244-48
FIP8301 OR SR 1,710,137
Draftsman
4-2

April 23, 1929. J. C. BANKSTON 1,710,137

ADJUSTABLE WING FOR AEROPLANES

Filed Oct. 1, 1927 2 Sheets-Sheet 1

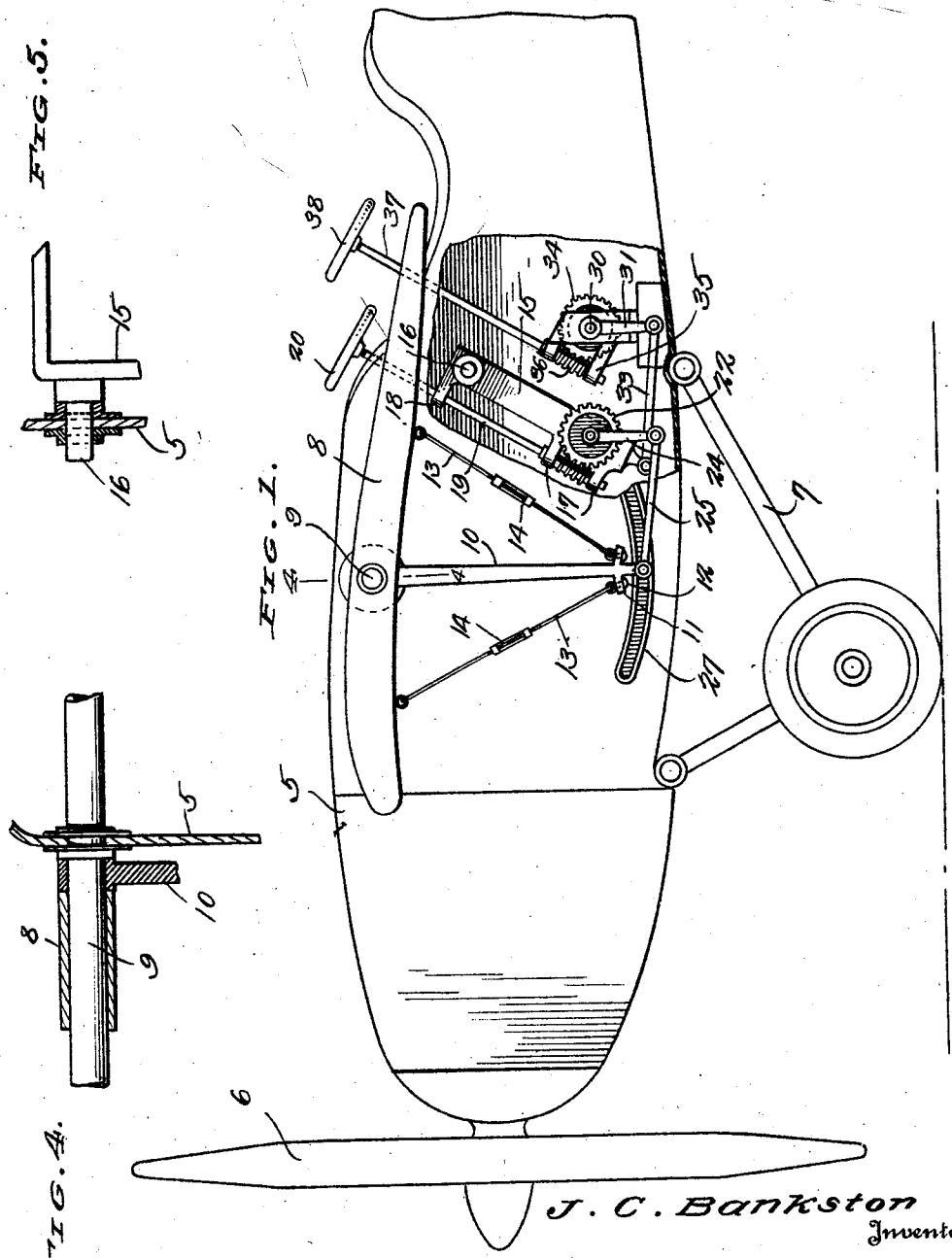


FIG. 5.

FIG. 1.

FIG. 4.

J. C. Bankston
Inventor

By C. A. Snow & Co.
Attorneys.

Draftsman

April 23, 1929. J. C. BANKSTON 1,710,137

ADJUSTABLE WING FOR AEROPLANES

Filed Oct. 1, 1927 2 Sheets-Sheet 2

FIG. 3.

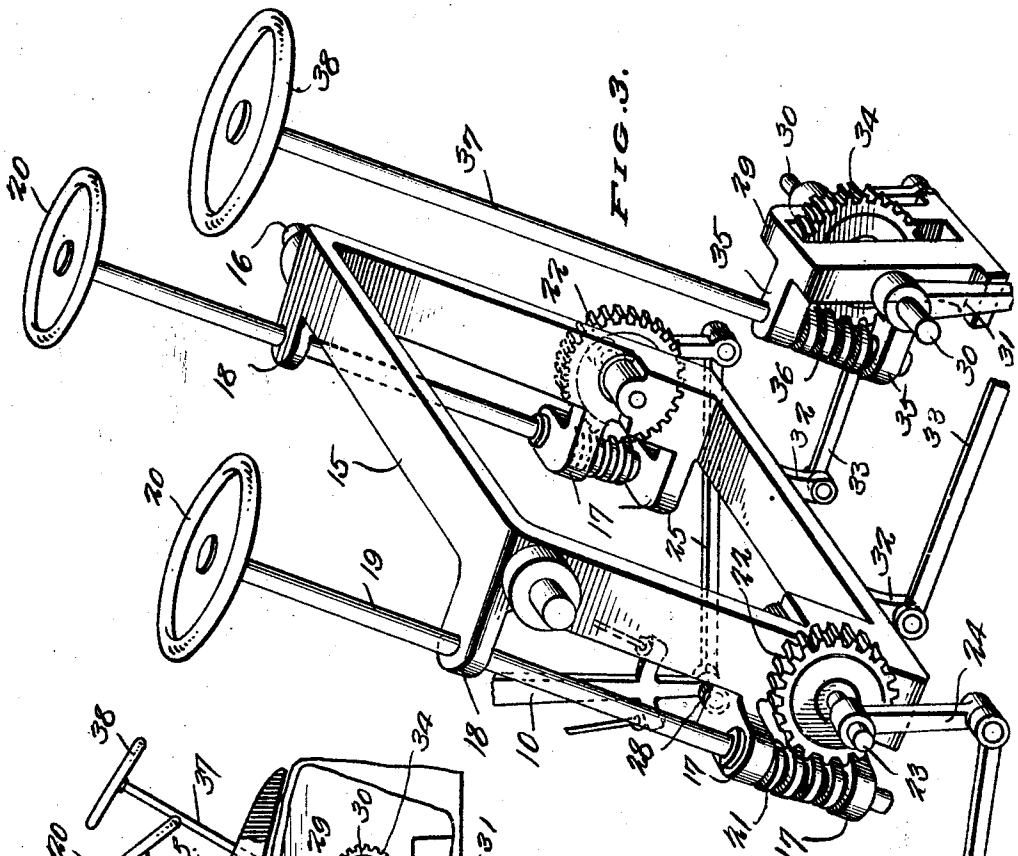
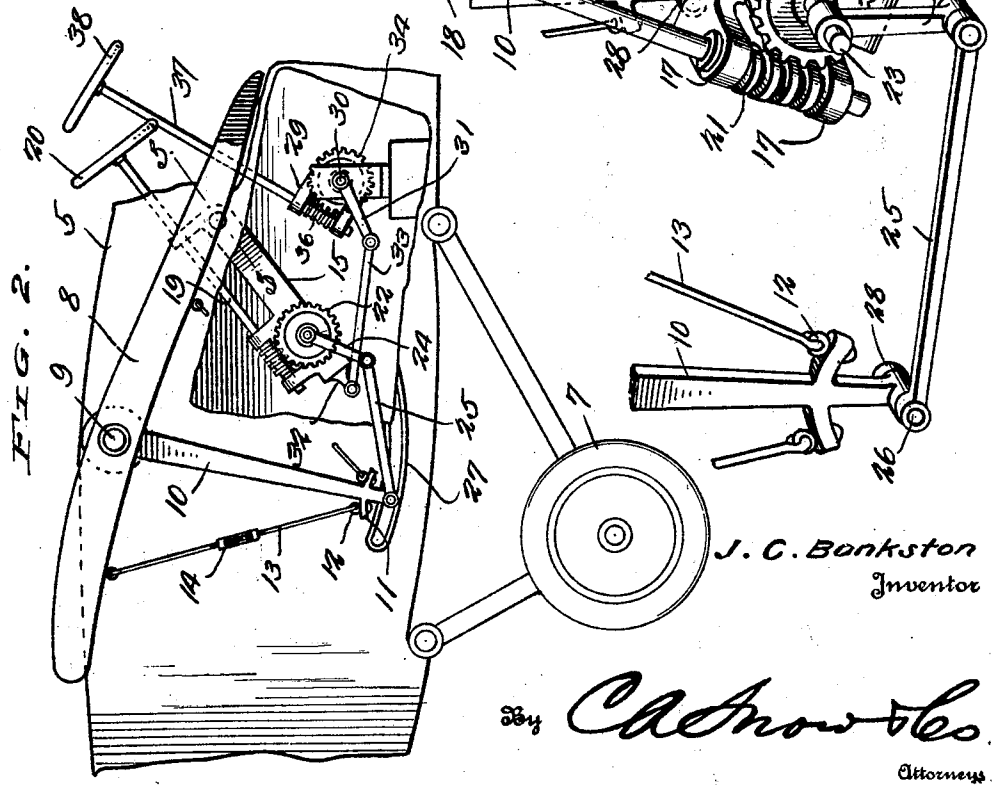


FIG. 2.



J. C. Bankston
Inventor

By C. A. Snow & Co.
Attorneys

48

Draftsma

Patented Apr. 23, 1929. 1,710,137

UNITED STATES PATENT OFFICE.

JOHN C. BANKSTON, OF SHREVEPORT, LOUISIANA.

ADJUSTABLE WING FOR AEROPLANES.

Application filed October 1, 1927. Serial No. 223,441.

This invention relates to aeroplanes and more particularly to the construction of the wings and operating mechanism for operating or adjusting the wings.

The primary object of the invention is to provide an operating mechanism which may be operated to adjust the wings simultaneously or independently of each other, the adjusting mechanism being such as to be readily and easily operated.

Another object of the invention is to provide an operating mechanism of this character which embodies but few parts and one which will be strong and durable in operation.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is an elevational view illustrating the wings of an aeroplane equipped with an operating device constructed in accordance with the invention, a portion of the body of the aeroplane being broken away.

Figure 2 is a side elevational view illustrating the planes in an adjusted position.

Figure 3 is an enlarged perspective view of the operating mechanism.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Figure 5 is a sectional view taken on line 5—5 of Figure 2.

Referring to the drawings in detail, the reference character 5 designates the body portion of an aeroplane, the same being provided with the usual propeller 6 and running gear 7.

On opposite sides of the body of the aeroplane are the usual wings 8 that are mounted on the shaft 9 to move therewith. Extending downwardly from the shaft 9 on each side of the body portion is an arm 10 which is provided with lateral extensions 11 formed with openings to receive the eye bolts 12 that provide means for connecting the brace rods 13 to the arm 10, there being provided a turn buckle 14 on each of the brace rods for adjusting the brace rods.

The operating mechanism embodies a rectangular frame 15 which is provided with lateral shafts 16 disposed adjacent to the upper end of the frame, the shafts 16 being mounted in suitable bearings in the frame work of the body of the aeroplane so that the rectangular frame 15 may swing to accomplish the purpose of the invention.

Bearings 17 and 18 are provided on the rectangular frame in which the shafts 19 operate, the shafts 19 carrying operating wheels 20 at their upper ends and located in proximity to the operator so that the operator will have easy access thereto.

The reference character 21 indicates worms mounted between the bearings 17 and secured to the shafts 19, which worms mesh with the gears 22 that are secured to the shafts 23 mounted in suitable bearings formed at the lower end of the rectangular frame.

Secured to the shafts 23 are depending arms 24 that have connection with the connecting rods 25 that in turn are connected with the arms 10 at 26 with the result that as the shafts 23 are rotated, the arms 24 and rods 25 will be moved to lock the arms 10 and consequently move the wings 8 which are connected thereto.

Arcuate-shaped guides 27 are supported upon the aeroplane body and provide guideways for the rollers 28 mounted on the inner ends of the shafts 26 to reduce friction between the operating mechanism and the wings.

Thus it will be seen that due to this construction, the wings of the aeroplane may be adjusted independently of each other for controlling the movements of the aeroplane. Pivotally supported adjacent to the rectangular frame 15 is a gear frame 29 through which the shaft 30 extends, the shaft 30 being connected with the arms 31 that extend downwardly therefrom, the arms 31 being connected to the arms 32 that extend downwardly from the rectangular frame 15 by means of the links 33.

The reference character 34 indicates a gear that is secured to the shaft 30 to rotate the shaft 30 for moving the arms 31 in a manner as described. Bearings 35 extend from the frame 29 and between which bearings the worm 36 moves, the worm 36 being secured to the operating shaft 37 to move therewith.

At the upper end of the shaft 37 is a wheel 38 which may be gripped by the operator to rotate the shaft and gearing. Should it be desired to move the wings of a plane simulta-

neously, it will be seen that it is only necessary to rotate the shaft 37 moving the shaft 30 which transmits movement to the rectangular frame 15 through the arms 31 and links 33.

I claim:

In combination with the wings of an aeroplane, an operating mechanism including a rectangular pivoted frame, shafts mounted on the frame and having worms, gears mounted on the frame and meshing with the worms, means for transmitting movement of the gears to the wings to operate the wings independently of each other, and an operating means connected with the frame for moving the frame to adjust the wings simultaneously.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JOHN C. BANKSTON.