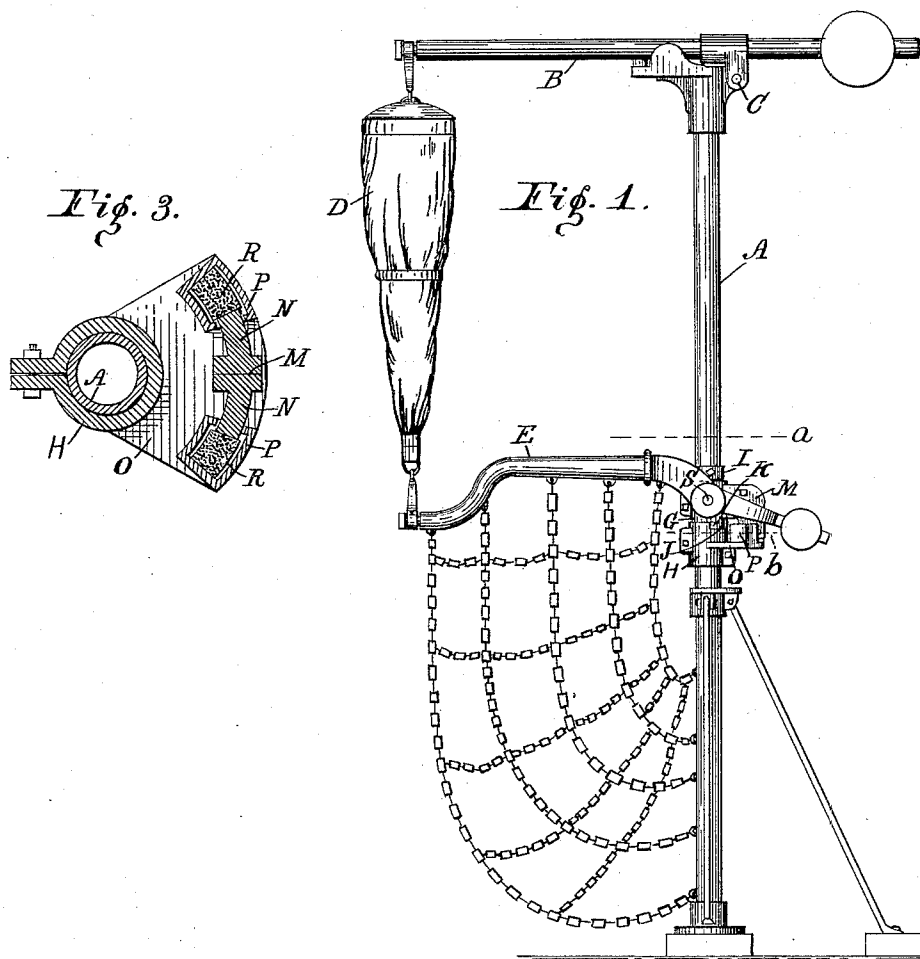
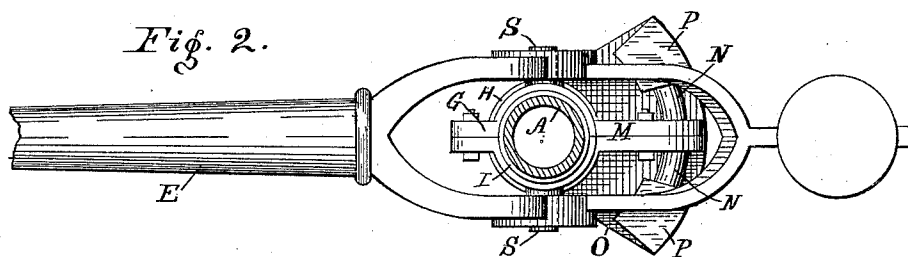


(No Model.)

J. F. MAINS.
MAIL SACK CRANE.

No. 463,159.

Patented Nov. 17, 1891.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN F. MAINS, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE MAINS PATENT MAIL CATCHER AND DELIVERER COMPANY.

MAIL-SACK CRANE.

SPECIFICATION forming part of Letters Patent No. 463,159, dated November 17, 1891.

Application filed June 1, 1891. Serial No. 394,687. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. MAINS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Mail-Sack Cranes, of which the following is a specification.

My invention relates to an improvement in a mail-sack crane for which Letters Patent of the United States No. 447,471 were issued to myself and others March 3, 1891. Said mail-sack crane consists, essentially, of a pair of horizontal arms pivoted to a mast, so as to swing in a vertical plane thereon, and adapted to hold a mail-sack extended between them in position to be delivered to a moving railway-train, and a net suspended from the lower arm and arranged to receive a mail-sack delivered therein from said moving train. In said mail-sack crane the arm from which the net is suspended is pivoted to the mast, so as to swing in a vertical plane thereon, but without movement in a horizontal plane. It has been found in practice that where the arm is thus supported rigidly as to horizontal movement the impact of the mail-sack, delivered with great velocity from the moving train into the net, soon wrenches the arm from the mast.

The object of my present improvement is to avoid this difficulty by so connecting the arm which supports the net to the mast that it shall have a limited horizontal movement thereon, controlled by suitable springs or cushions, so as to resist the shock of the impact of the mail-sack with a yielding force, all as hereinafter fully set forth.

The accompanying drawings illustrate my invention.

Figure 1 represents a side elevation of the crane, showing the outgoing mail-sack in position for delivery. Fig. 2 is a plan on a larger scale at *a*, Fig. 1. Fig. 3 is a transverse section, also on a larger scale, at *b*, Fig. 1.

In the drawings, A is the mast.

B is the upper arm, pivoted to the mast at C. D is the mail-sack.

E is the lower arm, and F is the net suspended therefrom.

The arm E is connected to the mast in the following manner: A sleeve G is mounted on

the mast so as to turn easily thereon, being held in position longitudinally upon the mast by means of collars H and I. Sleeve G is provided on its lower end with a projection J, which engages a corresponding recess K in the collar H, the recess being of such width as to permit a limited horizontal rotation of the sleeve upon the mast. Sleeve G is also provided with an arm M, extending laterally from the sleeve, which arm is provided on each side with a projecting stud N. Collar H is provided with a bracket O, carrying a pair of sockets P P, arranged to receive the ends of the studs N. Mounted in the sockets P are spring-cushions R R, preferably of rubber, against which the outer ends of the studs N rest, the arrangement being such that the arm M of sleeve G is centrally sustained by the spring-cushions between the sockets, and the spring-cushions resist with a yielding force the rotation of the sleeve upon the mast in either direction. Sleeve G is provided with a pair of trunnions S S, projecting from its opposite sides at right angles to the arm M, upon which trunnions the arm E is mounted, so as to swing thereon in a vertical plane.

In operation the arm E is held in a horizontal position, thus holding the net F extended by the mail-sack D. When the sack is thrown from the moving train into the net F, the arm yields horizontally to the impact of the sack, thus turning sleeve G upon the mast. This movement is resisted with a yielding force by the spring-cushions R R until further movement is stopped by the engagement of the projection J on the sleeve with the end of recess L in the collar H, which is rigidly secured to the mast. The sack D is at the same time seized by the sack-catcher on the train, and arm E, being released, falls and draws the net F around the incoming sack. By this construction the tearing loose of the arm which supports the net from its connection with the mast is avoided.

I claim as my invention—

1. In a mail-sack crane, the combination of the mast, the sleeve mounted upon said mast, so as to turn in a horizontal plane thereon, the arm secured to said sleeve and projecting horizontally therefrom, the net suspended

from the arm and arranged to receive a mail-sack from a moving train, and a spring arranged to resist the rotary movement of the sleeve upon the mast, whereby the shock of
5 the impact of the sack against the net is resisted with a yielding force, substantially as set forth.

2. In a mail-sack crane, the combination of the mast, the sleeve mounted upon said mast
10 so as to turn in a horizontal plane thereon, the collar rigidly secured to the mast and arranged to support said sleeve, the pair of spring-sockets secured to said collar, the arm projecting from the sleeve between said sock-

ets, the pair of spring-cushions mounted in 15 said sockets and arranged to engage opposite sides of said arm, the arm pivoted to the side of the sleeve and arranged to swing in a vertical plane thereon, the net suspended from said arm, and means, substantially as shown 20 and described, for holding the net extended, all arranged to co-operate substantially as set forth.

JOHN F. MAINS.

Witnesses:

H. P. HOOD,
V. M. HOOD.