanglement at one end thereof and at the opposite end thereof means for attaching the articles to be transferred, carrying said line and article upon one of said vessels and trailing the free end of said line across the other of said vessels thereafter releasing said article from said vessel upon which it was carried.

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

INGLIS MOORE UPPERCU.

Witnesses:
MADELINE C. FOERST,
ANNA F. DUFFY.