May 26, 1931. J. OLASZY 1,807,429

AEROPLANE AIR STATION

Filed Aug. 26, 1930 2 Sheets-Sheet 1

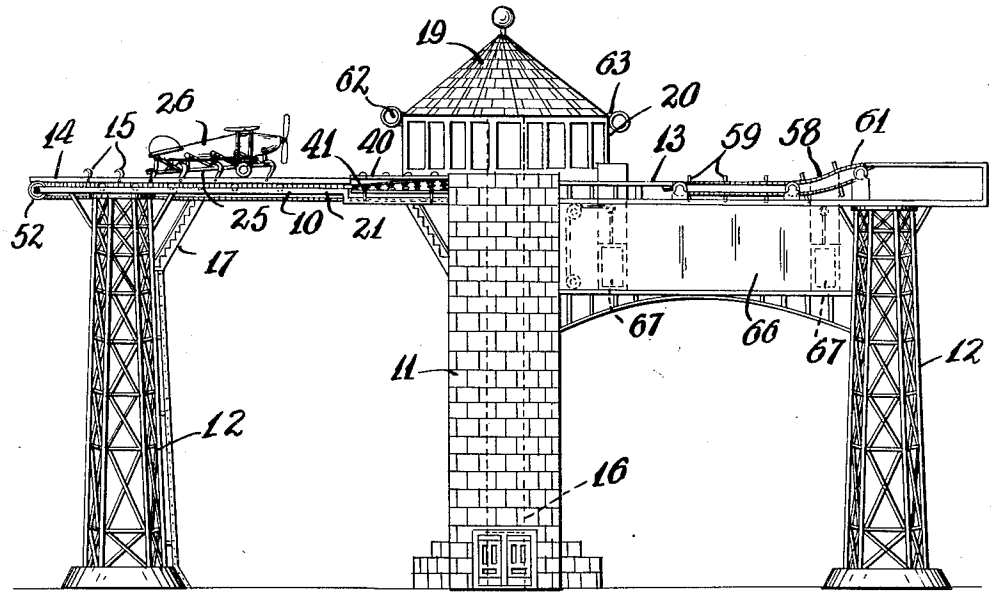


FIG 1

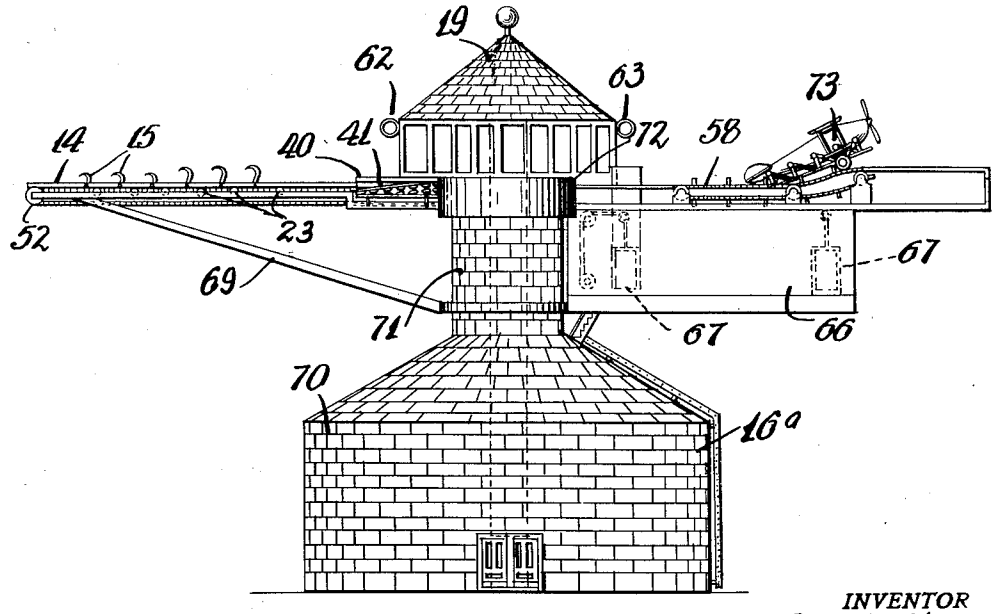


FIG 2

INVENTOR
Joseph Olaszy
BY Zoltan A. Polacsek
ATTORNEY

May 26, 1931. J. OLASZY 1,807,429

AEROPLANE AIR STATION

Filed Aug. 26, 1930 2 Sheets-Sheet 2

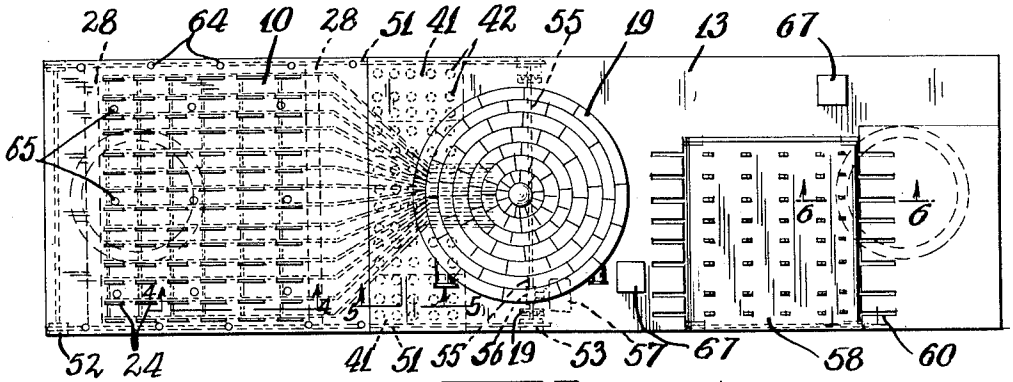


FIG 3

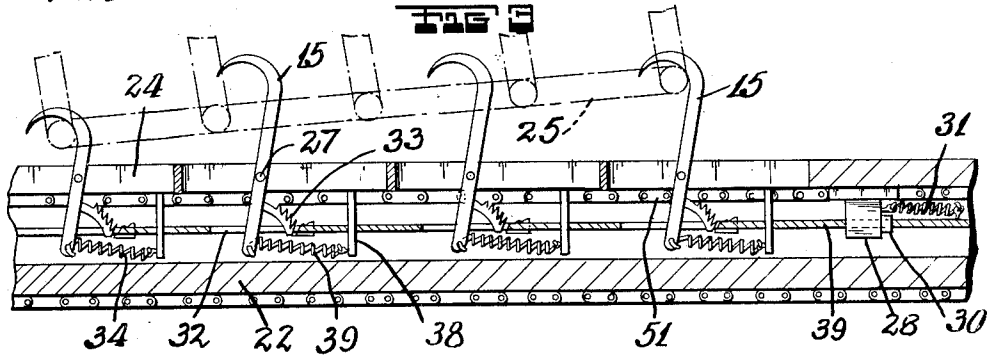


FIG 4

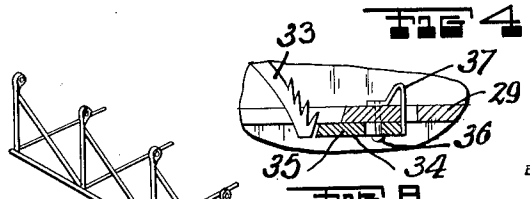


FIG 8

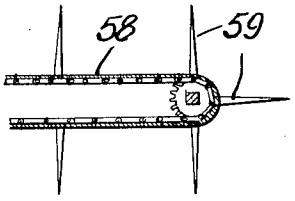




FIG 7

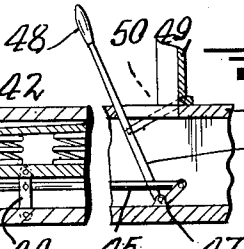


FIG 6

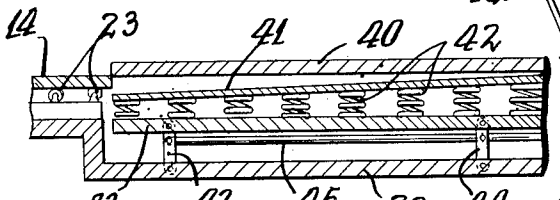


FIG 5

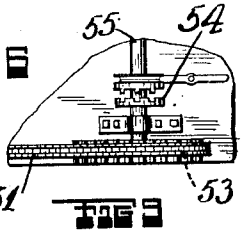


FIG 9

INVENTOR
Joseph Olaszy
BY Zoltan Polacsek
ATTORNEY

Patented May 26, 1931 1,807,429

UNITED STATES PATENT OFFICE

JOSEPH OLASZY, OF LINDEN, NEW JERSEY, ASSIGNOR OF ONE-THIRD TO BARNETT WISEMAN, OF NEW YORK, N. Y., AND ONE-THIRD TO BURNETT SIMAN, OF ELIZABETH, NEW JERSEY

AEROPLANE AIR STATION

Application filed August 26, 1930. Serial No. 477,859.

This invention relates to new and useful improvements in an aeroplane air station.

The invention has for an object the provision of a device of the class mentioned which is of simple durable construction, dependable in use and efficient in action, and which can be manufactured and sold at a reasonable cost.

The invention proposes a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position.

The invention also proposes a conveyor on said starting bridge for projecting an aeroplane into the air.

The invention also proposes colored signal lamps for directing landing and taking off in the night.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:—

Fig. 1 is a side elevational view of a station constructed according to this invention.

Fig. 2 is a side elevational view of another tower constructed according to a modified form and embodying the same invention.

Fig. 3 is a plan view of a station shown in Fig. 1.

Fig. 4 is a fragmentary enlarged sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a fragmentary enlarged sectional view taken on the line 5—5 of Fig. 3.

Fig. 6 is a fragmentary enlarged sectional view taken on the line 6—6 of Fig. 3.

Fig. 7 is a fragmentary perspective view of a landing gear for use on an aeroplane adapted for landing upon the station.

Fig. 8 is an enlarged detailed view of a portion of Fig. 4.

Fig. 9 is an enlarged detailed view of a portion of Fig. 3.

The aeroplane air station comprises a landing bridge 10 supported high up in the air on towers 11 and 12 and connected with a starting bridge 13 and comprising a platform 14 movably supported, a plurality of hooks 15 pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position.

In Fig. 1 the tower 11 has been shown as the central one and formed from bricks. The towers 12 are the end towers and are of steel construction. An elevator 16 is constructed within the tower 11 for carrying passengers from the ground to the landing level. Stairways 17 are also provided in the event that persons wish to walk up or down from the landing platforms. A house structure 19 is arranged upon the top of the tower 16 above the landing and take off platforms. This house structure is formed with a plurality of windows 20. A pass way is provided beneath the structure so that an aeroplane landing upon the landing bridge 10 may pass under to the starting bridge 13. The landing bridge 10 comprises a pair of side forming members 21 extending from the central tower 16. A stationary flooring 22 is connected between these side forming members. Portions of the flooring 22 are provided with rollers 23 to accomplish the movable supporting of the platform 14.

The platform 14 is of flat construction as may be understood from an inspection of Fig. 1. It is formed with a plurality of slots

24 for the projection of the said hooks 15. The hooks 15 are of various heights as shown in Fig. 4 so that when an aeroplane lands thereon, one of the hooks may first catch the front of the landing gear and then the rear of the aeroplane raised down upon the landing bridge so that a portion of the landing gear engages upon other of the hooks. In Fig. 4 the dot and dash lines 25 indicate the landing gear. In Fig. 7 a fragmentary perspective view has been shown of a portion of the landing gear which is attached upon the aeroplane as shown in Fig. 1. In the latter mentioned figure numeral 26 indicates the aeroplane provided with the landing gear 25.

The means for holding said hooks in various pivoted positions comprises rods 27 extending through the hooks and the platform 14 and constituting the pivotal supporting of the hooks, end forming blocks 28 attached to the bottom of the platform 14 and slidably supporting a plurality of rods 29. Collars 30 are fixed upon the rods 29 and limit rearward motion of the rods. Springs 31 act between the rods 29 and one of the blocks 28 for normally urging the rods rearwards. Each of the rods have cutout portions 32 for the reception of the inner ends of the pivoted hooks 15. Arcuate racks 33 project from the hooks 15 and are engageable against catches 34 attached upon the rods 29. Each of the catches comprises a sliding element 35 slidably supported by a rivet 36 engaging in a slot, and springs 37 fixed upon the rods and acting against the sliding piece for urging the sliding piece rearwards into engagement with the teeth of the racks 33. A plurality of eye bolts 38 extend from the bottom of the platform 14 and springs 39 connect with the eye bolts and the bottom ends of the hooks 15 for normally pivoting the top ends of the hooks rearwards.

The decelerating means for said platform 14 upon forward motion comprises a stationary flooring 40 slightly raised above the platform 14 so that the front end of the platform engages slightly beneath the flooring. Inclined planks 41 are arranged beneath the flooring 40 and are resiliently urged upwards by springs 42 with base boards 43. These base boards are supported upon parallel pivotally supported links 44 supported upon the flooring 22. A connecting rod 45 pivotally connects with the links 44 and connects with a bell crank 46 pivotally mounted intermediate its ends at 47 and having one of its ends constituting a manipulating handle 48. A catch 49 is hingedly mounted upon the flooring 40 and in lowered position as indicated by the dot and dash lines 50 serves to hold the bell crank 46 latched in a position so as to hold the base board 43 raised.

The means for returning said platform 14 back to its rear position comprises endless chains 51 on both sides of the platform 14 and attached upon the platform and extended over sprockets 52 and 53. The sprockets 52 are located at the rear end of the side forming members 21 while the sprockets 53 are substantially beneath the housing structure 19. The front sprockets 53 are fixed upon stud shafts rotatively mounted and provided with clutches 54 for connection with a drive shaft 55. A gear reduction system 56 connects with the drive shaft 55, and with some source of power as an electric motor 57.

The conveyor on the starting bridge 13 comprises an endless belt 58 carrying a plurality of blades 59 projecting at right angles to the belt and engageable through cuts 60 formed in the starting bridge to allow the rotation of the endless belt. The front end of the belt is raised as indicated by reference numeral 61 in Fig. 1 so as to thrust a machine taking off into the air.

Signal lamps are also provided to guide the landing and taking off of planes in the night. These signal lamps comprise a green lamp 62 upon the housing structure 19 in the direction of the landing bridge 10 and a red lamp 63 upon the housing structure 19 on the side of the take off bridge 13. This directs an aeroplane to land upon the landing bridge and not upon the take off bridge. Further, a plurality of small red signals 64 are arranged along the sides of the platform 14 to indicate the edges of the platform and a plurality of green small signals 65 upon the platform itself to indicate its center.

A hangar 66 is arranged beneath the take off bridge 13. Elevators 67 operate between the take off bridge 13 and the hangar 66 for conveying aeroplanes from the bridge to and within the hangar. In the form of the device illustrated in Fig. 2, a central large tower 16′ has been shown for supporting both the landing and the take off bridges. Steel towers are not used to support the ends of these bridges. Reinforcing braces 69 connect between the tower 16^a and the ends of the bridges to accomplish additional supporting. The tower 16^a has a very large base portion 70 and a small top portion 71. In addition to the landing and take off bridges, this tower also supports lateral runways 72 for the storage of planes or for other purposes. An aeroplane 73 is indicated in Fig. 2 in the operation of taking off.

The operation of the device may be traced by assuming the platform 14 to be in its rear position. This is the position in which it is ready to receive an aeroplane such as 26 during landing. This plane alights upon the platform and its landing gear 25 engages upon the hooks 15. The forward motion of the plane causes the hooks to pivot about their points 27 to a position where the resiliency of the springs can stop such pivoting. The catches 34 hold the hooks in their newly pivoted positions. The forward motion of

the aeroplane besides pivoting the hooks 15 also causes the platform 14 to move forwards. The front edge of the platform engages between the flooring 40 and the inclined members 41 as may be seen from Fig. 5, and the resilient springs 42 allow the insertion of the platform to a certain distance tending during this time to decelerate the speed of the platform and finally bring the platform to rest. The landing of the aeroplane is then concluded. The aeroplane may next be moved to the starting bridge, or stored beneath the house structure 19, or moved to the hangar 66 for repairing.

To disconnect the landing gear 25 from the hooks 15, it is necessary to manually move the free ends of the rods 29 against the restraining action of the springs 31 so that the catches 34 disengage from the racks 33. Then the hooks 15 may be pivoted into the slots 24 manually. This is possible by one person being positioned along each edge of the platform 14 and holding a transverse rod which acts against the hooks upon forward motion to accomplish the pivoting momentarily while the aeroplane moves to a different portion of the landing station. In lieu of the manual pivoting of the hooks for accomplishing the releasing, the landing gear of the aeroplane may be made retractible so that after landing it can be retracted and then the aeroplane moved along upon its landing wheels without any interference from the hooks, even though the hooks are in their extended positions.

The platform 14 may be moved back into its original condition for receiving another aeroplane by first manually lifting the catch 49, then moving the bell crank 46 so as to cause the links 44 to lay down upon the flooring 22 and lower the inclined members 41. This serves to release the platform 14. Next the clutches 54 are engaged and the motor 57 energized for transmitting rotations to the sprockets 53 to cause the endless chain 51 to move, and move the platform back to its rear position.

An aeroplane may take off by first resting upon the endless belt 57, lowering its landing gear 25 and then upon rotation of the endless conveyor by means not shown on the drawing to be forced forwards and upwards and finally projected into the air as illustrated in Fig. 2.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. In aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position.

2. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, the movable mounting of said platform being accomplished by its resting upon rollers and connected with sprocket chains extended over sprocket wheels.

3. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, said platform being provided with a plurality of slots and said hooks extending through said slots.

4. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, said means for holding said hooks in various pivoted positions comprising arcuate racks upon said hooks and engageable with catches upon rods movably mounted on the bottom of said platform.

5. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, said means for holding said hooks in various pivoted positions comprising arcuate racks upon said hooks and engageable with catches upon rods movably mounted on the bottom of said platform, said rods being urged rearwards by springs.

6. An aeroplane air station, comprising a

landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, said means for holding said hooks in various pivoted positions comprising arcuate racks upon said hooks and engageable with catches upon rods movably mounted on the bottom of said platform, said rods being urged rearwards by springs, springs connected with said hooks for urging said arcuate racks into engagement with the catches.

7. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, said decelerating means comprising inclined members beneath flooring for the reception of the front end of said platform for constituting a wedge, resilient means for urging said inclined members upwards, and means for lowering said inclined members to accomplish final releasing of the platform after it is brought to a stop.

8. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, and means for returning said platform back to its rear position, comprising endless chains connected with said platform and extended over sprocket wheels, clutches for connecting said sprocket wheels to a driver shaft, and a driver shaft connected with some source of rotation.

9. An aeroplane air station, comprising a landing bridge supported high up in the air on towers and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform, upon forward motion, means for returning said platform back to its rear position, and a conveyor on said starting bridge for projecting an aeroplane into the air.

10. An aeroplane air station, comprising a landing bridge supported high up in the air on towers, and connected with a starting bridge and comprising a platform movably supported, a plurality of hooks pivoted on said platform, means for holding said hooks in various pivoted positions, a decelerating means for said platform upon forward motion, means for returning said platform back to its rear position, and colored signal lamps for directing landing and taking off of aeroplanes in the night.

In testimony whereof I have affixed my signature.

JOSEPH OLASZY.