June 24, 1930. E. M. WILSON 1,767,420

CAR CUSHION CLEANING MACHINE

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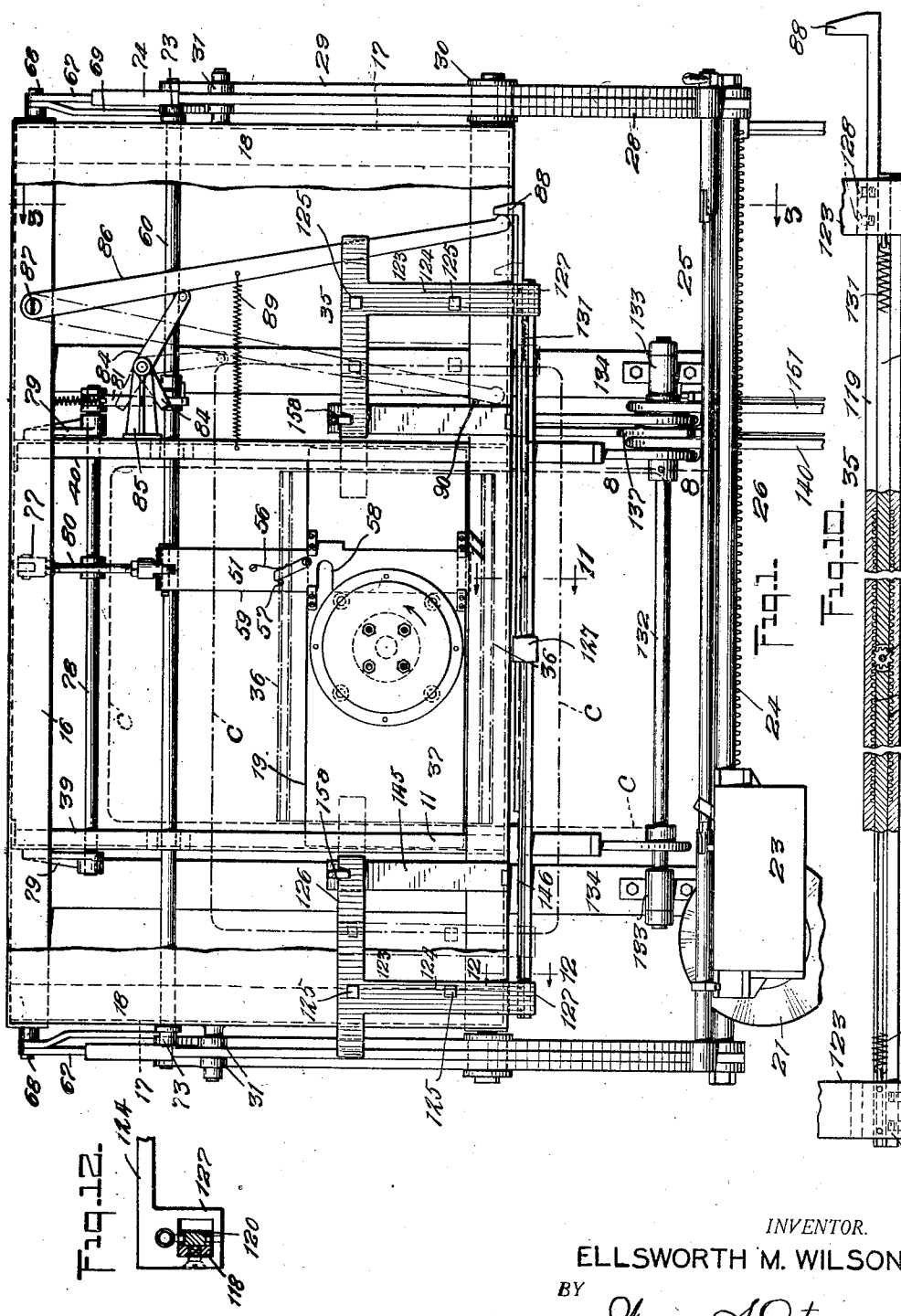


Fig. 1.

Fig. 12.

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Fig. 2.

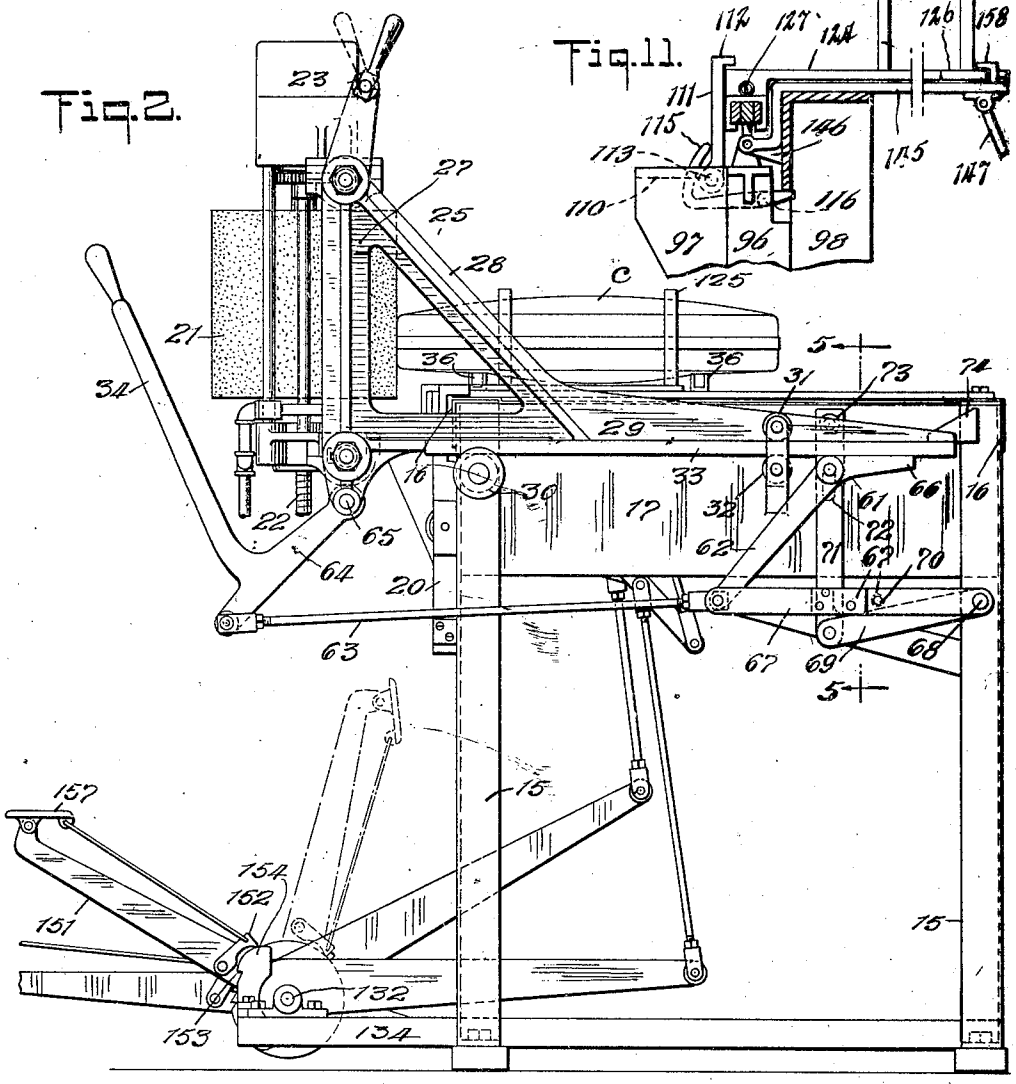


Fig. 11.

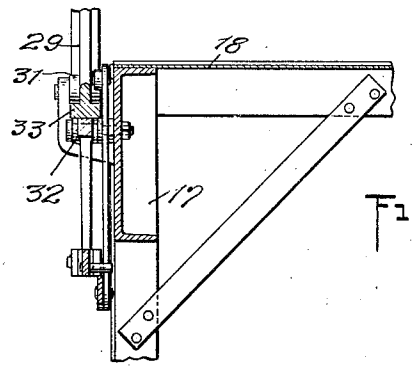


Fig. 5.

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CAR CUSHION CLEANING MACHINE

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Fig. 4.

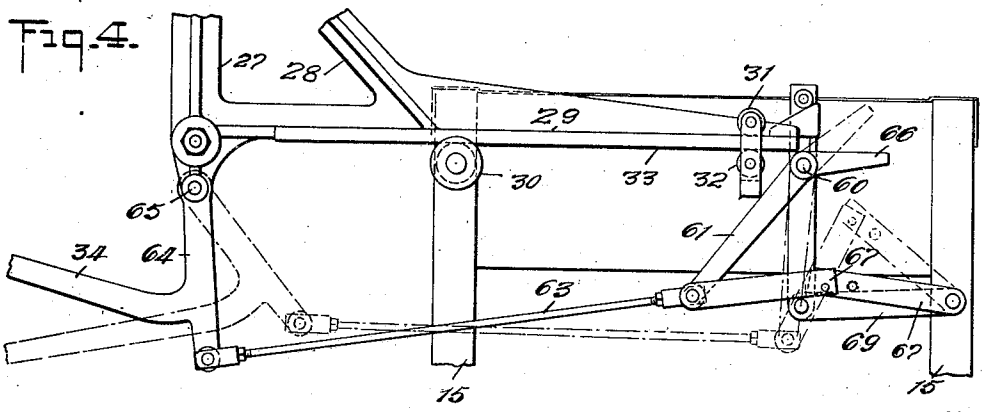


Fig. 5.

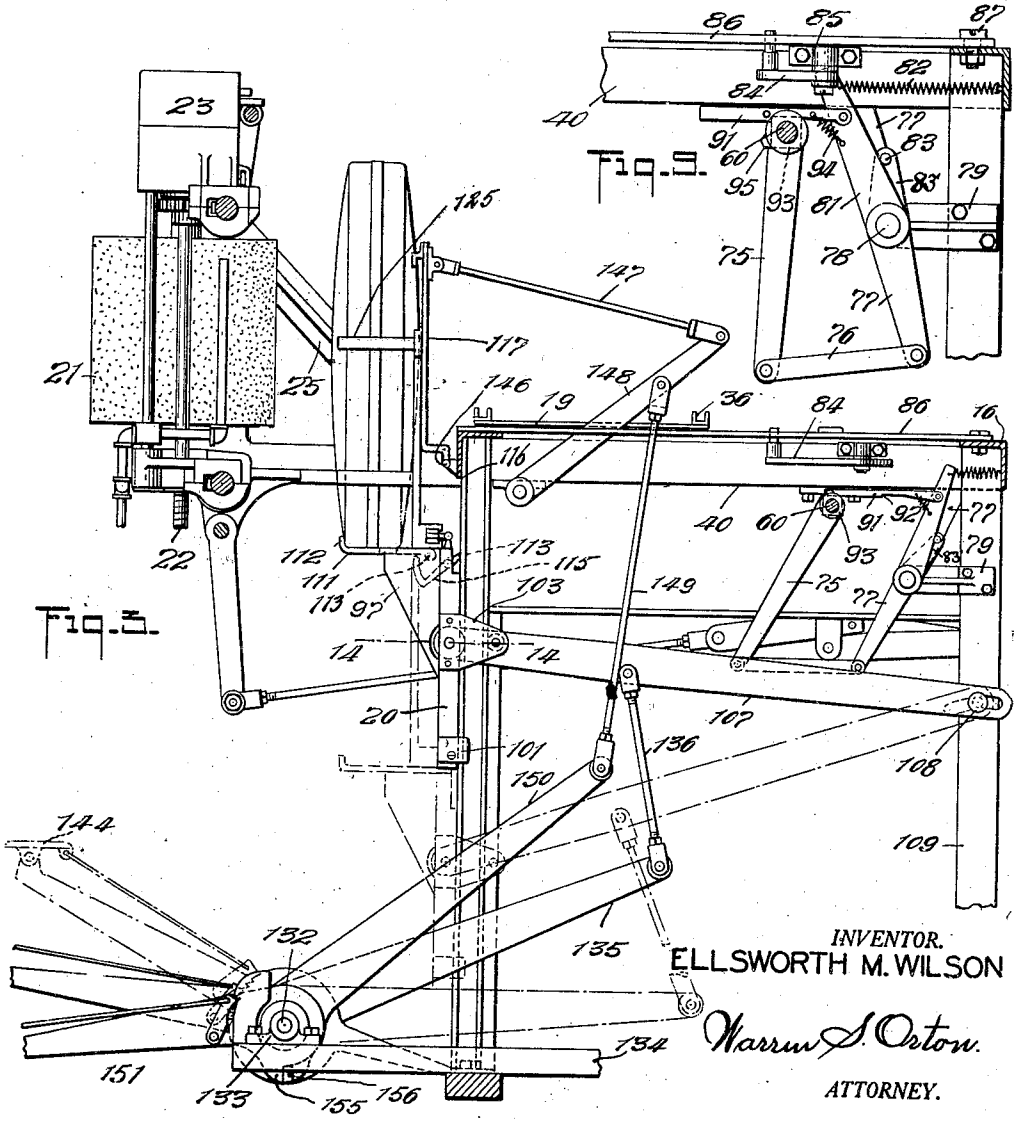


Fig. 3.

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Fig. 6.

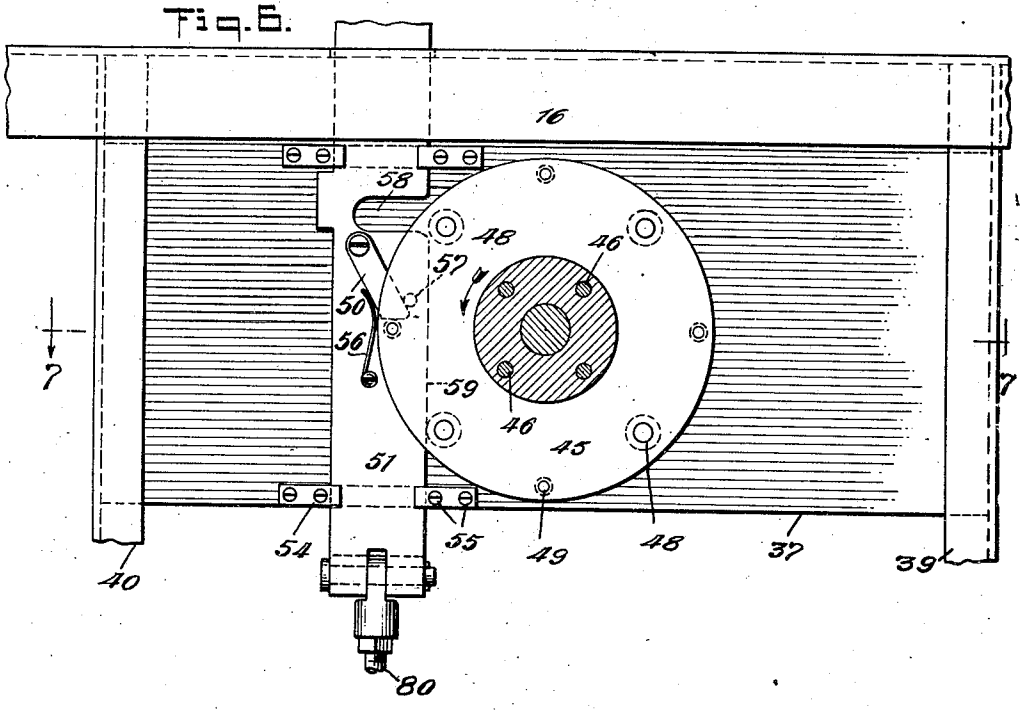


Fig. 7.

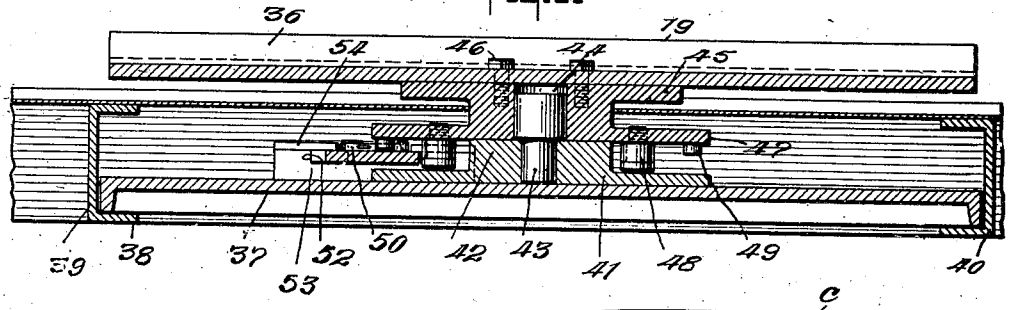


Fig. 14.

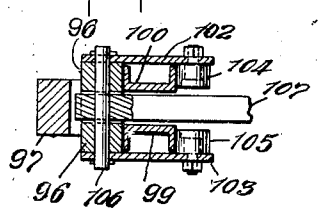
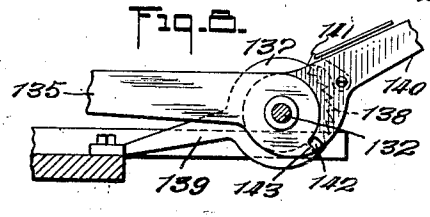


Fig. 8.



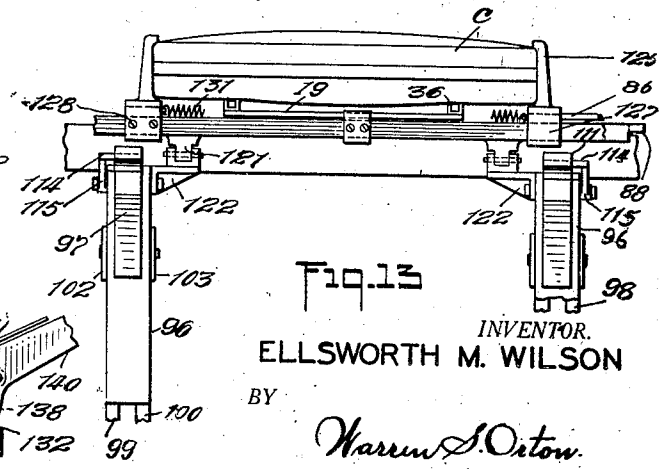


Fig. 13.

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UNITED STATES PATENT OFFICE

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CAR-CUSHION-CLEANING MACHINE

Application filed September 3, 1926. Serial No. 133,308.

The invention relates in general to a machine for use in the brushing of car seats, cushions, backs and other similar articles hereinafter collectively referred to as car cushions.

In one method now in general use of treating such articles the cushions are dipped into or sprayed with a cleansing material and while still wet are subjected to a vigorous brushing operation and under other conditions are brushed while or until dry. The present disclosure is particularly designed to practice this brushing operation mechanically and to shift the cushion in order to present the several surfaces to the brushing device. It has been suggested in the prior art that these cushions be mounted on a belt or similar travelling platform and passed beneath or between brushes mounted to rotate about fixed or substantially fixed axes of rotation. From a practical standpoint however this method of feeding the cushions to such brushes has not proven satisfactory due among other reasons to the fact that as the cushions are not uniform in size, and certain parts of the surface under treatment require a more vigorous application of the brushing treatment than the other parts, the necessary variation in treatment cannot be attained where all parts of the surfaces are subjected to the same brushing treatment.

Accordingly, one of the objects of the invention is to provide a simple form of machine by means of which the intensity of brushing engagement between the brush and the surface under treatment may be at all times under the sensitive manual control of an operator who can adjust the pressure of the brush on the surface as the circumstances require and repeat the operation over the same surface as long as necessary.

Car cushions of the type now in general use are quite heavy, weighing from forty to fifty pounds when wet; they are somewhat bulky and do not provide any means for gripping them conveniently and they are otherwise not easily handled.

Accordingly, another object of the invention is to provide a simplified form of mechanism for handling the heavy cushions and for turning the same quickly and accurately into position to permit an economic sequence of brushing operations and at the same time to provide such a machine designed so that both the brushing operation and the manipulation of the cushions can be attained by the employment of one man for each machine.

Still another object of the invention is to provide a simplified form of machine of the type outlined which can be made sufficiently rugged in its several parts to withstand the rough usage to which such a machine is subjected and at the same time to provide a machine which can be constructed of relatively few parts without extensive machining operation so that it can be manufactured and marketed at relatively low cost.

Still another object of the invention is to provide a machine of the type outlined in which the necessary power to operate it, except the power necessary to drive the revolving and travelling brush, will be manual power of the operator attending the machine.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of device embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:

Fig. 1 is a view largely constituting a plan view of a machine illustrating a preferred embodiment of the invention with certain parts shown in outline and with parts of the cover plate and other parts removed to expose mechanism normally hid thereby;

Fig. 2 is a view in right side elevation of the machine shown in Fig. 1 with the mechanism for actuating the turn table in locked position, and with the brush in engagement with one side edge of the cushion resting on the turn table;

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1 looking in the direction indicated by the arrows showing the cushion mounted edgewise in vertical posi-

tion on the elevating carriage and showing in dotted outlines the carriage in its lowermost position;

Fig. 4 is a detailed view in side elevation of part of the turn table control shown in Fig. 2 and with the locking mechanism showing about to break in full lines and in fully broken position in dot and dash lines to unlock and rotate the turn table.

Fig. 5 is a detailed vertical sectional view taken on the line 5—5 of Fig. 2 looking in the direction indicated by the arrows;

Fig. 6 is an enlarged plan view of the intermittent feed movement controlling the turn table shown at the center of Fig. 1 except reversed in position and with the turn table removed and showing the position of the parts at the start of the turn table rotation;

Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 6 looking in the direction indicated by the arrows;

Fig. 8 is an enlarged detailed view of part of the foot lever for elevating the elevating carriage and taken on the line 8—8 of Fig. 1;

Fig. 9 is an enlarged view taken in side elevation of part of the control for the turn table showing a different position of the mechanism from the corresponding parts shown in Fig. 3 and showing the gripper mechanism locked in inoperative position.

Fig. 10 is a view partly in plan enlarged from the similar showing in Fig. 1 and partly in section of the gripping device;

Fig. 11 is a transverse sectional view of part of the elevating carriage and the gripping device taken on the line 11—11 of Fig. 1 looking in the direction indicated by the arrows;

Fig. 12 is a similar detailed view taken on the line 12—12 of Fig. 1 looking in the direction indicated by the arrows;

Fig. 13 is a view in front elevation of the gripping device and elevating carriage and associated parts looking at the same from the front of the machine and from the left side of Fig. 11, and with the cushion flat on the turn table as shown in Fig. 2; and

Fig. 14 is a detail of the mounting for the elevating carriage and constituting a horizontal sectional view taken on the line 14—14 of Fig. 3.

In the following description and in the claims, parts will be identified by specific names for convenience of expression but they are intended to be as generic in their application to similar parts as the art will permit.

The foundation of the machine comprises a rectangular box-like structure including four corner uprights 15 connected adjacent their upper ends by means of front and rear end sills 16 and relatively deep side sills 17 in the form of channel members. Extending across the top of the skeleton frame thus formed is a top plate 18, and it is understood that this frame is otherwise reinforced and braced to form a rugged structure by structural parts some of which will be specifically mentioned in connection with other mechanism. On top of the frame and adjacent its central forward edge is a turn table 19 for supporting the cushion C flatwise as shown in Fig. 2. Positioned in advance of the front edge of the supporting frame is a vertically movable cushion elevating carriage 20 for supporting the cushion edgewise and in vertically disposed position as shown in Fig. 3. In advance of the cushion in all positions thereof is a brush 21 mounted for rotary movement about its own vertically extending axis and driven through a flexible cable 22 leading from a motor or other suitable source of power. The brush is moved bodily back and forth across the front of the machine by a gear driven brush rotating and shifting mechanism contained in the reciprocating gear box 23 acting on rack 24 and which brush actuating mechanism is partially shown in this application and is more fully disclosed in my copending application entitled "Brush mechanism for cushion brushing machine," Serial No. 133,309 filed under even date.

The brush 21 is mounted in a horizontally movable brush carriage 25 slidably mounted so as to bring the brush in variable brushing engagement with the cushion in its several adjusted positions. The brush carriage includes a front frame 26 extending across the front of the machine and formed largely of the brush actuating mechanism and frame for carrying the same. From opposite ends of the front frame extend side frames 27 which project therefrom each along the adjacent side of the side sills 17. The side frames each include a right triangular shaped forward part 28 as shown in Fig. 2 and a rearwardly extending horizontal arm 29 of inverted T shape in horizontal cross section as shown in Fig. 5.

It is the intent of the designer of this structure that, insofar as is possible, the weight of the brush carriage 25 be carried on the forward uprights 15 and in this way minimize the strain which otherwise would have to be transmitted through the side sills and other parts of the supporting frame. For this purpose the carriage is supported largely by disposing the two side frames 27 thereof on flanged rollers 30 which in turn are carried by the uprights 15 as particularly shown in plan in Fig. 1 and in side elevation in Figs. 2 and 4. Spaced inwardly therefrom in each case are a pair of roller guides 31 and 32 rotatably mounted on the side sills 17 and which rollers engage respectively the upper and lower side of the bottom flange 33 forming the head of the T arm 29 as shown in Fig. 5. It is obvious of course that these rollers assume some of the weight of the carriage 25 as this weight becomes unbalanced on opposite

sides of the rollers 30. The carriage is moved from front to rear and into engagement with the cushion by means of a forwardly inclined control lever 34 at the front, right side of the machine and convenient to the operator and to the foot control pedals hereinafter described. This lever has other functions such as a control for the turntable and a control for a gripping device 35, depending upon the position of the carriage all as will be more fully disclosed hereinafter.

The turn table 19 is an oblong plate provided on the upper side thereof with a pair of upwardly facing channel bars 36 disposed in parallel relation and spaced equidistant on opposite sides of the axis of rotation of the turn table. The cushions C usually have a central bulge or depth adjacent the center greater than at the edge as clearly seen in Fig. 2 and these channel bars assist in insuring the retention of the cushion on the turn table as it is rotated.

The turn table is designed to turn with a step by step motion so as to present the four side edges of the cushion to the plane of movement of the brush as it is reciprocated back and forth across the front frame 26. It is obviously essential not only to rotate the turn table ninety degrees at each step but it is also necessary to hold the turn table from rotating thereby to hold the cushion rigidly in place as the brush travels back and forth across the surface of the cushion exposed to the same. For this purpose the turn table is controlled by an intermittent feed movement arranged to rotate the turn table a step at a time until all four sides of the cushion have been presented to the brushing operation hereinafter described. As noted particularly in Figs. 6 and 7 the turn table and the driving parts turning therewith are assembled as a complete unit, and mounted on a base plate 37 and which in turn is supported on the lower flanges 38 of a pair of channel shape sills 39 and 40 extending from front to rear of the supporting frame as particularly shown in dotted lines in Fig. 1. Mounted centrally on the base 37 is a journal block 41 provided with an upstanding hub 42 in which is rotatably mounted the reduced end of a journal pin 43 the upper unreduced end of which is contained in the bore 44 of a locking wheel 45 to the top of which the turn table is demountably secured by screws 46. Depending from the lower flange 47 of the locking wheel and positioned exteriorally of the hub 42 are four equally and circumferentially spaced apart rollers 48 constituting locking pins and between these locking pins and adjacent the outer edge of the flange 47 are four advancing pins 49. These pins are disposed so as to be engaged by a pawl 50 to advance the locking wheel, and with it the turn table and cushion C into its succeeding positions to present all four side edges of the cushion to the brush 21. The pawl is carried by a slotted bar 51 slidably mounted for reciprocatory movement in guideways 52 provided therefor. These guideways are formed in the top face of blocks 53 four of which are shown in Fig. 6, secured to the base plate 37. The bar 51 is demountably secured in said guideways by plates 54 secured to the top of the blocks by screws 55. The bar 51 is reciprocated from front to rear of the machine by mechanism actuated from the lever 34 as hereinafter described. The pawl 50 is maintained normally in the path of rotary movement of the advancing pins 49 by means of a pawl spring 56 which tends normally to move the pawl into engagement with a pawl stop 57. The pawl is of the one-way acting type arranged to advance or rather to start the rotary action of the turn table locking wheel clockwise as indicated by the arrow in Fig. 1 and the pawl is arranged so that on the retreat of the slotted bar 51 it is free to pass the next advancing pin 49 which has been rotated into position in advance of the pawl during the final period of the previous advance of the slotted bar. The bar 51 is provided on the edge facing the locking pins or rollers 48 with a slot or recess 58 disposed to receive and advance the locking pin advanced into the same by the pawl and then to act on the locking pin to rotate the turn table under the action of the intermittent feed movement illustrated. The slotted bar is provided with a straight edge 59 constituting a locking edge and from the showing in Figs. 1 and 6 it will be noted that the parts are so designed that when the locking wheel has been fully advanced two of the locking pins 48 will be in line with and one of them will be held from rotation by the locking edge and will be so held until the next advance of the slotted bar permits and causes the foremost of these two locking pins 48 to move into and out of the slots 58.

The slotted bar 51 is reciprocated back and forth to rotate the turn table thus described and to release the gripping device 35 through the rocking of the main shaft 60, actuated by control lever 34 and controlled by the position of the carriage side frames 27.

The main shaft extends longitudinally of the machine beyond the side sills defining opposite sides thereof. Secured to each end of the main shaft is a bell crank lever 61 constituting a locking lever. As the structure at each side of the machine between the side frame 27 and the lever 61 is the same except for obvious reversals in position the detailed description of the structure at the right of the machine will equally apply to the corresponding structure at the left of the machine. The lever 61 includes a forwardly extending and depending arm 62 which is connected by a reach rod 63 to the lower end of an arm 64 the upper end of which arm is

secured rigidly to a shaft 65 rotatably mounted in the front frame 26. To the arm 64 at the right hand side of the machine is secured the control lever 34. It is obvious from this construction that the swinging of the control lever 34 can actuate the locking levers at opposite sides of the machine when a movement thereof is permitted by the position of the brush carriage 25 and that both ends of the main shaft are rocked simultaneously. The upper rearwardly extending arm 66 of the lever 61 is so disposed to be engaged by the underside of the flange 33 forming part of the arm 29 which engages the same when the brush is close to the cushion and holds the lever 61 from counterclockwise rotation as shown in Fig. 2. With the carriage moved forwardly, away from the cushion and with the arm 29 clear of the locking lever 61 it is possible for the lever 34 to rotate and thus rock the shaft as indicated in the full and dotted line showings in Fig. 4.

When in the locked position shown in Fig. 2, the reach rod 63 is held rigidly from movement in either direction. The lever 61 cannot rotate anti-clockwise due to its engagement with the arm 29 and the rod 63 cannot move from left to right of the showing in Fig. 2 due to it being held by a pair of toggle links 67 which at this time is in elongation with and in effect constitutes a continuation of the reach rod 63 securing the same pivotally connected by means of pin 68 to the adjacent rear upright 15. For the purpose of breaking the toggle connection and thus permit a rocking of the main shaft 60, a horizontally extending unlocking link 69 is pivoted to the pin 68 and underlaps a pin 70 which projects laterally from one of the toggle links 67. To the outer end of this horiontal link 69 is pivoted an upstanding lifting link 71 provided with a slot 72 containing the main shaft so as to guide the lifting link in its vertical movement. To the upper end of the lifting link is positioned a roller 73 disposed in the path of movement of a wedge 74 secured to the outer end of the arm 29. From this construction it will be noted by comparing Figs. 2 and 4 that the forward or right-to-left movement of the carriage will cause the wedge to engage the roller, lift the toggle links 67 from their aligned position shown in Fig. 2 past the full line and into the dotted line position shown in Fig. 4, so that a continuous depression of the control lever 34 after it has advanced the carriage to its forward position as shown in Fig. 3 will cause the releasing of the locking toggle links and a subsequent rotation anti-clockwise of the main shaft over an angle of about forty-five degrees.

Tracing the link connection between the main shaft and the reciprocating rod 51 which rotates the turn table, there is shown particularly in Figs. 3 and 9, a depending arm 75 rigidly secured to the main shaft just outside the sill 40. The lower end of the arm is connected by a link 76 to the lower end of a lever 77 rigidly secured intermediate its length to a secondary shaft 78 paralleling the main shaft and mounted at opposite ends in brackets 79 secured to the supporting frame as shown in Figs. 3 and 9. The upper end of the lever 77 is pivotally connected by means of a link 80 to the rear end of the slotted bar 51 forming part of the Geneva movement. From this construction it is obvious that the movement of the control lever from the full line into the dotted line position shown in Fig. 4 will rotate the main shaft anti-clockwise and this motion in turn will be transmitted through the linkage provided by the members 75, 76, 77 and 80 to cause a relatively long movement of the slotted bar from front to rear of the machine and over a distance sufficient to advance the turn table with its step by step movement as hereinbefore described.

The clamping or gripping device 35 for holding the cushion in place while being brushed comprises jaws which are normally engaging the cushion under spring tension as hereinafter described.

It is required however that the clamping jaws be released from their engagement with the cushion prior to the rotation of the turn table and accordingly the present disclosure features an arrangement whereby the jaws of the gripping device are moved into an inoperative position by the same mechanism which controls the turn table and in proper timed sequence to permit the complete release of the cushion before the turn table is moved. For this purpose there is loosely mounted on the supplemental shaft 78 an upstanding arm 81 which is normally held in inoperative position retracted towards the back of the machine by a spring 82. The arm is moved in the other direction and against the tension of the spring by means of pin 83 which projects from the upper arm of lever 83′ fixed on shaft 78. As the lever 83′ swings under the action of the rocking main shaft 60 it causes the arm 81 to swing with an anti-clockwise movement from right to left as shown in Figs. 3 and 9. Positioned in the path of the upper end of the arm 81 is one arm of a bell crank lever 84 (see Fig. 1) pivoted on a bracket 85 extending laterally from the center sill 40 and the other arm of which lever is designed to engage a long arm 86 the rear end of which is pivotally connected by pin 87 to the rear sill. The forward end of this long arm is overlapped by and is designed to engage a stop 88 at one end of one of the movable jaws of the gripping device. A long spring 89 tends to move this long arm into an inoperative position engaging a stop 90 and this permits the spring 131

which controls the jaws to move the same into clutching position with the cushion when released by the long arm during its return into its inoperative position as shown in dot and dash lines in Fig. 1.

It is required that the clamping jaws be positively held in inoperative position as shown in full lines in Fig. 1 until the turn table has completed its quarter movement. For this purpose the arm 81 (Fig. 9) has pivoted thereto a locking bar 91 provided on its underside with a locking notch 92 and which bar is designed to slide over a square block 93 secured to the main shaft. The locking bar is normally held in engagement with a flat face of the block by means of a spring 94 connecting the bar 91 with the arm 81. The main shaft is provided with a lug 95 which is designed as the main shaft is rotated to lift the locking bar so that the notch therein will clear the square locking block and thus permit the spring 82 to draw the arm 81 out of position engaging the lever 84 and thus permit the long arm 86 to swing back into its inoperative position under tension of its spring 89. From this construction it is seen that the gripping device is held by the locking bar 91 in inoperative position even after the lever 77 has begun to swing back and during the initial return to normal of the main shaft. The gripping device is held open while the lug 95 on the main shaft is turning upwardly from the position shown in Fig. 9 and until it engages the underside of and has lifted the locking bar 91 clear of the locking block 93. This means that the gripping jaws are held from engagement with the cushion until the turn table has completed its quarter turning step and until the edge 59 is in locking engagement with the locking pins 48. This insures the prevention of the turn table from wrecking the gripping device.

The vertically moving cushion elevating and lowering carriage 20 comprises two similar structures connected by the gripping device as shown in Fig. 13 and here again the detailed description of one of the structures applies equally to the other. Describing each structure there is shown a long block 96 secured to the forward upper face of which is a bracket extension 97 triangular in side elevation. Each of these blocks is mounted on an upright 98 and which two uprights are positioned at the front of the machine spaced inwardly from the corner uprights 15 and positioned on opposite sides of the turn table; as shown in Fig. 14 these uprights 98 each comprises two channels 99 and 100 with their backs spaced apart. The lower end of the block 96 is provided with a pair of angle pieces 101 positioned on opposite sides and engaging in the channel of its adjacent upright as shown in Fig. 3. Positioned above these angles is a pair of plates 102, 103 (see Fig. 14) each of which carry a pair of rollers 104—105 positioned on opposite sides of the flanges of the associated channel bar. From this construction it is seen that both of the blocks which coact to form the carriage 20 are mounted to slide freely and this is particularly necessary where heavy cushions are to be raised and lowered manually or by foot control of the operator. The channel bars are spaced apart so as to receive therebetween a lifting lever 107 the forward end of which is pivoted to the shaft 106 and the rear end of which is connected by a pin and slot connection 108 with a rear upright 109 to which the bracket 79 is attached. The lifting lever is elevated and depressed by a foot control lever hereinafter more fully described.

The upper end of the bracket extension 97 is slotted as shown at 110, Fig. 11, to receive a normally horizontal extending cushion edge support 111 with its forward end upturned as shown at 112 and its rear end pivoted on pivot pin 113 carried by the upper end of the block. This support 111 is adapted to be engaged by a tilting lever 115 pivotally mounted intermediate its length on the block extension and designed when the carriage is elevated to the limit of its upward movement to engage the lower edge 116 of the front sill so as to lift the outer end of the support as indicated in Fig. 11 and thus act to tilt the cushion from the vertical position shown in Fig. 3 towards the turn table or towards the cushion tilting mechanism 117 hereinafter described, when it is desired to move the cushion from the vertical back into the horizontal position as shown in Fig. 2.

The gripping device 35 for clamping the cushion is carried by the cushion elevating carriage so as to clamp the cushion when on the carriage as shown in Fig. 3, and is also pivotally mounted so that it can be swung into horizontal position when on the turn table as shown in Fig. 2, and also when moving from one of these positions into the other under control of the tilting mechanism 117. The gripping device 35 comprises in effect three parallel bars (see Fig. 10); two outer jaws carrying bars 118 and 119 and an intermediate relatively fixed bar 120.

The fixed bar is pivotally mounted by means of a pair of hinge connections 121 and inwardly projecting brackets 122 secured to the upper inner face of the blocks 96 as particularly shown in Fig. 13. Each of the bars 118 and 119 is provided adjacent its outer end with a T-shaped elevating member 123. The outer end of the bar 119 is provided with the upturned stop 88 previously referred to. These elevating members 123 each include a laterally extending member 124 provided with two upstanding cushion engaging pins 125 constituting the clamping jaws. These elevating members also include a laterally extending member 126 having a length suffi-

cient to extend under the cushion, and of a length sufficient to overlap the tilting mechanism 117. The forward ends of each of the members 124 are formed into a rectangular block 127 which encircles the bars 118, 119 and 120. The left block is secured to the bar 118 and the right block is secured to the bar 119 by means of screws 128. Adjacent faces of the bars 118 and 119 are provided with racks 129 in mesh with a pinion 130 carried by the fixed bar 120 and so arranged that movement of one of the bars is transmitted therethrough to the other. A spring 131 between the blocks 127 tends to cause these cross members to be moved normally into cushion clamping position when released by the long arm 86.

Mounted in the front of the machine adjacent the ground is a shaft 132 journalled in brackets 133 carried by forwardly projecting extensions 134 from the base of the machine. Secured to the shaft adjacent the right side of the machine is a lifting arm 135 connected by a link 136 to the lifting lever 107 which controls the raising and lowering of the vertical carriage 20. As it is intended that the carriage be moved with a step by step movement to permit the brush to traverse across the face of the cushion along succeeding bands as the cushion is elevated or depressed step by step, a disk 137 provided with a series of one-way notches 138 is secured to the body of the machine by a bracket 139. Loosely mounted on the shaft adjacent the disk 137 is a foot pedal 140 provided with a pawl 141 adapted to engage in the notches on the disk. The pedal 140 is provided with a pin 142 which engages a shoulder 143 on the arm 135 to elevate the same. The pawl is controlled by a toe plate 144 pivoted to the outer end of the pedal and designed to be rocked to remove the pawl from the notches when it is desired to permit the carriage to drop which it will do of its own weight.

The tilting device 117 includes a pair of tilting arms 145 hingedly mounted on the front sills on a bracket 146. The arms 145 are positioned to the outside of the cushion in all positions of the same and in each case underlap the transversely extending members 124 of the clamping device so that when the tilting member is elevated it will carry with it the means for holding the cushion from lateral movement parallel to the width of the machine. Each tilting arm is controlled by a pair of pivotally connected lifting links 147, 148 the latter of which is connected by means of a reach rod 149 to a tilting arm 150 loosely mounted upon the shaft 132.

This lever is controlled by a foot pedal 151 fixed to the shaft 132 and provided with a pawl 152 designed to engage the single notch 153 in a notch plate 154 secured to the extension 134. A lug 155 on the pedal 151 acts on a projection 156 on the arm 150 to raise the same and with it the arm 148 of the tilting device. The shaft 132 provides the connecting means between the two arms 150 as particularly shown in Fig. 1.

From this construction it is understood that depressing the foot pedal 151 acts through the two linkages to lift the tilting device as a unit from the horizontally disposed position shown in Fig. 2 into the vertically disposed position shown in Fig. 3 at the end of which movement the pawl 152 engages in the notch 153 to hold the tilting device in the upright position shown in Fig. 3. Releasing the pawl 157 by the depression of the toe releases the locking effect and permits the tilting device to fall back by virtue of its own weight into its normal horizontally disposed position on opposite sides of the turn table as shown in Figs. 1 and 2.

The lug and projection form of connection shown at 142, 143 permits the pedals to be lifted up out of the way when not in use and disposed beneath the horizontal carriage 25 as shown in dotted lines in Fig. 2.

In operation the cushions, after they have been dipped into or sprayed with some suitable cleansing material usually employed in this art, are positioned on the turn table as shown in Fig. 2 and while the brush is in spaced relation to the adjacent edge of the cushion as indicated in the position of the brush shown in Fig. 3. While positioning the cushion on the turn table the gripping device is moved into its inoperative position, spaced from the cushion as indicated in Fig. 1. No particular care need be exercised in positioning the cushion on the turn table except to make sure that the bulged center of the cushion is positioned between the parallel channel members on the top of the turn table. Releasing the gripping device permits it to engage opposite side edges of the cushion and tends to center and to hold the same against the shifting effect of the brush. The brush is caused to rotate; the spraying device 159 is set in operation and the brush is caused while rotating to reciprocate back and forth across the front of the machine as is more particularly defined in the above identified co-pending application.

By lifting the hand lever at the right of the machine the operator causes the brush as a whole to be moved from front to rear and into operative brushing engagement with the side edge of the cushion which is facing the same as indicated in Fig. 2. By means of this lever the operator may maintain any desired intensity of brush engagement with the cushion.

When one side edge is brushed the operator depresses the control lever to withdraw the brush from the cushion and at the end of the outward movement of the brush carriage the gripping device is released as hereinbe-

fore described. On the upstroke the turn table is rotated by the action of the Geneva movement so as to bring the next adjacent side edge into the plane of movement of the reciprocating brush and the clamps are released as the turn table completes 90° revolutions and about the time the control lever 34 is horizontal. The operator then continues to lift the control handle from the horizontal position towards the elevated position shown in Fig. 2 to bring the brush into engagement with this brush surface. This operation is repeated until all four side edges of the cushion have been brushed.

By pressing the proper lever for controlling the tilting mechainsm the cushion and with it the gripping device is elevated from the horizontal position shown in Figs. 1 and 2 into an elevated position somewhat raised from the position shown in Fig. 3 at which time the lifting carriage is in its uppermost position and disposed to receive the cushion as it is dropped on to the same. When elevated as shown in Fig. 3 the clamping device is resting on top of the bracket 97 and the members 145 are held elevated to prevent the pressure of the brush from tilting the cushion back on to the turn table. A hook 158 projecting from the free end of each of the members 145 is disposed when elevated to receive the arm 126 and act thereon to return the clamping device to the horizontal position shown in Fig. 1 and Fig. 11. With the cushion thus held in its vertically disposed position the brush is advanced into engagement with the wide surface of the cushion and the operation is repeated as has been described for the brushing of the side edges.

Preferably the brush is of less heighth than the corresponding dimension of the flat side of the cushion and in this case the brush caused to traverse horizontal bands of brushed spaces across the face of the cushion. Preferably the brushing operation is started at the bottom of the cushion with the carriage 20 in its highest position somewhat above the position shown in full lines in Fig. 3 and in which position it is held by the pedal 140 engaging one of the end notches in the notch plate at the base of the machine. As each band is successively brushed the carriage is lowered a distance to bring a partially brushed or unbrushed portion of the cushion into position facing the brush until finally the elevating carriage is in its lowermost position shown in dash lines in Fig. 3. This gradual lowering of the carriage is attained simply by depressing the lever 140 so that its pawl 141 will engage succeeding notches 138 one at a time. This successive brushing of succeedingly spaced bands is continued until the entire flat surface or top of the cushion has been treated.

After being brushed, the rinsing spray 159 is turned on and the cushion is then brushed band after band as previously described except that the cushion is elevated step by step until the lifting carriage is moved to the limit of its upward movement. In this position the supports 111 engaging the narrow side edge of the cushion is dipped towards the machine as previously described and the cushion being thus unbalanced is pushed to drop back onto the lifting device which by this time is tilted into position to receive the tipped cushion. By the actuation of the pedal controlling the tilting device the cushion is eased back on to the turn table. If it is desired to brush the other flat side, the cushion is reversed on the turn table from which it is eventually withdrawn either manually or by mechanism forming no part of the present disclosure.

By means of a device of the character outlined it has been found possible to handle the heavy cushion seats conveniently and economically and cushion after cushion may be fed through the machine at about the same rate as these cushions are treated when subjected to the cleansing and other operations of which the brushing operation herein disclosed is one step. It is possible by the use of a single operator to effectively clean and brush the cushions and to maintain a sensitiveness of brushing engagement which has not been found to be possible in machines where engagement between the brush and cushion is mechanically controlled. The cushion is held secure in its different shifted positions and it is readily and easily shifted from one to another of the positions facing the brush.

While I have shown and described, and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described my invention, I claim:

1. In a machine for cleaning car cushions and like articles having a substantially flat side outlined by a plurality of substantially flat side edges, the combination of a supporting frame, a brush mounted for both rotary and bodily movement in one direction, a carriage therefor slidably mounted on the frame for advancing the brush relative to the cushion in another direction, a turn table for rotating the cushion to present its edges to the brush, and means for elevating the cushion off the turn table and to present a flat side of the cushion to the action of the brush.

2. In a machine for cleaning car cushions, the combination of means including a pair of jaws for holding the cushion rigidly clamped in place there between, a brush

mounted for rotary movement about a vertical axis, mechanically actuated means for advancing the brush across a surface of the cushion and a manually actuated lever for advancing said brush horizontally and at right angles to its mechanically advanced direction towards and into operative engagement with the rigidly held cushion thereby to provide a quickly variable control of the intensity of engagement between the brush and the cushion.

3. In a machine for cleaning car cushions, the combination with a compressible car cushion, of clamping means adapted to engage the cushion to hold the same in place, a brush mounted for rotary movement, mechanically actuated means for advancing the brush across a surface of the cushion, manually actuated means for advancing said brush at right angles to its mechanically advanced direction towards and into operative engagement with the clamped cushion and said clamped cushion adapted to resist excessive pressure of said brush thereon and to react through said means to indicate to the hand of the operator when the desired intensity of engagement between brush and cushion has been attained.

4. A machine for cleaning car cushions and the like, comprising a skeleton frame including uprights, connecting end and side sills, and a top plate, a pair of intermediate sills beneath said top plate, a turn table unit supported on the intermediate sills and including a turn table positioned above the top plate, a horizontally movable brush carriage slidably supported on the side sills, a brush mounted on said carriage for rotary and bodily movement across the side of the cushion facing the same, a vertically movable cushion carriage positioned between the brush and the adjacent side of the frame, and a tilting frame for shifting the cushion from said turn table onto said vertically movable cushion carriage.

5. A machine for cleaning car cushions and the like, comprising a skeleton frame including uprights connecting end and side sills, and a top plate, a pair of intermediate sills beneath said top plate, a turn table unit supported on the intermediate sills and including a turn table positioned above the top plate, a horizontally movable brush carriage slidably supported on the side sills, a brush mounted on said carriage for rotary and bodiy movement across the side of the cushion facing the same, a vertically movable cushion carriage slidably mounted on the frame and positioned between the brush and the adjacent side of the frame, a tilting frame for shifting the cushion from said turn table onto said vertically movable cushion carriage, and a single manually actuated control mechanism operatively connected to control the horizontally movable brush carriage thereby to vary the intensity of brushing engagement between the brush and the surface of the cushion with which it is in engagement.

6. In a machine for brushing car cushions and the like, the combination of a turn table adapted to receive the cushion, a brush, mechanically actuated means for rotating the brush, a carriage for moving the brush to and from its operative engagement with the cushion on the turn table, means for rotating the turn table with a step-by-step movement, a single handle operatively connected to said last named means and to the carriage to move the same and means controlled by the withdrawal of the carriage into an inoperative, out of the way position for causing said rotating means to advance the turn table a step of its rotative movement as movement of said handle is continued in the direction which first causes the withdrawal of said carriage.

7. In a machine for brushing car cushions and the like, the combination of a cushion support, a brush, a carriage for moving the brush to and from its operative engagement with the cushion on said support, means for gripping the cushion, means controlled by the advance of said carriage in an inoperative, out of the way position for moving the gripping means into an inoperative position releasing the cushion and a manually actuated control for shifting the carriage.

8. In a machine for brushing car cushions and the like, the combination of movable cushion holding means, means for brushing the cushion, a carriage for moving said brushing means relative to the cushion, means including a locking lever for moving said cushion holding means when the lever is rocked, means forming part of said carriage for engaging the locking lever in one position of the carriage to lock the same and said lever being free to rock when the carriage is clear of the same, and a manually actuated carriage controlling lever having one arm pivoted to the carriage and the other arm pivotally connected to said locking lever.

9. In a device of the class described, the combination of a support, cushion holding mechanism carried thereby, and including a shaft having its axis fixed relative to the support, a locking lever extending from said shaft for rocking the same, a carriage slidably mounted on said support and disposed in operative position to engage said lever to lock the same against rotary movement in one direction, a brushing means carried by said carriage, a controlling lever supported by and pivoted to the carriage to slide the same and a connecting rod between said control lever and said locking lever providing a fulcrum for the controlling lever whereby when the carriage is in position locking said locking lever the rocking shaft is held from rotating in said direction and thus the cush-

ion holding mechanism is held from movement and a movement of the control lever acts simply to shift the carriage.

10. In a device of the class described, the combination of a support, a main shaft rockably mounted thereon, a locking lever secured to the shaft to rock the same, a carriage slidably mounted on the support and adapted to be moved into engagement with the locking lever to prevent the same from turning in one direction and thus lock the main shaft, a brush mounted for rotary movement in the carriage link operatively connected to the locking lever to prevent it from turning in the opposite direction, means controlled by a movement of the carriage into a position spaced from and thus releasing the locking lever and for moving said toggle link into inoperative position and a single control lever operatively connected to the carriage to slide the same relative to the support and operatively connected to the locking lever to rock the same when released by the carriage.

11. In a device of the class described, the combination of a support, a main shaft rockably mounted thereon, a locking lever secured to the shaft to rock the same, a carriage slidably mounted on the support and adapted to be moved into engagement with the locking lever to prevent the same from turning in one direction, brushing means supported by the carriage, a toggle link operatively connected to the locking lever to prevent it from turning in the opposite direction, means controlled by the advance of the carriage into an inoperative position spaced from the locking lever to release the same and for moving said toggle link into inoperative position, a single control lever operatively connected to the carriage to slide the same relative to the support and operatively connected to the locking lever to rock the same when released by the carriage and cushion clamping means actuated by the rocking of said main shaft.

12. In a machine for brushing car cushions and the like, the combination of cushion clamping means, mechanism for moving the same to and from its damping position, a brush for engaging the cushions, a carriage for the brush, means controlled by the carriage for locking said mechanisms against movement and control means for moving the carriage and therethrough to control said mechanism.

13. In a machine for brushing car cushions and the like, the combination of means for supporting and holding the cushions in a plurality of positions each disposed to expose a face to be brushed, mechanism for releasing said holding means and for rotating the cushion from one to another of said positions, a carriage mounted for sliding movement, a brush supported by the carriage, and means controlled by said carriage when in one position to lock said mechanism thereby to secure the cushion in fixed position while the carriage is in said locking position.

14. In a machine for brushing car cushions and the like, the combination of means for supporting and holding the cushion in a plurality of positions for exposing its different surfaces to be brushed, mechanism for releasing said holding means and for rotating the cushion from one to another of said positions, a carriage mounted for sliding movement, brushing means supported by the carriage means controlled by said carriage when in one position to lock said mechanism thereby to secure the cushion in fixed position, and means operable when the carriage is shifted away from said locking position for shifting said mechanism into operative position.

15. In a machine for cleaning the side edges of car cushions and the like, the combination of a support, a turn table unit carried thereby and including a turn table for securing the cushion resting flatwise thereon, a travelling brush mounted for rotary movement, carried by the support and operatively disposed to move its axis of rotation along a plane and thus dispose its periphery to engage the adjacent edge of the cushion on the turn table, said unit including manually actuated mechanism for rotating the turn table with a step by step movement to successively present the several edges of the cushion to the rotating and travelling brush and said mechanism including automatically actuated locking means for locking the turn table against rotation between the successive turning movements thereof whereby the cushion is held against rotary movement while its side edges are being brushed.

16. In a machine for cleaning the side edges of car cushions and the like, the combination of a turn table for receiving the cushion, a brush mounted for rotary movement and disposed to cause its brushing surface to engage the edges of the cushion and mounted for bodily movement in one plane, and means for rotating the turn table with a step by step movement to present successively the several edges of the cushion to the plane of movement of the brush.

17. In a machine for cleaning the side edges of car cushions and the like, the combination of a turn table for receiving the cushion, a brush mounted for rotary movement, disposed for engaging the edges of the cushion and mounted for bodily movement in one plane, means for rotating the turn table with a step by step movement to present successively the several edges of the cushion to the plane of movement of the brush, and means operatively connected to the turn table to lock the same against rotary movement and thus hold the cushion while the edge facing the brush is being acted upon by the moving brush.

18. In a machine for cleaning the side

edges of car cushions and the like, the combination with a brush mounted for rotary movement about a vertical axis and adapted to have its periphery moved along the side edges of the cushion of a turn table provided with means for receiving the cushion, mechanism operatively connected to the turn table to rotate the same with a step by step movement and manually actuated means for controlling the actuation of said mechanism.

19. In a machine for cleaning the side edges of car cushions and the like, the combination of a turn table provided with means for receiving the cushion, means for rotating the turn table with a step by step movement, a brush for engaging the side of the cushion facing the same, manually actuated mechanism for controlling the position of the brush relative to said cushion side, and for actuating said turn table rotating means, said mechanism including means for locking the turn table against rotation when the brush is in engagement with the cushion side.

20. In a machine for cleaning the side edges of car cushions and the like, the combination of a turn table provided with means for receiving the cushion, means for rotating the turn table with a step by step movement, a brush for engaging the side of the cushion facing the same, a carriage for advancing the brush to and from the cushion on the turn table, and means controlled by the shifting of the carriage away from the turn table and its cushion for rotating the turn table.

21. In a machine for cleaning the side edges of car cushions and the like, the combination of a turn table provided with means for receiving the cushion, means for rotating the turn table with a step by step movement, a brush for engaging the side of the cushion facing the same, a carriage for advancing the brush to and from the cushion on the turn table, and means controlled by the shifting of the carriage into an inoperative, out of the way position spaced from the cushion for rotating the turn table, manually actuated mechanism for controlling the shifting of the brush relative to said cushion side, and for actuating said turn table rotating means, said mechanism including means for locking the turn table against rotation when the brush is in engagement with the cushion side.

22. In a machine for brushing car cushions and the like, the combination of a supporting frame, means for supporting the cushion on said frame in fixed relation thereto, means for brushing the cushions, a horizontally shiftable carriage for said brushing means, means for shifting the brushing means along said carriage, said carriage including a pair of side frames each slidably mounted at a plurality of points on the adjacent side of the supporting frame, and a manually actuated carriage controlling lever for sliding the carriage horizontally and with it the brushing means to and from the cushion on said supporting frame thereby to vary at will the intensity of engagement between the brushing means and the surface of the cushion being brushed.

23. In a machine for brushing car cushions and the like, the combination of a supporting frame, means carried thereby for fixedly supporting a cushion in any one of a plurality of different positions, a brush carriage including a front frame and side frames extending from opposite ends thereof and lapping the adjacent sides of the supporting frame, means for slidably supporting said side frames from the adjacent sides of the supporting frame, a brush mounted on the front frame for rotary and reciprocatory bodily movement along the length of the same, and control means for shifting the brush carriage and with it the rotating and bodily movable brush relative to the cushion in its several positions on the supporting frame.

24. In a machine for brushing car cushions and the like, the combination of a supporting frame, means carried thereby for supporting a cushion in a plurality of different positions, a brush carriage, means for supporting said brush carriage from the supporting frame, a brush mounted for rotary and bodily movement across the supported cushion control means for shifting the brush carriage and with it the brush relative to the cushion in its several positions, and means controlled by the shifting of the carriage into its position when nearest the cushion support for securing the same in locked position.

25. In a machine for brushing car cushions and the like, the combination of a supporting frame, means carried thereby for supporting a cushion in a plurality of different positions, a brush carriage including a front frame and side frames extending from opposite ends thereof and lapping the adjacent sides of the supporting frame, means for supporting said side frames, a brush mounted on the front frame for rotary and bodily movement along the length of the same and across the cushion, control means for shifting the brush carriage and with it the brush relative to the cushion in its several positions, means controlled by the shifting of the carriage into its position when nearest the cushion support for securing the same in locked position, means for moving said cushion support and a control for said carriage operatively connected when the carriage is in its position most remote from the cushion support to act on said moving means to shift the cushion support from one to another of its different positions.

26. In a machine for brushing car cushions and the like, the combination of a pair of resilient jaws adapted to contain the cushion therebetween with a side exposed, brushing means engaging said exposed side, and

means including a manually actuated control for the brushing means and means connected to said manually actuated control and operatively controlled incidental to the movement of the brush into an inoperative position in spaced relation to the cushion for moving said jaws into position spaced from the cushion thereby to permit the cushion to be moved without interference from said jaws.

27. In a machine for brushing car cushions and the like, the combination of brushing means, means for securing the cushions in place while being brushed, said means comprising a pair of jaws, resilient means acting on the jaws and tending to move them into position clamping the cushion therebetween, and mechanism for moving the jaws into an inoperative unclutching position against the tension of said resilient means.

28. In a machine for brushing car cushions and the like, the combination of brushing means, means for securing the cushions in place while being brushed, said means comprising a pair of jaws, resilient means acting on the jaws and tending to move them into position clamping the cushion therebetween, mechanism engaging one of the jaws for moving the same into an inoperative unclutching position against the tension of said resilient means, a driving connection between the jaws for causing the same to move in unison into and from their operative position clamping the cushion.

29. In a machine for brsuhing car cushions and the like, the combination of a pair of jaws for holding the cushion therebetween, resilient means tending to move the jaws into clamping position, a lever engaging the jaws to move the same into an inoperative unclutching position, against the tension of said resilient means, mechanism for shifting said lever, a brush for engaging the cushion, a carriage for the brush, and means controlled by the movement of the carriage away from the cushion for causing said mechanism to move the jaws into an inoperative position.

30. In a machine for brushing car cushions and the like, the combination of a pair of jaws for holding the cushion therebetween, resilient means tending to move the jaws into clamping position, a lever engaging the jaws to move the same into an inoperative unclutching position, against the tension of said resilient means, mechanism for shifting said lever, a brush for engaging the cushion, a carriage for the brush, means controlled by the movement of the carriage away from the cushion for causing said mechanism to move the jaws into and secure the same in an inoperative position, and a manually actuated control for actuating said mechanism and controlled by the movement of the carriage towards the cushion for releasing said jaw securing mechanism and thus permit the resilient means to move the jaws into an operative cushion clutching position.

31. In a machine for brushing car cushions and the like, the combination of brushing means, a turn table for carrying the cushion and for supporting the same in position to be acted upon by said brushing means, jaws for engaging the cushion positioned therebetween on the turn table, means for rotating the turn table, means for moving the jaws into an inoperative position clear of the cushion, and a single control operatively connected to both of said last named means to cause a movement of the jaws into inoperative position and a turning of the turn table.

32. In a machine for brushing car cushions and the like, the combination of a horizontal cushion support, brushing means operably disposed relative to the support to brush cushions thereon, a vertically movable carriage provided with a cushion support pivotally mounted on the carriage, a pair of jaws adapted to secure a cushion therebetween when either on the horizontal support or on the carriage support, means for elevating the jaws as the cushion is lifted off the horizontal support on to the carriage support, whereby the jaws are caused to move with the cushion, and manually operable means operatively connected to the jaws for releasing the same at will when either on the support or carriage.

33. In a machine for brushing car cushions and the like, the combination of a clamping device including a fixed rod, and a pair of movable rods on opposite sides thereof, each provided with a rack, a pinion carried by the fixed rod and engaging the racks on the movable rods whereby the movement of one of the rods will simultaneously shift the other movable rod, each of said rods provided with a cushion engaging jaw, a hinge mounting for the fixed rod to permit the jaws to be swung with the cushion therebetween into a plurality of positions and brushing means operatively disposed to engage the cushion to brush the same when in any one of its said plurality of positions.

34. In a machine for brushing car cushions and the like, the combination of a turn table for receiving the cushions to be brushed, brushing means operatively disposed relative to the turn table to brush the cushions on the same, means for rotating the turn table including an upstanding lever, gripping means for engaging the cushion on the turn table, mechanism for moving said gripping means into an inoperative position while the turn table is being rotated, said mechanism including an upstanding arm disposed in the path of movement of said upstanding lever and movable thereby into position to actuate said mechanism, means for locking said upstanding arm at the end of its mechanism actuating movement and means controlled by the turn

table rotating means for releasing said locking means.

35. In a machine for brushing car cushions and the like, the combination of a turn table for receiving the cushion to be brushed, brushing means operatively disposed relative to the turn table to brush the cushions on the same, gripping means for engaging the cushion, mechanism for moving said gripping means into an inoperative position while the turn table is being rotated, and control means operatively connected to the turn table and to said mechanism and movable in one direction simultaneously to rotate the turn table and move said gripping means into an inoperative position.

36. In a machine for brushing car cushions and the like, the combination of a turn table for receiving the cushion to be brushed, brushing means operatively disposed relative to the turn table to brush the cushions on the same, gripping means for engaging the cushion, mechanism for moving said gripping means into an inoperative position while the turn table is being rotated, control means operatively connected to the turn table and to said mechanism and movable in one direction simultaneously to rotate the turn table and move said gripping means into an inoperative position, locking means for securing said gripping means in inoperative position, and means governed by the movement of said control means in the opposite direction to release the gripping means and thus permit them to be restored to operative position following the rotation of the turn table.

37. In a machine for brushing car cushions and the like, the combination with a supporting frame, a cushion supporting carriage mounted on one side thereof for vertical movement, a brush mounted for bodily movement along a horizontal line in advance of said carriage, means for advancing the brush at right angles to its line of movement and into brushing engagement with the cushion on the carriage, and means for raising and lowering the carriage thereby to cause the brush to engage the entire surface of the cushion facing the same.

38. In a machine for brushing car cushions and the like, the combination of a support including horizontally disposed means for supporting the cushion flatwise thereon, an elevating carriage slidably mounted for vertically reciprocatory movement on the support, a cushion support hinged to the carriage and adapted to support the cushion on one of its side edges, means for tilting said cushion support about its hinged connection to tilt the cushion towards said horizontally disposed support and brushing means disposed to brush the cushion when in both its flatwise position and when the cushion is on one of its side edges.

39. In a machine for brushing car cushions and the like, the combination of a support, a cushion elevating carriage slidably mounted thereon, a cushion support hinged to the carriage, brushing means disposed to brush the cushion carried by said cushion support and a stop adapted to be engaged by the cushion support as the carriage is elevated whereby the cushion is tilted away from a vertical position on the carriage as the carriage approaches the limit of its upward movement.

40. In a machine for brushing car cushions and the like, the combination of a support, a cushion elevating carriage slidably mounted thereon, a cushion support hinged to the carriage, brushing means disposed to brush the cushion carried by said cushion support and a stop adapted to be engaged by the cushion support as the carriage is elevated whereby the cushion is tilted away from a vertical position on the carriage as the carriage approaches the limit of its upward movement, and means for receiving and moving the cushion into a horizontal position as it is tilted off said cushion support.

41. In a machine for brushing car cushions and like flat articles having a plurality of side edges, the combination of means for holding the cushion flatwise in a horizontally extending position, means fashioned to engage under a side edge for holding the cushion in a vertically extending position, manually actuated means for moving the cushion from one of said positions to the other, and a single mechanically driven brush for brushing the cushion while in both of said positions.

42. In a machine for brushing car cushions and the like, the combination of means for holding the cushion flatwise in a horizontally extending position, means for holding the cushion edgewise in a vertically extending position, means for moving the cushion from one of said positions to the other, a brush for brushing the cushion while in both of said positions, and means engaging one of said holding means for moving the same relative to the brush and thus varying the position of the cushion carried thereby relative to the brush.

43. In a machine for brushing car cushions and the like, the combination of a support, a carriage for supporting the cushion on one of its side edges with the cushion extending vertically, a rotating brush movable bodily in a horizontal direction across the cushion, and means for raising and lowering the carriage thereby to cause the brush to traverse different bands of width across the surface of the cushion exposed to the brush.

44. In a machine for brushing car cushions and the like, the combination of a support, a turn table carried thereby and provided with means for receiving a cushion flatwise thereon, vertically shiftable means for supporting the cushion on one side edge while disposed

vertically and tilting means for moving the cushion off said turn table and onto said vertically shiftable means and travelling brushing means for engaging said cushion when either on said turn-table or when vertically disposed on said vertically shiftable means.

45. In a machine for brushing car cushions and the like, the combination of a brush mounted for rotary movement, means for advancing the brush bodily along a plane to engage the surface to be brushed, a cushion support, a tilting device including a pivotally mounted member adapted to be disposed under the cushion when flat on said support and movable into position to tilt the cushion towards the plane of bodily movement of said brushing means.

46. In a machine for brushing car cushions and the like, the combination of a brush mounted for rotary movement and movable bodily in a plane, means for supporting a cushion in position relative to said plane to have one surface brushed by said brushing means, and means for shifting said supporting means relative to said plane and into position to present a different surface of the cushion to the action of said brushing means.

Signed at New York, in the county of New York, and State of New York, this 30th day of August, A. D. 1926.

ELLSWORTH M. WILSON.