

(No Model.)

2 Sheets—Sheet 1.

# G. K. BAGBY. TUFTING MACHINE.

No. 549,840.

Patented Nov. 12, 1895.

Fig. 1.

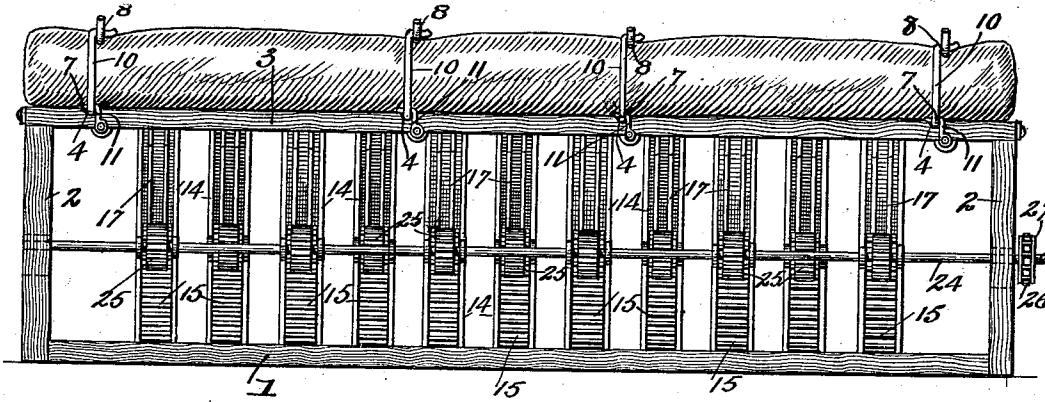


Fig. 2.

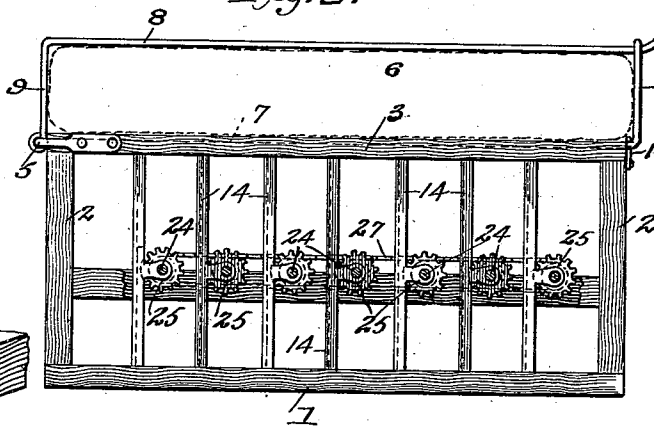


Fig. 4.

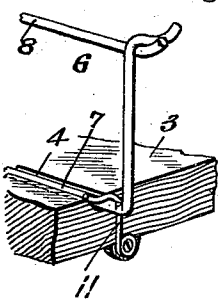


Fig. 5.

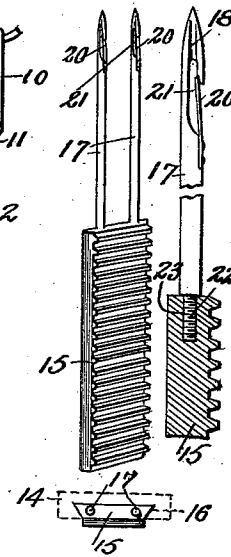
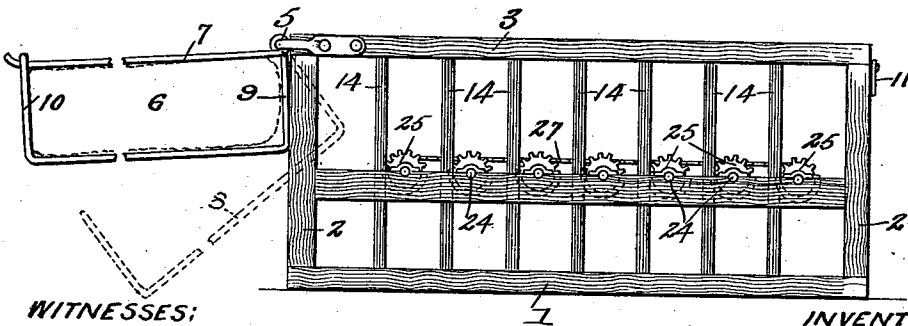


Fig. 3.



WITNESSES:

Harry D. Fisher.  
Fred J. Blair

INVENTOR.

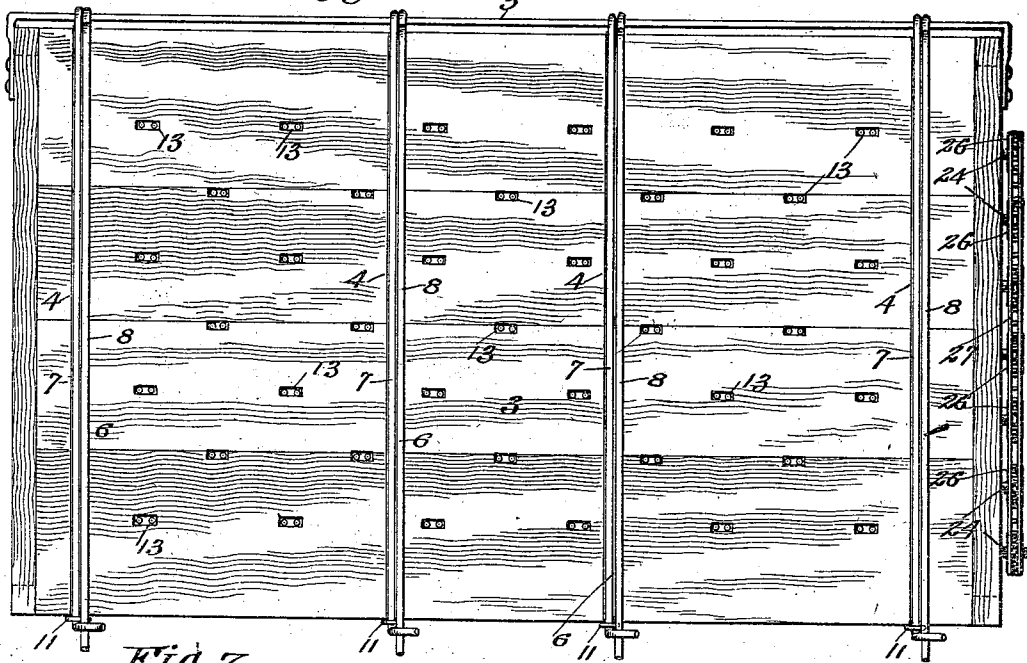
G. K. Bagby

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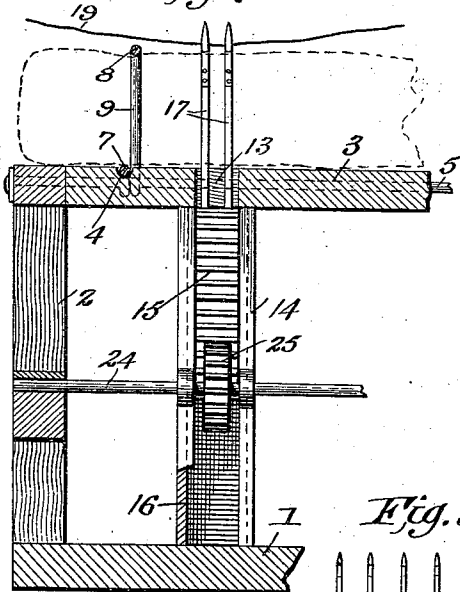
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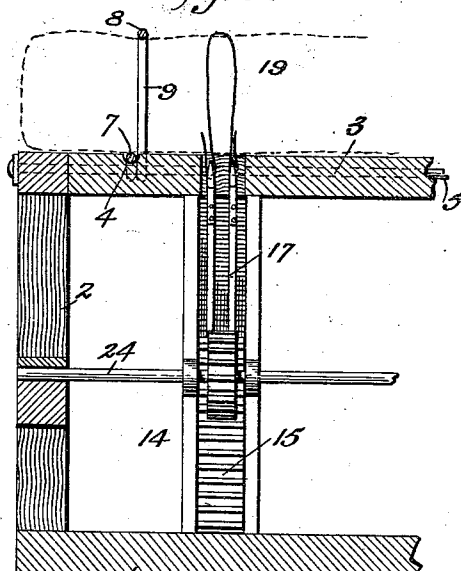
*Fig. 6.*



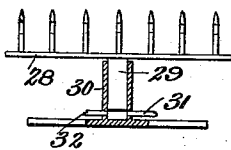
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



WITNESSES:

*Herbert Bradley*  
*Fred J. Blair*

INVENTOR.

*George K. Bagby*

# UNITED STATES PATENT OFFICE.

GEORGE K. BAGBY, OF NEWBERNE, NORTH CAROLINA.

## TUFTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 549,840, dated November 12, 1895.

Application filed January 10, 1895. Serial No. 534,448. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE K. BAGBY, a citizen of the United States, residing at Newberne, in the county of Craven and State of North Carolina, have invented certain new and useful Improvements in Tufting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a machine for tufting mattresses, comforts, &c., and has for its objects to provide a simple and efficient apparatus adapted to hold a mattress or other article in convenient position for forcing the tufting-needles therethrough; furthermore, to provide means for supporting a mattress whereby either side thereof may be exposed to facilitate the arrangement of the tufts or buttons, and, furthermore, to provide means whereby all of the tufting-needles are operated simultaneously.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of my improved tufting-machine. Fig. 2 is an end view of same. Fig. 3 is also an end view showing the clamp thrown back. Fig. 4 is a detail perspective view of the means for locking said clamp. Fig. 5 shows in detail the needles. Fig. 6 is a plan view of my machine. Fig. 7 is a detail view showing the needles in their raised position and the tufting-cord inserted. Fig. 8 is a similar view showing the needles in their lower position and the cord drawn through the mattress, and Fig. 9 is a diagrammatic view of the apparatus in which steam or other power may be used to operate the needles.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The frame of the machine illustrated in the drawings comprises a base 1, uprights 2, and a table 3, the upper surface of the table being transversely grooved, as shown at 4, and a pivot-rod 5 being arranged near one side edge of the table, close to the plane of its up-

per surface, to support the transversely-disposed clamps 6. Said clamps comprise a lower jaw 7, which is fulcrumed upon the pivot-rod and which normally lies in a groove 4 in the table, and an upper jaw 8, which is constructed with an elbow or offset 9, and is fulcrumed upon the pivot-rod adjacent to the lower jaw. The lower jaw is provided at its front end with an upturned hook 10 to engage the adjacent end of the upper jaw, whereby said parts are held in position, as shown in Fig. 1, and the lower jaw is secured in the grooves provided in the surface of the table by means of small catches 11, pivoted to the front edge of the table. Any desired number of these clamps may be used, according to the size of the mattress; but in the drawings I have shown four.

The table is provided at intervals corresponding with the intervals between the tufts with longitudinally-disposed slots 13, and arranged in alignment with each of said slots is a guide 14, in which is mounted a rack-bar 15. The rack-bar may be dovetailed in cross-section, as shown in the drawings, to fit in a corresponding dovetailed groove 16 in the guide, and attached to the upper end of each of the rack-bars is a pair of tufting-needles 17, both of which are adapted to pass through the slot in the table in alignment with which the guide is arranged. The tufting-needle which I have shown in connection with the improved apparatus is provided adjacent to its point with lateral grooves 18, in which the tufting-cord 19 is adapted to lie, and a spring-tongue 20 is arranged to close the eye 21 to hold the tufting-cord in engagement with the needle. The needles are provided at their lower ends with reduced portions or stems 22 to fit the sockets 23 in the upper ends of the rack-bars.

Parallel with each row of rack-bars is a longitudinal shaft 24, carrying a series of gears 25 to mesh with the rack-bars, the ends of said shafts being provided with chain-wheels 26, connected by a chain 27 and adapted to be operated by a crank-wheel. (Not shown).

Other means for operating the gears may be employed; but the arrangement which I have shown in the drawings is simple and efficient, and by such an arrangement all of

the needles may be raised simultaneously to penetrate the mattress.

In Fig. 7 I have shown the needles in their upper position provided with the tufting-cords, which are to be passed through the mattress, the latter being secured upon the table by means of the clamps hereinbefore described. When the machine is operated to lower the needles, they pass downwardly through the mattress, carrying the ends of the tufting-cords to the lower surface thereof, after which said free ends of the cords may be tied, the tufts or buttons being inserted as in the ordinary practice. By disengaging the small catches from the lower jaws of the clamps the entire mattress with the clamps may be swung back to expose the under surface of the mattress, as shown in Fig. 3. This is designed to facilitate the arrangement of the tufts or buttons in the loops at the under surface of the mattress.

In Fig. 9 I have shown a slightly-modified form of the construction, in which, instead of rack-bars and gears for manipulating the needles, I employ a plate 28, to which all of the needles are secured, a piston 29 depending from said plate and fitting in a cylinder 30, which is arranged in a vertical position upon the base of the frame, said cylinder being provided with an inlet-port 31 and an exhaust-port 32. The piston, with the needle-plate, is elevated by the admission of any suitable fluid to the cylinder, and to lower said plate the cylinder is exhausted by the means provided for that purpose.

By the use of the above-described apparatus the operation of tufting a mattress or comfort is simplified and expedited, all of the tufting-needles being passed through the article simultaneously, and thereby uniformity of tension in the tufting-cords may be attained.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, I claim—

1. The combination with a table provided

with suitable apertures for the passage of tufting-needles, of a series of needles working in said apertures, and a series of mattress clamps all pivoted or hinged at one end upon the same axial line; whereby a mattress held by said clamps may have either side brought uppermost by swinging it about said axial line.

2. The combination with a table provided with apertures for the passage of tufting-needles and with parallel grooves in its upper surface, of a series of mattress clamps consisting of pairs of openable jaws, of which the lower ones lie in said grooves, respectively, a series of needles arranged to reciprocate in said apertures, and means for detachably locking together the jaws of each pair.

3. The combination with the table provided with suitable needle apertures and with clamp receiving grooves in its upper surface, of a series of clamping jaws all pivoted at one end in the same axial line and each pair having its lower member lying in one of said grooves, of a series of needles arranged in line, respectively, with said apertures, and means for imparting a reciprocatory movement to said needles.

4. The combination with the table provided with rows of apertures and having in its upper surface transverse, parallel grooves passing between said apertures, of a rod fixed along one edge of the table, detachably-locking pairs of mattress-clamping jaws pivoted upon said rod with each lower member detachably secured in a corresponding groove, guideways fixed below the table in line, respectively, with the apertures therein, racks sliding in said guideways, needles fixed in the ends of said racks, gears meshing, respectively with said racks, and means for simultaneously rotating the gears in either direction.

In testimony whereof I do hereby affix my signature in presence of two witnesses.

GEORGE K. BAGBY.

Witnesses:

HARRY S. ROHRER,

FRED J. BLAIR.