Dec. 22, 1964 J. REYNOLDS 3,162,001

DRAG CHUTE PACKING DEVICE

Filed Oct. 9, 1963

2 Sheets-Sheet 1

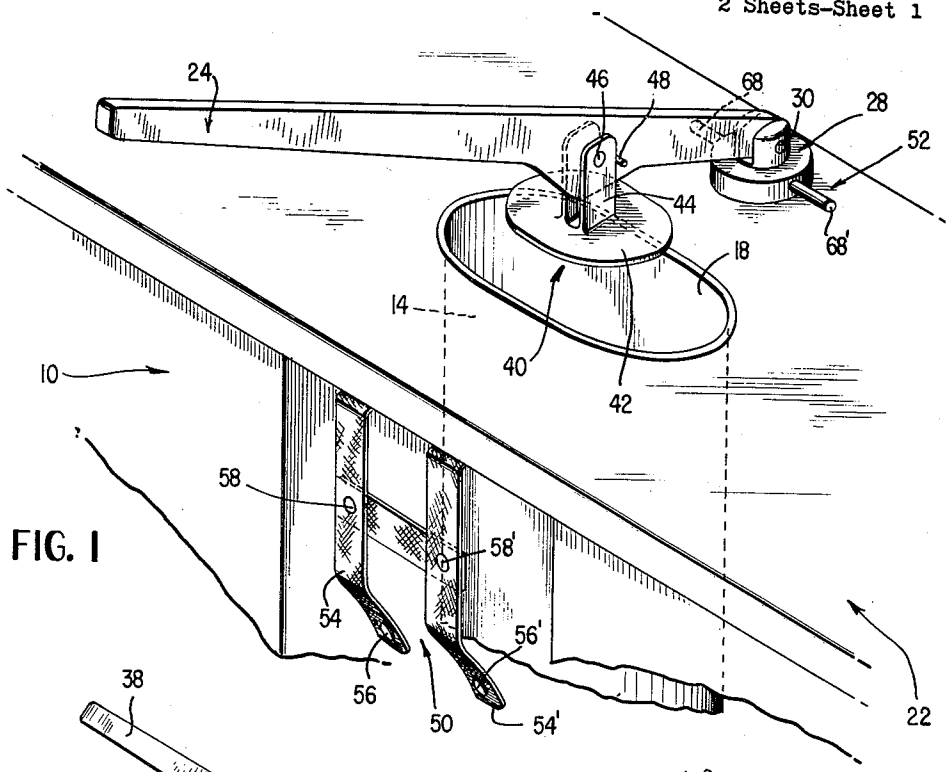


FIG. 1

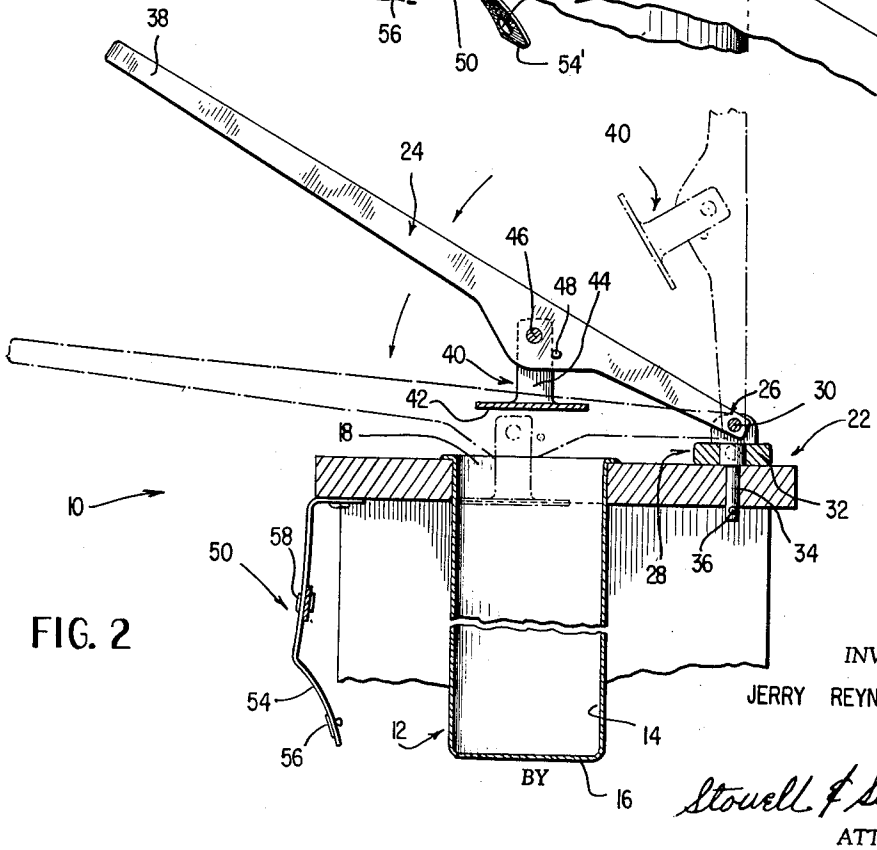


FIG. 2

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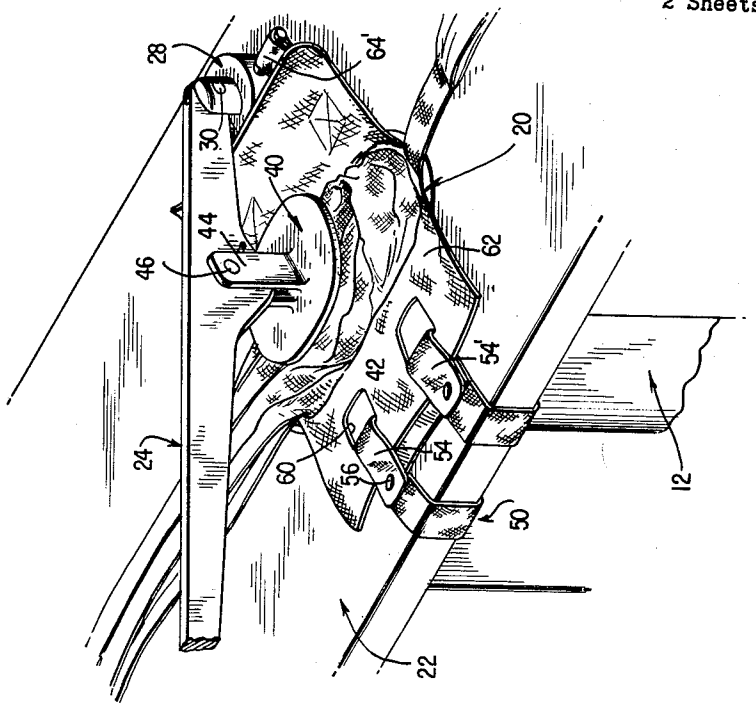


FIG. 4

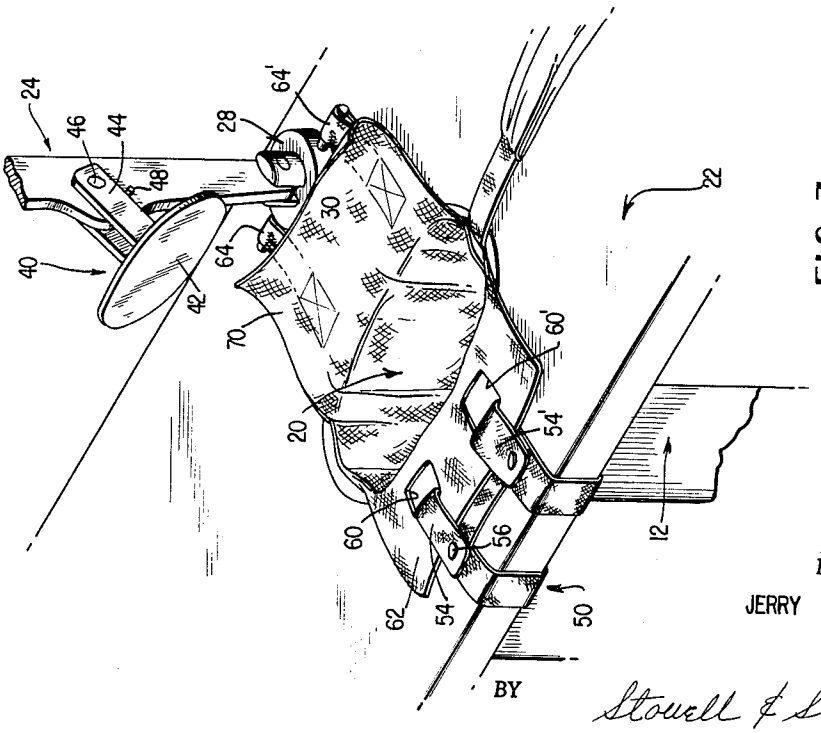


FIG. 3

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3,162,001

DRAG CHUTE PACKING DEVICE

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2 Claims. (Cl. 53—124)

This invention relates to a packing device for drag chutes employed as speed reducing means during landing of certain types of aircraft.

After each deployment of an aircraft braking or drag chute, it is necessary to force the large canopy of the chute along with the rigging lines and webbing risers into a generally flexible pack or container which pack or container is then inserted in a compartment of the aircraft from which the drag chute is deployed by the aircraft operator upon landing.

Due to space requirement, it is necessary to force the canopy, rigging lines and webbing risers into a relatively small container and the coarse nature of the fabric of conventional nylon drag chutes has created substantial packing problems. Presently it requires two skilled men about forty minutes to pack each drag chute.

It is a principal object of the present invention to provide a relatively inexpensive drag chute packing device which materially reduces the packing time of a drag chute.

It is a further object to provide a packing device which materially reduces the amount of contact between a jet fuel contaminated chute and a packer's hands.

Another object is to provide a drag chute packing device which insures uniform packages thereby substantially reducing chute failures due to bulkiness and jamming of the package in the aircraft container.

A further object is to provide such a device including means for holding the chute pack open while storing the canopy, rigging lines and the like.

These and other objects and advantages of the present invention are provided by a drag chute packing device comprising a rigid container adapted to snugly receive a flexible drag chute pack, the container having an open top, and closed side wall and bottom wall and conforming in configuration to the configuration of the flexible drag chute pack, an extended planar surface member surrounding the plane of the open top of the container, a lever arm, means mounting the lever arm to the planar surface member for pivotal movement over the open top of the container, a presser foot pivotally mounted to the lever arm at a position intermediate the length of the lever arm and at a position to be telescopically received within the container in one position of the lever arm, stop means cooperating with the lever arm and the presser foot, and means for releasably securing the closure flap of the drag chute pack in an extended open position to the extended surface member when the side walls and bottom of the pack are received within the container.

The invention will be more particularly described with reference to the illustrated embodiment of the invention wherein:

FIG. 1 is a perspective view of a drag chute packing device constructed in accordance with the present invention;

FIG. 2 is a fragmentary sectional view through the device illustrated in FIG. 1 showing the lever arm and presser foot in various positions;

FIG. 3 is a perspective view similar to that illustrated in FIG. 1 with a drag chute flexible pack in chute packing position; and

FIG. 4 is a view similar to that illustrated in FIG. 3 with a portion of the canopy and webbing risers compressed into the flexible chute pack.

Referring to the drawings, **10** generally designates the improved drag chute packing device. The device includes

a container **12** having a side wall **14**, a solid bottom wall **16**, and an open top **18**. The container **12** which is constructed of rigid material such as sheet metal has a length and cross sectional configuration to snugly receive, when filled, a flexible and generally cloth parachute pack generally designated **20** as illustrated in FIGS. 3 and 4 of the drawings. Further, the container **12** is of such size and configuration that it resembles the recess in the aircraft into which the packed chute is to be received.

Extending about the open top of the container **12** is an extended surface planar member or counter top **22**. The counter top **22** has its top plane surface substantially in the plane of the open top of the container **12**. The assembly also includes a lever arm generally designated **24**. One end **26** of the lever arm is pivotally mounted to a lever arm mounting device **28** on a pivot pin **30**. The pivot pin mounting means includes a plate member **32** and a swivel pin element **34** having a locking pin **36** at the lower end thereof while at the upper end, the swivel pin is bifurcated to receive end **30** of the lever arm or member **24**. The lever arm mounting member **28** is received and mounted on the top planar surface of the counter top **22** so that the pivotal arc of the lever arm **24** is in a plane passing through the center of the container **12**. Furthermore, the lever arm **24** may also be pivoted about the axis of swivel pin **34** to swing the lever arm clear of the chute packing zone.

The opposite end **38** of the lever arm **24** comprises a hand-gripping portion of the arm while intermediate the two ends **26** and **38** of the lever arm is pivotally mounted a presser foot element generally designated **40**. The presser foot element **40** includes a flat base portion **42** having an extended surface less than the area of the open top **18** of the container **12** whereby the presser foot will freely telescope within the container and provide room for unpacked portions of the drag chute, its shrouds and rigging lines as illustrated in FIG. 4 of the drawings.

The presser foot assembly **40** also includes a pair of upstanding arms **44** which receive and are pivotally mounted to the lever arm on a pivot pin **46**. The length of the arms **44** is such that the presser foot assembly is generally freely pivotable on the lever arm. However, pivoting of the presser foot member **40** is restricted by a stop pin **48** secured to the lever arm **24**. The position of the stop pin **48** is such that with the lever arm **24** substantially in the position illustrated in full lines in FIG. 2, the presser foot is in a vertical position with the flat base **42** lying in a plane parallel to the plane of the extended surface counter top **22**.

The assembly also includes means generally designated **50** adjacent the forward end of the extended surface counter member **22** and means generally designated **52** adjacent the rearward edge of the counter member for releasably securing the front and rear closure flaps of the chute pack **20**. The front releasable securing means consists of a pair of straps **54** and **54'**, each of which is provided with a separable fastener pair **56**, **58** and **56'**, **58'**. The extended ends of the straps **54** and **54'** pass through openings **60** and **60'** in the front flap **62** of the pack **20** and maintain the flap open and prevent the pack from being forced into the container **12** upon packing of the drag chute and its rigging lines and webbing risers.

Similarly, loops **64** and **64'** are releasably secured about the rear releasable securing means **52** which consists, in the illustrated form of the invention, of pins **68** and **68'** secured in the plate member **32** of the pivotal mounting member **28** for the lever arm **24**, whereby the back flap **70** is likewise prevented from being folded into the container **12** upon actuation of the device.

In operation of the invention, the chute pack **20** is positioned within the container **12** and the front **62** and the rear **70** flaps of the pack are releasably secured to their

respective releasable securing means. The chute, its rigging lines and webbing risers are then arranged in position upon the counter top **22** and sections thereof are folded upon themselves within the pack and compressed tightly within the pack by reciprocating action of the lever arm **24** which forces the presser foot **42** into the container as each of the required folds are made in the canopy and its connected lines.

I claim:

1. A drag chute packing device comprising a rigid container adapted to snugly receive a flexible drag chute pack, said container having an open top and closed side and bottom walls and conforming in configuration to the desired configuration of the flexible drag chute pack, an extended planar surface member surrounding the plane of the open top of said container, a lever arm, means mounting said lever arm to the planar surface member for pivotal movement over the open top of the container, a presser foot pivotally mounted to said lever arm at a position intermediate the length of the arm and at a position to be telescopically received within the container at one position of the lever arm, stop means cooperating with the lever arm and the presser foot, and means for releasably securing the closure flaps of the drag chute pack in an extended open position to the extended surface member when the side walls and the bottom of the pack are received within the container.

2. The invention defined in claim 1 wherein said lever arm is also pivotally mounted for rotation in a plane normal to the plane of pivotal movement of the presser foot whereby the lever arm and presser foot may be rotated to a position remote from the said container.

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