Aug. 19, 1924. 1,505.404

A. S. MITCHELL

SEAT PADDING MACHINE

Filed Aug. 23, 1923 2 Sheets-Sheet 1

FIG. 1

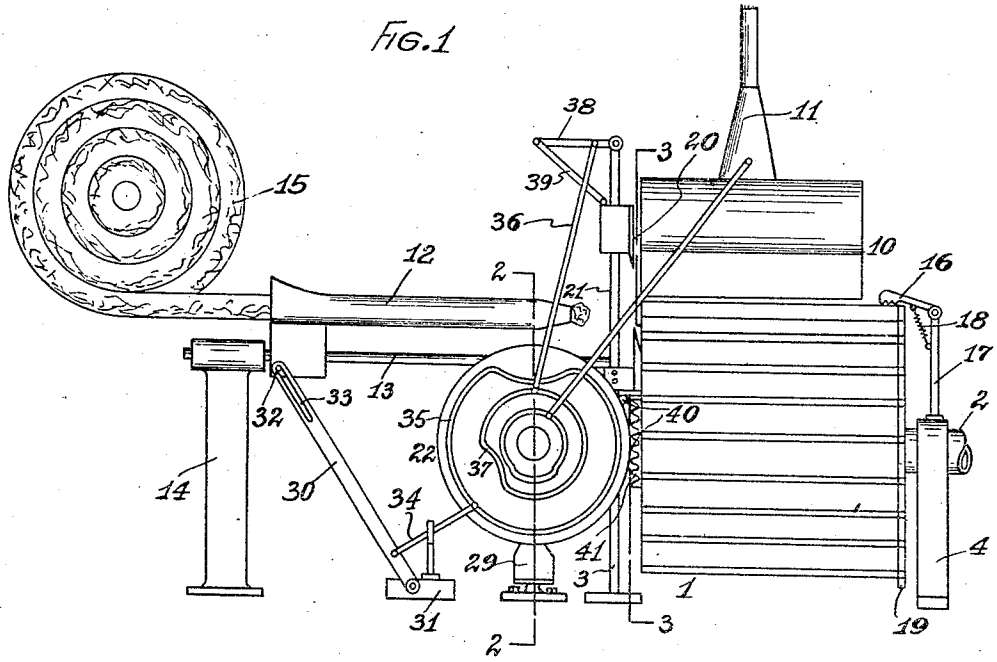
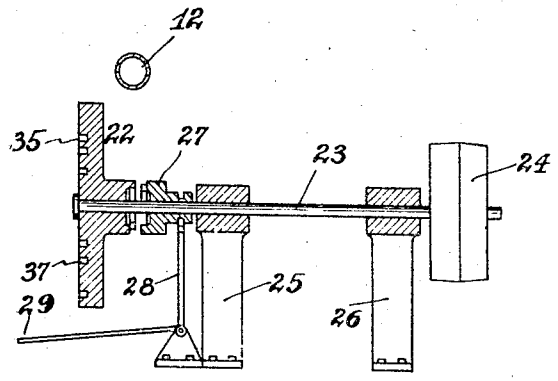


FIG. 2



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FIG. 3

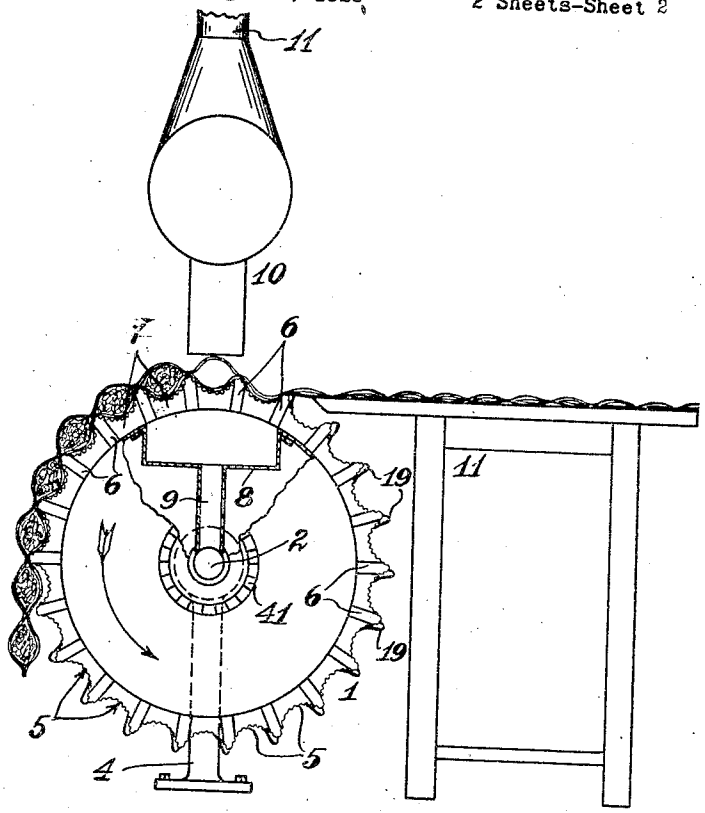
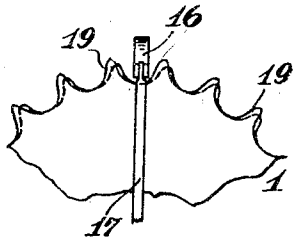


FIG. 4



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UNITED STATES PATENT OFFICE.

ALLISTER S. MITCHELL, OF OAKLAND, CALIFORNIA, ASSIGNOR TO CALIFORNIA COTTON MILLS, OF OAKLAND, CALIFORNIA, A CORPORATION OF CALIFORNIA.

SEAT-PADDING MACHINE.

Application filed August 23, 1923. Serial No. 658,933.

To all whom it may concern:

Be it known that I, ALLISTER S. MITCHELL, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Seat-Padding Machines, of which the following is a specification.

My invention is an improved padding machine, particularly applicable for placing the padding into the pockets of an automobile seat back or similar upholstery.

The object of my invention is to provide a machine which is simple in construction, and the operations of which can be readily watched by the operator and corrected if necessary.

Another object of my invention is to provide a machine which is efficient and rapid in operation. In the annexed drawing I have illustrated the preferred form of my invention, but it may also be embodied in other forms and in this application I desire to cover my invention in whatever form it may be embodied.

Figure 1 is a side elevation of my improved padding machine.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary end view of the drum.

Referring more particularly to the drawing my invention includes first a drum 1, which is journaled upon a hollow shaft 2—the shaft being supported on stands 3 and 4. The periphery of the drum 1 is formed of a wire screen in which a plurality of grooves 5 (arcuate in cross section) are formed. Slats 6 are arranged longitudinally in the drum 1 between each pair of the grooves 5 which serve to form chambers 7 under each groove and to reinforce the wire screen.

A housing 8 is positioned within the drum 1 at the top thereof, and extends under several of the chambers 7. This housing is supported on a pipe 9 which extends into the hollow shaft 2. The shaft 2 is attached to a suitable source of vacuum (not shown) through which shaft and pipe 9 the housing 8 is evacuated—the purpose of which will be described later.

A nozzle 10 is positioned above the drum 1, which is evacuated through a pipe 11 extending to a suitable source of vacuum.

An automobile seat back is formed of two strips of material which are sewed together at intervals to form the padding pockets.

The outer strip is formed of an impervious material such as leather while the inner strip is usually jute, muslin, or a similar material.

In operating my machine I propose to place the leather side downwards towards the drum 1, and the jute towards the nozzle 10. The back may be fed on to the drum 1 from a table 11 positioned adjacent said drum and substantially the same height. The grooves 5 are about the same size and configuration as the stuffed pockets of the back, consequently as the back is fed upon the drum the leather side will be drawn downwardly into the pockets by reason of the vacuum in the housing 8, and the more porous top piece of jute will be drawn upwardly against the nozzle 10, thus holding a pocket open for the reception of the padding.

A filling tube 12 is mounted in alignment with the top of the drum 1, and is reciprocally mounted upon a rod 13, which is supported on a standard 14 and on the drum supporting frame 3. The padding is formed in a continuous strip and is preferably rolled on a reel as shown at 15. This padding is threaded into the needle 12, and as said needle is moved forwardly into the seat pocket it carries the padding with it. When the tube 12 reaches the back of the pocket it passes under a finger 16 which is pivoted to a post 17, and is urged downwardly by a spring 18 secured thereto. Thus as the tube 12 passes under the finger 16, said finger will engage the padding which projects from the end of said tube and thus holds it within the pocket of the back when the tube is withdrawn. Cam teeth 19 are formed on the drum 1, which engage the finger 16 and raise it off of the padding when the drum is rotated.

After the tube 12 is withdrawn a knife 20 is caused to descend and cuts the padding in front of the tube. This knife is mounted upon a vertical rod 21, and the operation thereof will be subsequently described.

A cam wheel 22 is journaled upon a shaft 23 and extends at right angles to the axis

of the drum 1. The shaft is driven through a pulley 24, which is rotated by any suitable source of power, and is journaled in bearings 25 and 26. The wheel 22 is caused to rotate with the shaft 23 by a clutch 27 which is keyed to said shaft, and is operated through an arm 28 and foot pedal 29. A tube actuating arm 30 is pivoted to a block 31 on the floor, and a pin 32 in the tube 12 slides in a slot 33 in the end of said arm when it is swung. The arm is caused to swing by a link 34 pivoted thereto and which extends into a cam groove 35 in the wheel 22. This groove moves the link inwardly at the proper time which swings the arm 30 and moves the tube 12 into the pocket. The knife 20 is depressed by a link 36 which travels in a cam groove 37 in the wheel 22 and which is pivoted to an arm 38 pivoted to the rod 21. A link 39 extends from the knife 20 to the arm 38, thus causing the knife to lower when the arm is actuated.

The drum 1 is caused to rotate by a single tooth 40 on the periphery of the wheel 22, which engages teeth 41 in the face of the drum 1. At each revolution of the wheel 22, the drum 1 is moved forward a distance of one tooth 41, the tube 12 is moved forward and back and the knife 20 is raised and lowered.

Having described my invention, I claim:

1. A padding machine comprising a drum, vacuum means within said drum whereby the back to be padded is held on the drum a filling tube reciprocally mounted adjacent said drum, means to reciprocate said tube, and means to rotate said drum.

2. A padding machine comprising a drum, vacuum means within said drum whereby the back to be padded is held on the drum, a vacuum nozzle above said drum, adapted to assist in opening the padding back, a filling tube reciprocally mounted adjacent said drum, means to reciprocate said tube, and means to rotate said drum.

3. A padding machine comprising a drum, said drum having grooves formed thereon, means to separate the front and rear faces of the back to be padded, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube.

4. A padding machine comprising a drum, said drum having grooves formed thereon, means within and without the drum to separate the front and rear faces of the back to be padded, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube.

5. A padding machine comprising a drum, wire screen forming the periphery of said drum, grooves formed in said wire screen, vacuum means within said drum, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding, and means to reciprocate said tube.

6. A padding machine comprising a drum, said drum having grooves formed thereon, vacuum means within said drum, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube, and means to rotate said drum when the tube has been reciprocated.

7. A padding machine comprising a drum, said drum having grooves formed thereon, vacuum means within said drum, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube, and means to rotate said drum, when the tube has been reciprocated, a finger mounted at the rear of said drum under which said tube is adapted to pass and spring means to urge said finger downwardly.

8. A padding machine comprising a drum, said drum having grooves formed thereon, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube, and automatic means to rotate said drum when the tube has been reciprocated, a finger mounted at the rear of said drum under which said tube is adapted to pass and spring means to urge said finger downwardly, cam teeth formed on said drum and adapted to raise said finger as the drum is rotated.

9. A padding machine comprising a drum adapted to carry on article having pleats, a filling tube reciprocally mounted adjacent said drum, means to reciprocate said tube into and out of said pleats and means to rotate said drum.

10. A padding machine comprising a drum adapted to carry an article having pleats, said drum having grooves formed thereon in which said pleats are nested, a tube reciprocally mounted adjacent said drum, said tube being adapted to carry the padding and means to reciprocate said tube into and out of said pleats.

11. A padding machine comprising a drum adapted to carry an article having pleats, a filling tube reciprocally mounted adjacent said drum, means to periodically reciprocate said tube into and out of said pleats and means to rotate said drum before each forward movement of said tube.

12. A padding machine comprising a drum adapted to carry an article having pleats, said drum having grooves formed thereon in which said pleats are nested, a filling tube mounted adjacent said drum, means to periodically reciprocate said tube into and out of said pleats and means to rotate said drum so as to bring an unfilled pleat into alignment with said tube.

13. A padding machine comprising a drum adapted to carry an article having pleats, a filling tube mounted adjacent said drum, means to reciprocate said tube parallel to the axis of said drum and means to rotate said drum.

14. A padding machine comprising a drum adapted to carry an article having pleats, wire screen forming the periphery of said drum, means within the drum to draw the lower side of said pleats against said screen, a tube mounted adjacent the periphery of said drum, said tube being adapted to carry the padding and means to reciprocate said tube into and out of said pleats.

15. In a padding machine, a drum, a wire screen forming the periphery of said drum, and means within the drum to draw the lower side of the article being padded against said screen.

16. In a padding machine, a drum, a wire screen forming the periphery of said drum, said drum having grooves formed therein, and means within the drum to draw the lower side of the article being padded against the wire screen and into the grooves.

17. A padding machine comprising a drum adapted to carry a pleated article on the periphery thereof, a tube adapted to reciprocate into and out of the pleats of said article, and means whereby the article is held on the drum while the tube is being withdrawn from the pleat.

18. A padding machine comprising a drum adapted to carry an article having pleats, a tube mounted adjacent said drum, said tube being adapted to carry the padding, means to reciprocate said tube into and out of said pleats, means to rotate said drum when the tube has been reciprocated, a finger mounted at the rear of said drum, means to urge said finger downwardly as the tube is reciprocated so as to hold the padding and means to raise said finger as the drum is rotated.

19. A padding machine comprising a drum adapted to carry an article having pleats, said drum having grooves formed therein in which said pleats are nested, a tube mounted adjacent said drum, said tube being adapted to carry the padding, means to reciprocate said tube into and out of said pleats, means to rotate said drum when the tube has been reciprocated, a finger mounted at the rear of said drum, means to urge said finger downwardly as the tube is reciprocated so as to hold the padding and means to raise said finger as the drum is rotated.

20. A padding machine comprising a drum adapted to carry an article having pleats, said drum having grooves formed therein in which said pleats are nested, a tube mounted adjacent said drum, said tube being adapted to carry the padding, means to reciprocate said tube into and out of said pleats, automatic means to rotate said drum when the tube has been reciprocated, a finger mounted at the rear of said drum, means to urge said finger downwardly as the tube is reciprocated so as to hold the padding and means to raise said finger as the drum is rotated.

In testimony whereof I affix my signature.

ALLISTER S. MITCHELL.