Feb. 12, 1929.

1,702,190

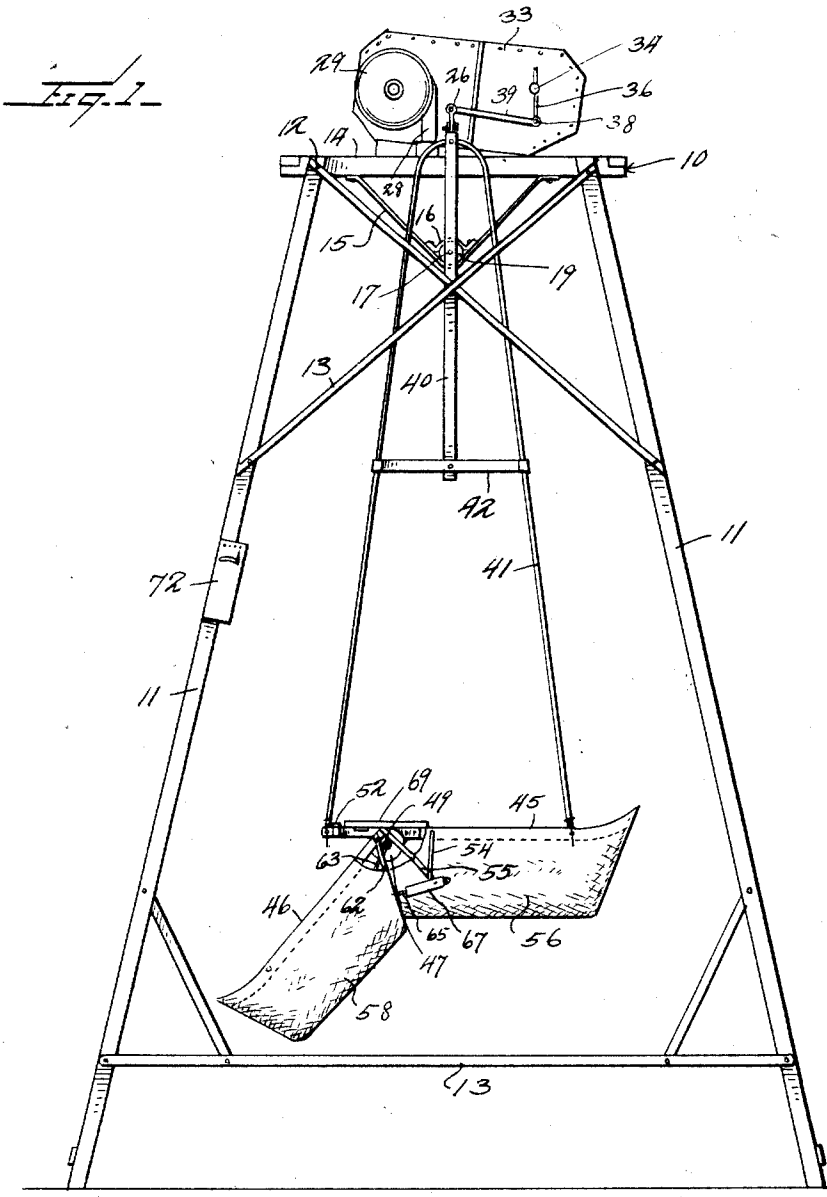
T. P. ANELLO

CONVERTIBLE SWING

Filed Dec. 6, 1927

4 Sheets-Sheet 1

Fig. 1



Inventor

T. P. Anello

By Watson E. Coleman

Attorney

Feb. 12, 1929. 1,702,190

T. P. ANELLO

CONVERTIBLE SWING

Filed Dec. 6, 1927 4 Sheets-Sheet 2

Fig. 2.

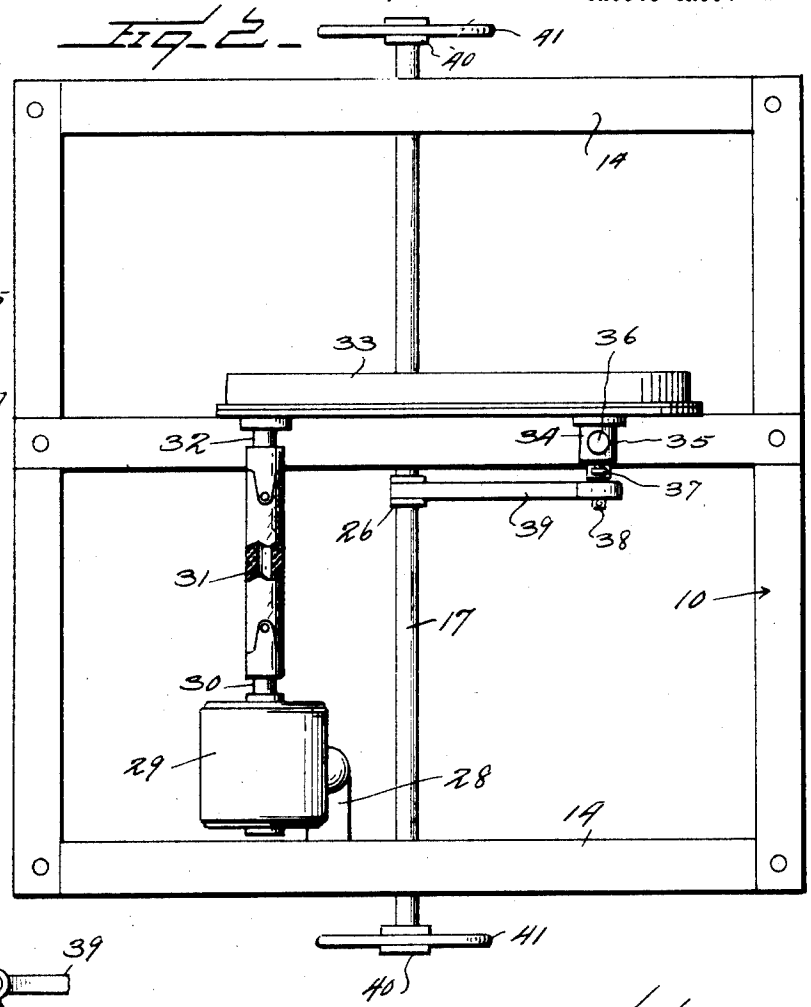


Fig. 5.

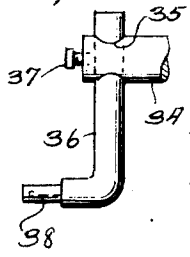
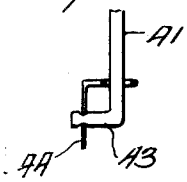


Fig. 6.



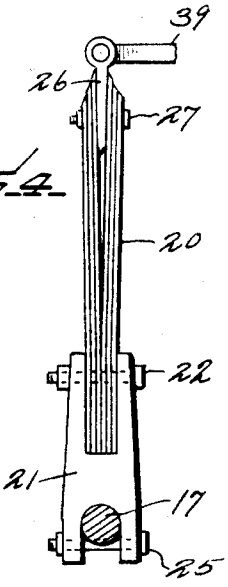
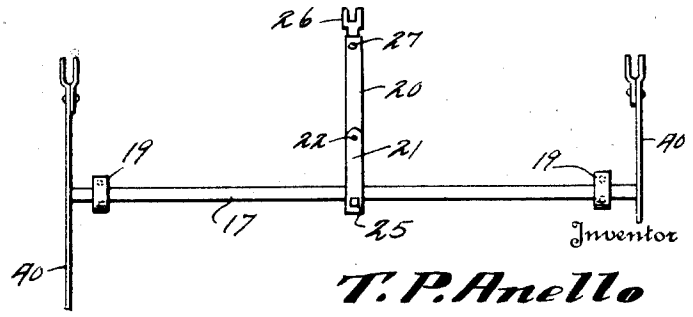


Fig. 4.

Fig. 3.



Inventor

T. P. Anello

By Watson E. Coleman

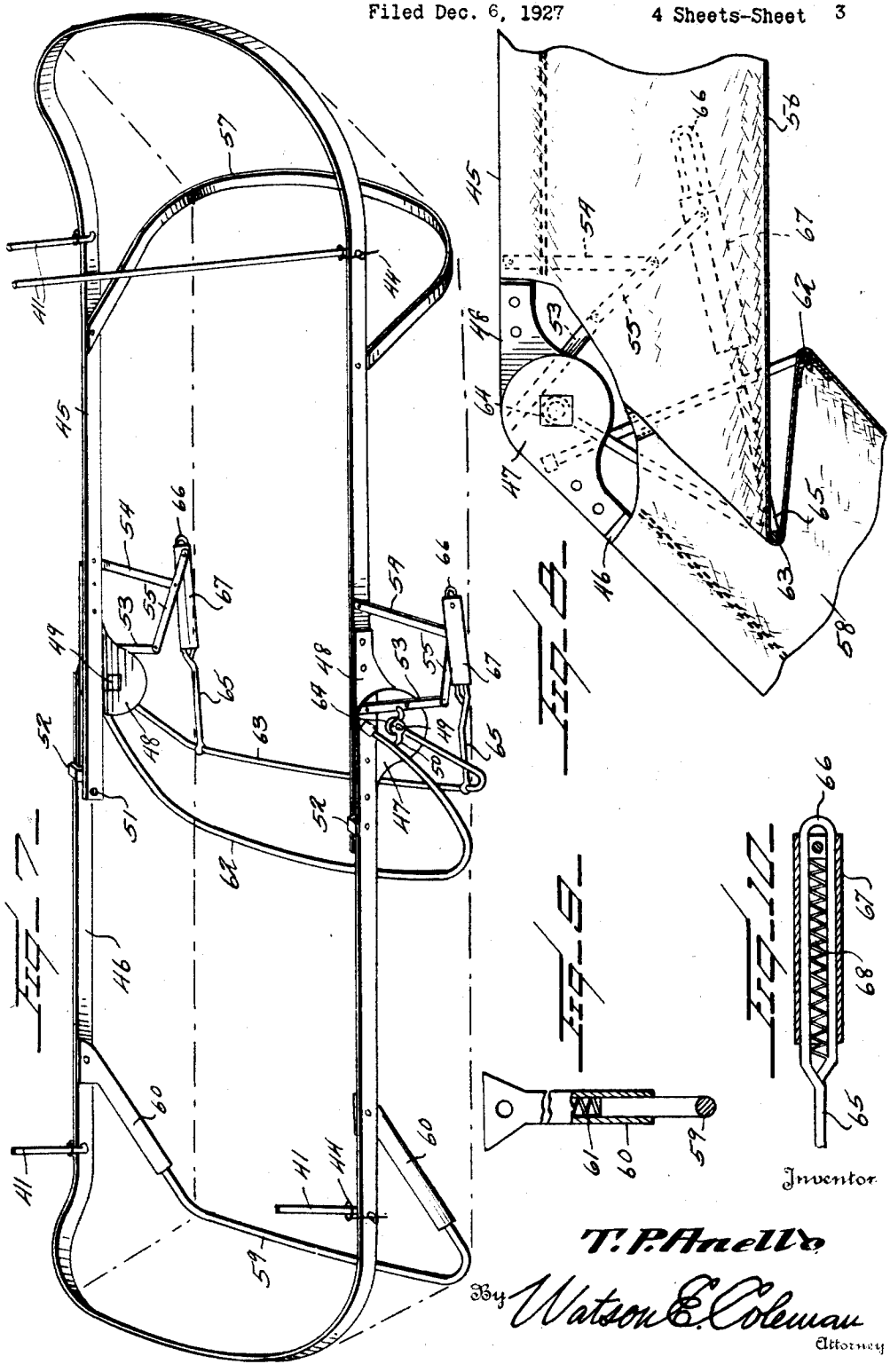
Attorney

Feb. 12, 1929. 1,702,190

T. P. ANELLO

CONVERTIBLE SWING

Filed Dec. 6, 1927 4 Sheets-Sheet 3



Inventor

T. P. Anello

By Watson E. Coleman

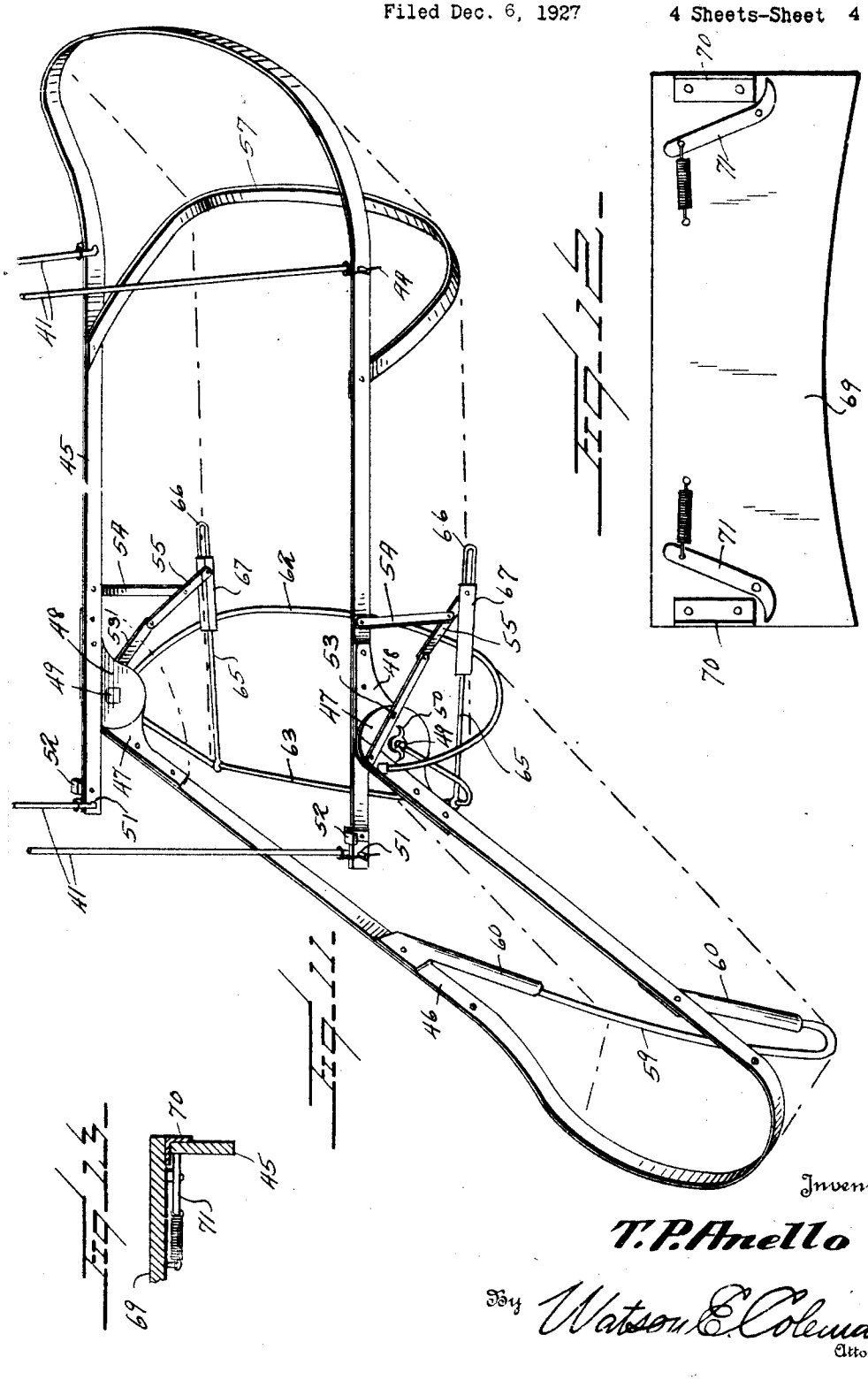
Attorney

Feb. 12, 1929. **1,702,190**

T. P. ANELLO

CONVERTIBLE SWING

Filed Dec. 6, 1927 4 Sheets-Sheet 4



Inventor

T. P. Anello

By Watson E. Coleman

Attorney

Patented Feb. 12, 1929. 1,702,190

UNITED STATES PATENT OFFICE.

TONY PETER ANELLO, OF TAMPA, FLORIDA.

CONVERTIBLE SWING.

Application filed December 6, 1927. Serial No. 238,133.

This invention relates to swings and particularly to those swings which are actuated by a motor, and one of the objects of the present invention is to provide a swing of this character having a particularly effective means whereby the motor may actuate the swing, which means includes certain flexible elements which will permit the motor to pick up its load without shock or jar.

A further object is to provide a device of this character wherein the amplitude of the movements made by the swing may be altered as desired.

A still further object is to provide improved means for supporting the motor and the swing hangers.

Another object is to provide a combination seat and bed which may be mounted upon the swing and which may be readily altered from a bed or couch to a seat, and in this connection to provide means for holding the canvas of the seat or couch in a taut condition at all times.

Other objects have to do with the details of construction and arrangement of parts as will appear more fully hereinafter.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a swing constructed in accordance with my invention;

Figure 2 is a top plan view of the driving mechanism of the swing;

Figure 3 is an elevation of the rock shaft, the spring arm and the swing connections;

Figure 4 is an edge elevation of the spring arm;

Figure 5 is a fragmentary elevation of the crank;

Figure 6 is an elevation of the lower end of the arm showing the latch;

Figure 7 is a perspective view of the body of the swing with the two sections in alignment;

Figure 8 is a fragmentary section showing the two sections of the body of the swing in angular relation;

Figure 9 is a fragmentary sectional view of the end braces;

Figure 10 is a sectional view of the spring yoke;

Figure 11 is a perspective view of the body of the swing with the two sections disposed in angular relation;

Figure 12 is an under side plan view of the table used in connection with the swing;

Figure 13 is a fragmentary section of the table at one edge;

Referring to the drawings, and particularly to Figure 1, 10 designates a rectangular frame which is preferably made of wood, though it may be made of any suitable material, this frame being supported by the four legs 11 of angle iron or other suitable material which are preferably pivoted at 12 to the frame 10 and preferably braced by the cross braces 13. The bracing construction may be of any suitable character and I do not wish to be limited thereto.

Depending from the lateral bars 14 of the frame 10 are the hangers 15 made of strap iron, these being approximately V-shaped in form to provide a bearing 16 at the middle for the rock shaft 17 of the swing. This rock shaft is mounted in the bearings, as before stated, and is preferably mounted upon ball bearings 19 carried by the hangers. This rock shaft is provided at any suitable point in its length with an operating arm 20 preferably made of a plurality of spring leaves. The lower ends of these spring leaves are engaged in a bifurcated member 21 and bolted thereto by the bolt 22. This bifurcated member at its lower end is bifurcated to embrace the shaft 17 and is held thereto by the transverse bolt 25. The upper ends of the spring leaves are drawn apart to embrace a pivot clip 26 bolted thereto by means of the bolt 27.

Supported upon the frame 10 in any suitable manner, as by the bracket 28, is the motor casing 29 having therein an electric motor, the shaft of which is designated 30. The shaft of this electric motor has rotative engagement with a shaft section 31 which is preferably made of a heavy rubber tube, and this shaft 31 in turn engages a shaft section 32 which enters the gear case 33. Also extending into the gear case 33 is a shaft 34 and intermediate driving gears of any suitable character are disposed between the shaft section 32 and the shaft section 34, these driving gears acting to reduce the speed of the shaft 34 considerably below that of the shaft 32 and of the motor shaft. Inasmuch as any suitable gear train may be provided for this purpose, I have given no detailed description of the gear train. The shaft 34 at its extremity is apertured, as at 35, and extending through this aperture is an arm 36 held in place by a set screw 37.

This arm is angularly bent at one end and provided with the gudgeon 38 which engages through the eye of a connecting rod 39, this connecting rod in turn being pivotally connected to the eye of hinge member 26. It will be seen that the arm 36 acts as a crank arm and the rotation of the shaft 34 will give an oscillation to the arm 20 which will be communicated to the shaft 17.

Carried by the shaft 17 at its ends are vertically disposed swinging rods 40, these rods being attached to the shaft 17 at a distance below their upper ends. Mounted upon the arms 40 are the approximately inverted U-shaped yokes 41, each attached at its bight portion to the upper end of the corresponding arm and extending downwardly and outwardly in divergent relation. The arms of each yoke 41 are connected by a transverse member 42 which is attached at its middle to the lower end of the corresponding arm 40. The lower ends of the arms of the yokes are angularly bent, as at 43, and apertured, and slidingly mounted upon each arm is a latch pin 44 having an eye slidingly embracing the arm of the yoke and having a shank which is adapted to engage through the aperture in the angular portion 43.

Supported upon the lower ends of the yokes 41 is a convertible seat and couch. This is formed of two U-shaped frame sections, designated respectively 45 and 46. The frame 45 constitutes a seat frame and the frame 46 constitutes an extension frame which, when placed in alignment with the frame 45, constitutes a bed, couch or hammock. The arms of the frame 46 are provided at their ends with the disk-like members 47 and the arms of the frame 45 rearward of their forward extremities are also provided with the disk-like members 48. The disk-like members of one frame confront the disk-like members of the other frame and are held in pivotal engagement with each other by the transverse bolts 49 having wing nuts 50.

It will be seen that the arms of the frame 45 extend beyond the point of pivotal connection to the arms of the frame 46 and thus the frame 46 may be turned up into alignment with the frame 45, as shown in Figure 7, or into angular relation thereto. When the frame 46 is turned up into alignment with the frame 45, the outer arms of the yokes 41 are to be connected, as shown in Figure 7, in apertures in the frame 46, but when the frame 46 is turned into angular relation to the frame 45, these arms of the yoke are designed to be connected in apertures 51 formed in the extremities of the frame 45. Inward of the apertures 51 the frame 45 is provided with the inwardly extending lugs 52 which limit the upward movement of the frame 46.

Mounted rigidly upon the disk members 47 are link members 53 which, when the frame 46 is turned into a horizontal position, extend directly downward, as shown in Figure 7, and when the frame 46 is turned into a depending angular position extend downward and rearward. Depending from the frame 45 are the pivoted links 54, and pivoted to the extremities of the rigid links 53 are the links 55 which are also pivoted intermediate their ends to the lower ends of the links 54, this pivot constituting a fulcrum for the link 55.

The body of the seat is formed of canvas 56, this canvas being attached to the frame 45 in any suitable manner and being formed in sections stitched as shown in dotted lines in Figure 7. This canvas seat is braced and held in proper shape by the U-shaped members 57 and is attached to the arms of the frame 45 and extends downward and rearward beneath the bight portion of the frame. The body of the front section of the seat is also formed of a canvas web, designated 58, which is preferably continuous with the canvas web 56 and is attached to the frame 46 in any suitable manner. Attached to this canvas or bearing against the same at the forward end of this swinging section is a U-shaped brace 59 and attached to the arms of the U-shaped frame 46 and extending downward and forward therefrom are the tubular members 60 containing the coiled springs 61 against which the ends of the U-shaped brace 59 bear. These springs thus urge this brace downward and stretch the canvas at the lower front corner so as to keep the canvas taut.

Passing through a fold in the canvas body 57 and 58 is a U-shaped brace 62 which is rigidly engaged at its ends with the disks 47 and is held at a predetermined angle to the arms of the frames 46. Thus when the frame 46 is in a horizontal position the frame 62, as shown in Figure 7, extends downward and forward and beneath the canvas body. When this frame 46, however, is turned into angular position, this U-shaped brace 62 will swing rearward, as shown in Figure 8, thus acting to automatically fold the canvas at this point upon itself and give a proper shape to the seat. Also extending beneath the canvas body is the U-shaped brace 63 which is formed with eyes 64 at its ends, these eyes being pivoted upon the bolts 49, as shown in Figure 7. Engaged with this brace on opposite sides for relative swinging movement are rearwardly extending rods 65 formed at their rear ends to provide elongated loops 66. A slide 67 is mounted in each loop and bears against a coiled compression spring 68 disposed within the loop. Each slide engages with the extremity of the corresponding link or lever 55. Thus when the frame 46 is turned to a horizontal position, the links 53 and 55 will be disposed in angular relation and the extremity of the link 55 will move rearward, carrying with it the slide 67, but when the forward section of the frame 46 is dropped downward, as shown in Figure 11, the links 53 and 55 will be turned into an

approximately aligned relation and the slides 67 will be forced forward against the action of the spring 68. These springs, therefore, tend to resist downward movement of the frame 46.

Mounted upon the arms of the frame 45 is a detachable table, designated generally 69. This table may be of any suitable material and has depending lugs 70 which engage over the frame and has spring-actuated latches 71 which will clamp against the arms of the frame 45 and latch the table in place. The table may thus be adjusted anywhere along the length of the arms of the frame 45. The speed of the motor is controlled by a rheostat or other controlling device and switch. These details of this are not illustrated, a switch box 72 being shown as mounted upon one of the legs.

In the use of this swing, the swing is oscillated by the motor in the manner heretofore described. Inasmuch as the arm 31 is of heavy rubber tubing and the arm 20 is of spring leaves, it is obvious that when the motor is first started up and the swing is stationary, the force of the motor will be transmitted through this elastic shaft and through the spring arm 20 and thus the swing will be oscillated at first quite gently and then at the full speed of the motor. The relative speeds of the shafts 23 and 34 will have a ratio of 27 to 1. The amplitude of the vibrations given to the swing may be changed by shifting the crank arm 36 nearer to or further from the shaft 34. The supporting part of the swing may be readily converted from a couch to a seat in the manner stated. The table may be readily removed or replaced as desired, and the supporting frames for the body of the combined seat and couch are such that the canvas is folded properly.

I claim:

1. In a swing, a combined couch and seat comprising two U-shaped frames pivotally connected to each other adjacent their ends, a single canvas web attached at its ends and sides to the frames, one of said frames and the canvas attached thereto forming a seat and the other frame with the canvas attached thereto constituting an extension of the seat, means for supporting the two frames in alignment with each other whereby to form a couch or permitting the extension frame to swing to an angular depending position, and means acting automatically as the extension frame is swung downward to fold the canvas back beneath the seat formed by the canvas on the seat frame.

2. In a swing, a combined couch and seat comprising two U-shaped frames pivotally connected to each other adjacent their ends, a single canvas web attached at its ends and sides to the frames, one of said frames and the canvas attached thereto forming a seat and the other frame with the canvas attached thereto constituting an extension of the seat, means for supporting the two frames in alignment with each other whereby to form a couch or permitting the extension frame to swing to an angular depending position, and means acting automatically as the extension frame is swung downward to fold the canvas back beneath the seat formed by the canvas on the seat frame comprising a U-shaped brace attached to and movable with the extension frame and when the extension frame is in alignment with the seat frame extending downward and forward, said brace being operatively connected to the canvas.

3. In a swing, a body support comprising a frame, a canvas web attached at its margins and ends to the frame and depending therefrom, means for holding the canvas web taut at a corner including a downwardly and outwardly extending U-shaped brace, and sockets mounted upon the arms of the U-shaped frame and having compression springs, within which sockets the ends of said brace are disposed to bear against the springs.

4. In a swing, depending swing supporting members, a convertible couch and seat carried by said members comprising two approximately U-shaped frames having overlapping disk-like portions adjacent their proximate ends, one of said frames constituting a seat supporting frame and the other a relatively movable extension thereof, pivot bolts passing through said portions, a canvas web extending the whole length of the two frames and attached thereto at the margins and ends, means whereby the two frames may be held in alignment with each other, links rigidly attached to the disks forming part of the movable extension frame and extending at an angle to the movable frame, links pivoted to said last named links and extending downward and rearward therefrom and being operatively fulcrumed to the said supporting frame, and springs resisting movement of the lower ends of the last named links in a direction to fold the extension frame downward out of alinement with the seat supporting frame.

In testimony whereof I hereunto affix my signature.

TONY PETER ANELLO.