

C. F. MORRIS.
MAIL CRANE.
APPLICATION FILED NOV. 16, 1909.

954,988.

Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.

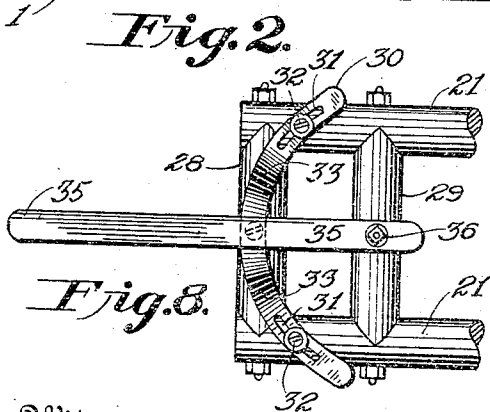
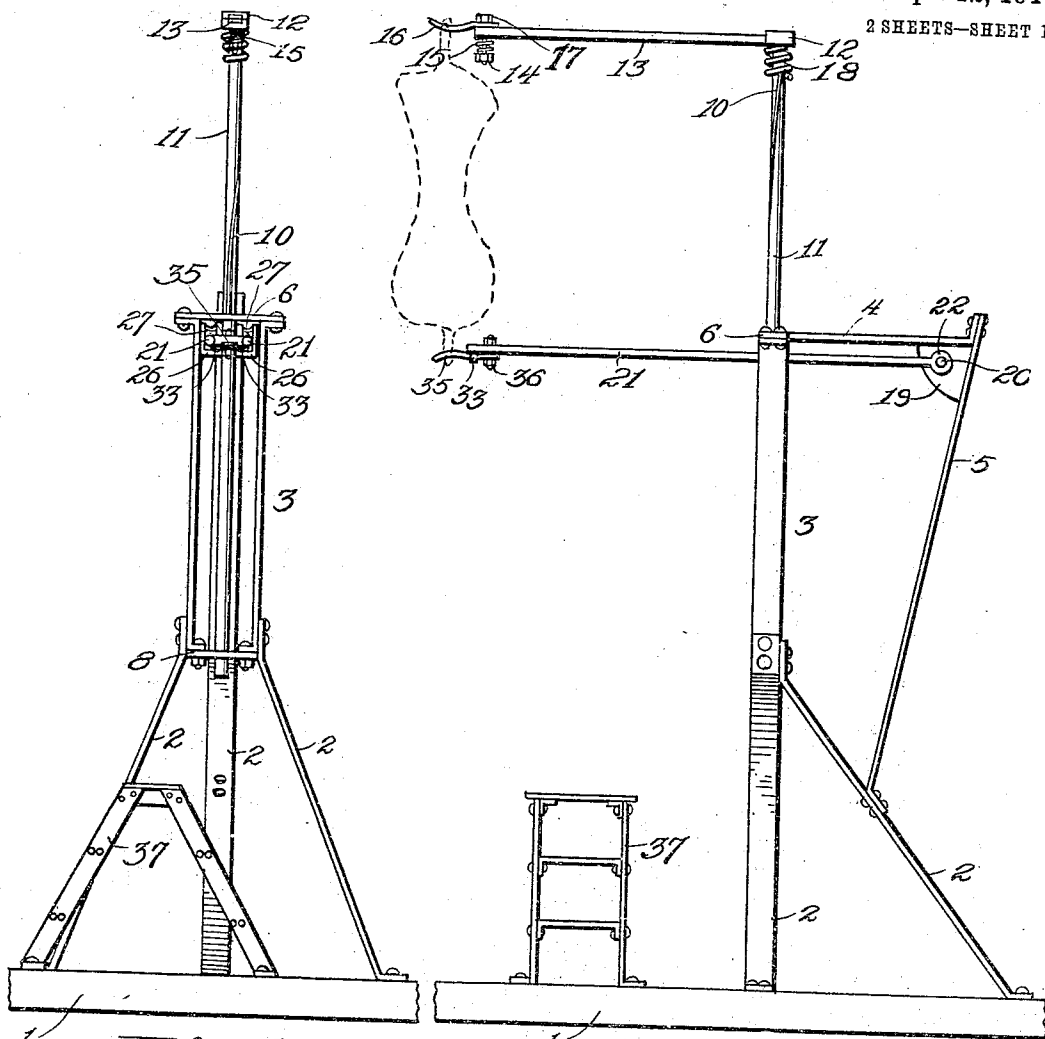


Fig. 8.

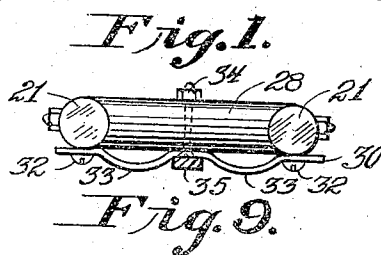


Fig. 9.

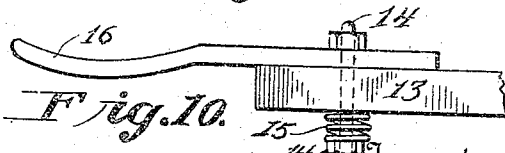


Fig. 10.

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2 SHEETS—SHEET 2.

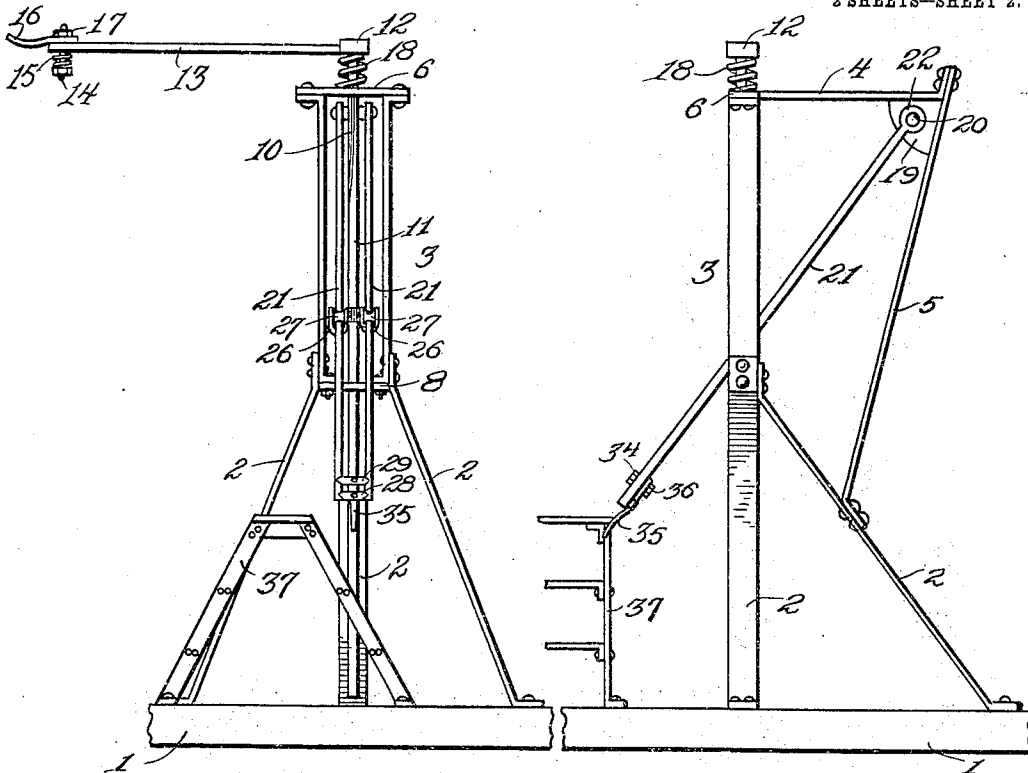


Fig. 4.

Fig. 3.

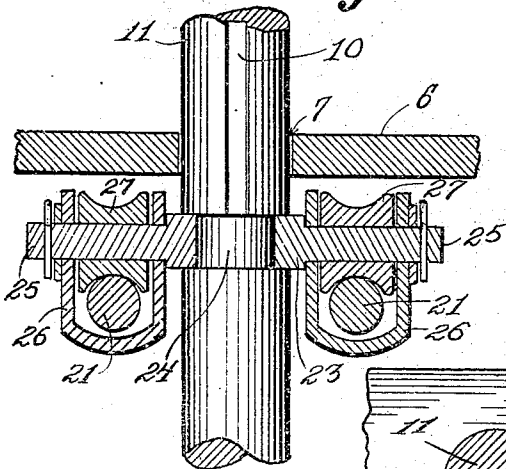


Fig. 5.

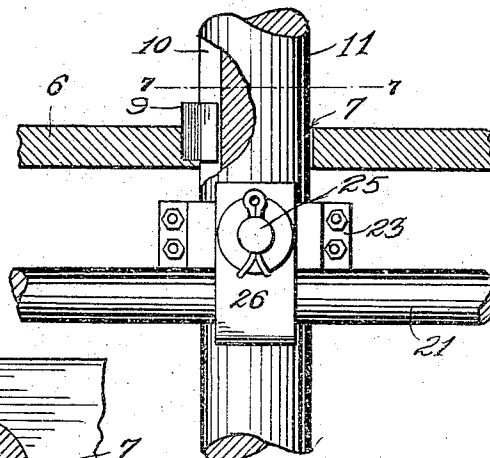


Fig. 6.

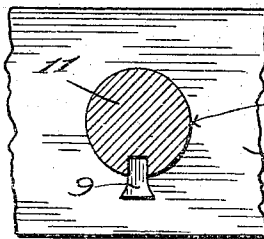


Fig. 7.

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UNITED STATES PATENT OFFICE.

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MAIL-CRANE.

954,988.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed November 16, 1909. Serial No. 528,338.

To all whom it may concern:

Be it known that I, CHARLES F. MORRIS, a citizen of the United States, residing at Greenville, in the county of Washington and State of Mississippi, have invented certain new and useful Improvements in Mail-Cranes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to mail delivery cranes, and the principal object of the same is to provide a crane which will swing away from the track after the pouch has been removed therefrom and then collapse within its support so that the bag holding arms will be within easy reach of an attendant.

In carrying out the objects of the invention generally stated above it will, of course, be readily understood that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, but a preferred and practical embodiment of the same is shown in the accompanying drawings, wherein—

Figure 1 is a view in side elevation of the improved crane as it appears when ready to deliver a pouch. Fig. 2 is a front elevation. Fig. 3 is a view similar to Fig. 1 but showing the crane collapsed. Fig. 4 is a view similar to Fig. 2 but showing the crane collapsed. Fig. 5 is a fragmentary sectional view of a portion of the shaft of the crane, showing the support thereon for the lower pouch supporting arm. Fig. 6 is a view in side elevation of the structure shown in Fig. 5. Fig. 7 is a sectional view taken on the line 7—7, Fig. 6. Fig. 8 is a fragmentary top plan view of the outer end of the lower arm of the crane. Fig. 9 is an end view thereof. Fig. 10 is a fragmentary side elevation of the outer end of the upper arm of the crane.

Referring to said drawings by numerals, 1 designates the base of the improved crane which may be a station platform or the like. A plurality of brace rods 2 project upwardly from said base, said rods converging at their upper ends and being riveted or otherwise rigidly fastened to the lower end of a vertically arranged substantially rectangular frame 3. The upper end of said frame 3 is provided with an outwardly projecting brace arm 4 which connects with the upper end of a brace rod 5 which in turn is connected to one of the brace rods 2, thereby securely bracing said frame 3 at its top and

bottom. The top bar 6 of said frame 3 has an opening 7 formed through it which aligns with a similar opening formed through the bottom bar 8. A guide pin 9 carried by the bar 6 projects into the opening 7 and enters a spiral groove 10 formed longitudinally in a shaft 11 slidably mounted in said frame 3 and projecting through the openings in the end bars thereof. The upper end of said shaft is provided with a cap 12 from which a horizontal arm 13 projects. The outer end of said arm has a bolt 14 passed through it and upon which a spring 15 is coiled and interposed between the head of the bolt and said arm. Said bolt preferably passes through said arm from its under side and its threaded end passes through the inner end portion of a hook 16 and is held in yielding engagement therewith by means of the nut 17. Said hook projects beyond the end of said arm and is preferably bowed slightly to provide a seat for the end loop of the mail pouch, not shown. A spring 18 is coiled about the shaft 11 immediately below the cap 12 and serves to cushion said cap when the shaft is dropped through said frame 3, as will presently appear.

At the junction of the brace arm 4 and brace rod 5 a plate 19 is supported from which the shaft 20 projects. A pair of rods 21 each have an eye 22 formed in its inner end which are fastened to the ends of said shaft 20. A collar 23 is loosely mounted in an annular groove 24 formed on the shaft 11. Said collar carries two oppositely arranged laterally projecting shafts 25 each having a substantially U-shaped stirrup 26 mounted thereon and in which a grooved roller 27 is mounted on said shaft. One of said rods 21 pass through each stirrup between the base and said roller. Said rods project well beyond said stirrups and their outer ends are connected by means of the end bar 28 and intermediate bar 29. A flat curved spring 30 provided with end slots 31 is held in slidable relation to said rods 21 by means of the set screws 32, said spring being transversely corrugated as indicated at 33 and fastened to the end bar 29 by means of the bolt 34. A hook 35 has one end pivoted to the intermediate bar 29 as indicated at 36 and projects across said spring 30 and is provided with a seat for the bottom loop of the mail pouch.

In the operation of the improved crane, assuming the same to be in the position shown in Fig. 1, it will be seen that the bag or pouch may be readily pulled from the hooks of the arms of the crane by the usual car fork, the removal of the pouch being facilitated by reason of the fact that said hooks are pivotally mounted. As soon as the pouch is removed, the weight of the rods 21 upon the stirrups 26 will pull downward on the shaft 11, and as the guide pin 9 is engaged within the spiral groove of said shaft, the shaft in its downward movement will turn about one-quarter of a revolution and thereby throw the upper arm to a position at parallel to the track, the spring 18 obviously contacting with the upper bar of the frame 3 and thereby cushioning the said shaft. To place a pouch on the crane, the upper loop thereof is first placed over the hook of the upper arm, and the lower arm raised on its pivotal connection to both raise the shaft 11 and also turn it, after which the bottom loop of the pouch is placed over the hook of the said lower arm. To facilitate the placing of a pouch on the crane a raised platform 37 is provided which is arranged adjacent to the base of the crane.

What I claim as my invention is:

1. A device of the character described comprising a frame, a shaft slidable and rotatable therein, an arm projecting from the upper end of said shaft and provided with pouch engaging means, and a pivotally mounted arm projected through said frame and having a connection with said shaft, said pivotally mounted arm being provided with pouch engaging means and also adapted to depress said shaft when a pouch is removed from said arms.

2. A device of the character described comprising a frame, a shaft slidable and rotatable therein, stirrups mounted on said shaft, a pair of pivotally mounted rods projecting through said stirrups, and pouch engaging hook carried by said rods, an arm carried by the upper end of said shaft, and a pouch engaging hook carried by said arm.

3. A device of the character described comprising a plurality of brace rods, a frame supported thereby, a shaft slidable and rotatable in said frame, an arm carried by the upper end of said shaft, a pouch engaging hook carried by said arm, stirrups rotatable on said shaft, a pair of pivotally mounted rods projecting through said frame and said stirrups, and a pouch engaging hook carried by said rods.

4. A device of the character described comprising a vertically supported frame, a shaft slidable and rotatable therein, a pouch engaging arm carried by said shaft, and a pivotally mounted pouch engaging arm pro-

jecting through said frame and adapted to depress said shaft when a pouch is removed from said arms.

5. A device of the character described comprising a supporting frame, a vertically arranged shaft slidable and rotatable therein, pouch engaging means carried by said shaft, a pair of pivotally mounted rods projecting through said frame and provided with pouch engaging means, and means carried by said shaft for supporting said rods.

6. A device of the character described comprising a frame, a shaft slidable there-through, means carried by said frame for imparting a rotary movement to said shaft, pouch engaging means carried by said shaft, and a pouch engaging arm projecting through said frame and adapted to depress said shaft when pouch is removed therefrom.

7. A device of the character described comprising a frame, a shaft slidable there-through and provided with a spiral groove, a guide pin carried by said frame and engaging said groove, pouch engaging means carried by said shaft, and a pair of pouch engaging arms projecting through said frame and adapted to depress said shaft when a pouch is removed therefrom.

8. A device of the character described comprising a frame, a shaft slidable and rotatable therethrough, a pouch supporting arm carried by said shaft, a pair of rods projecting through said frame and supported by said shaft, a spring carried by the ends of said rods, and a pouch engaging hook carried by said rods and projecting across said spring.

9. A device of the character described comprising a frame, a shaft therein, pouch engaging means carried by said shaft, a pouch engaging arm projecting through said frame and supported by said shaft, a spring carried by the outer end of said arm and provided with corrugations, and a pouch engaging hook pivoted to said arm and projecting across the corrugated portion of said spring.

10. A device of the character described comprising a vertically supported frame, a vertically arranged shaft slidable and rotatable in said frame, pouch supporting means carried by said shaft, a pair of pivotally mounted rods projecting through said frame and supported by said shaft and adapted to depress said shaft, and means carried by said rods for engaging with a pouch.

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

CHARLES F. MORRIS.

Witnesses:

S. A. MAYOR,
GEO. W. WAHL, Jr.