

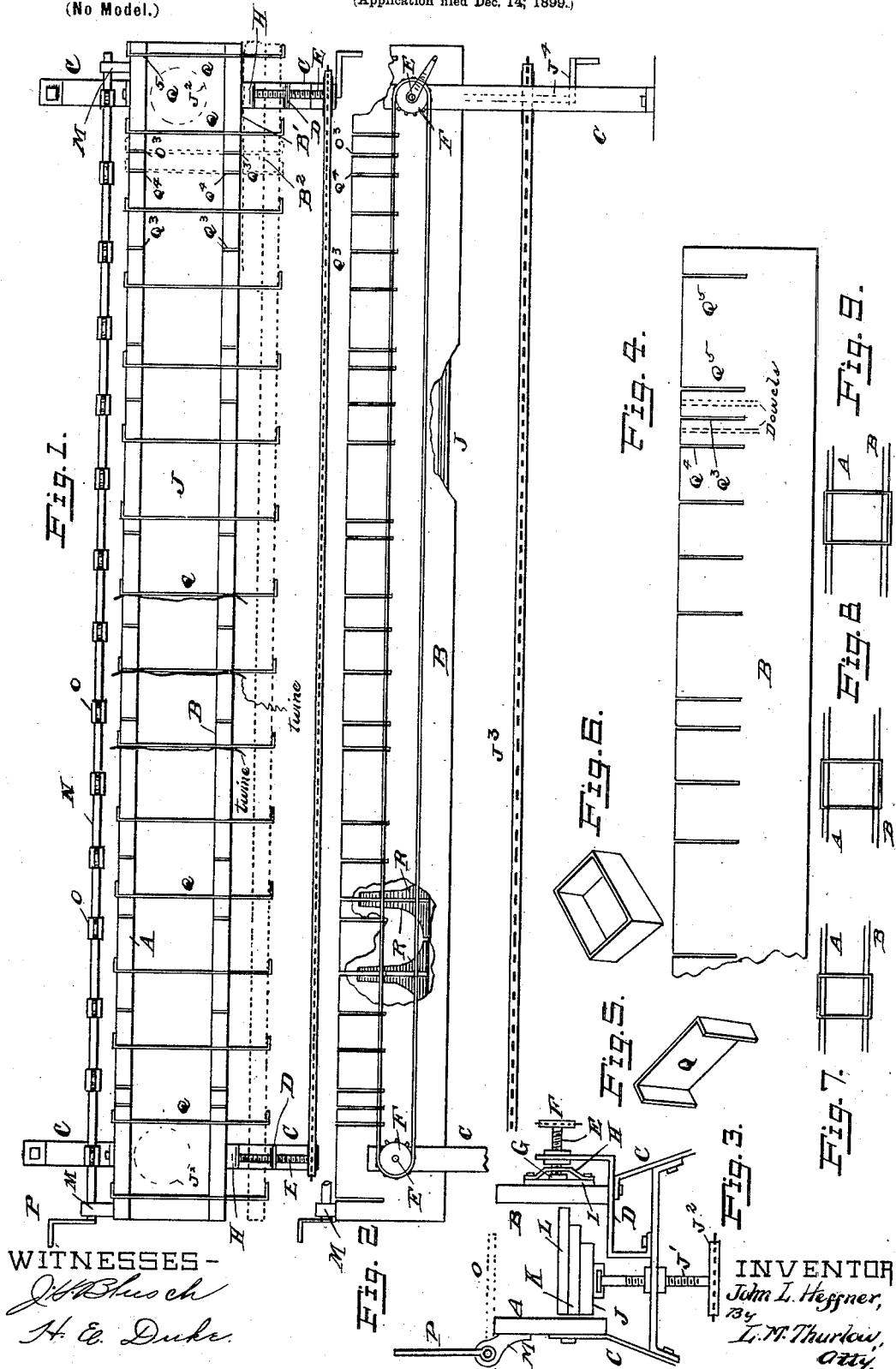
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Patented June 18, 1901.

J. L. HEFFNER.
UPHOLSTERY APPARATUS.

(Application filed Dec. 14, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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UPHOLSTERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 676,794, dated June 18, 1901.

Application filed December 14, 1899. Serial No. 740,364. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. HEFFNER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Upholstering Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to upholstering-machines for use in forming tufting for lounges, chairs, and like articles.

The object of this invention is to furnish a machine for forming tufting that can be readily adapted for any depth or width, whereby the size of the tufting may be varied at will.

In the appended drawings, Figure 1 is a plan view of the machine. Fig. 2 is a side elevation thereof. Fig. 3 is an end view. Fig. 4 is a side view of a portion of the apparatus, showing a series of slots. Fig. 5 is a perspective view of a removable partition. Fig. 6 is also a perspective view of a double partition in the form of a square. Fig. 7 is a plan view of the said double partition applied to the machine. Fig. 8 is the same, but of larger size. Fig. 9 is a still larger size of the same portion.

A and B indicate the sides of the body, mold, or former, mounted on suitable standards C C. The side A, as shown in Fig. 3, is stationary, being attached to the said standard C, while B is adapted to move horizontally on edge upon a horizontal bracket D, attached in suitable manner to the standards C C. The said bracket has a vertical arm, carrying a thread-bar, to whose outer end is secured a sprocket-wheel F. The inner end of the bar is provided with a head G, inclosed by a yoke H. A plate I on the side B receives the wear of said head as well as the yoke. The vertical arm of the bracket D is threaded to correspond with the thread-bar, and in consequence a rotary motion imparted to said bar will move the side B toward or away from the side A, depending, of course, on the direction of rotation of such bar. One of these attachments is located at each end of the apparatus, as shown in the figures, and a sprocket-chain runs over both sprocket-wheels. A crank on one of the said sprockets serves to

operate both thread-bars alike, whereby the adjustable side is carried back and forth parallel with the side A at all times.

I do not employ a stationary bottom for my improved upholstering-machine, but employ instead an adjustable bottom, (shown at J,) which is moved vertically by thread-bars J' and sprockets J², driven by a sprocket-chain J³, to which is imparted motion by a crank J⁴ on one of the said sprockets. A movement of said crank in one direction or the other will raise or lower the bottom, whereby the desired depth of the mold may be obtained.

Secured to the stationary side A is a pair of brackets M, carrying a rock-shaft N, upon which I secure a number of fingers O, said fingers being adjustable on the shaft, for reasons which will presently appear, and adapted to be raised and lowered by means of a crank P on the said shaft.

In the side of the body or mold I cut a number of slots, substantially as shown in the figures. I employ also a number of partitions Q, which I have shown arranged at regular intervals in the said slots. These partitions are formed as shown in Fig. 5, although their exact construction is not a matter of great importance, as I may use other forms thereof instead—for instance, as shown in Figs. 6, 7, 8, and 9, in which appears a double partition of rectangular form. The slots are arranged in peculiar manner, and the purpose of such arrangement is to simplify construction. To make this clearer, it may be said that I arrange the slots so that certain of them register with those used for larger or smaller sized spaces in such a way that fewer are required.

The means for varying the size of the tufts will be evident from the following: At the right end of the machine as viewed on the drawings a partition Q is placed in its slot Q⁵, and four inches from that is placed a second partition, followed by a third, and so on at regular intervals. When so placed, the sides are separated in order to make the space between them correspond with the distance between the partitions. This forms a square compartment to be used when forming a square tuft. However, such compartments may be oblong in form, if desired. This may be accomplished by increasing the distance

between the sides, while the partitions remain in the position shown. By increasing the distance between the partitions and letting the sides remain in the position shown the compartment will be longer in the other direction. An increase in the size may be had by moving the partitions to the left from that shown and placing them in the slots Q^3 , as indicated in dotted lines, and in order to make a square compartment the side B is moved outward by the thread-bars to the position indicated by dotted lines B' . If a still larger size is wanted, it may be obtained by moving the partitions to the slots Q^4 and moving the side B to the position indicated by B^2 in dotted lines. These partitions may be replaced by the rectangular form shown in Fig. 6, which will replace two of such partitions, and these may be made of different sizes, to be used as in Figs. 7, 8, and 9. In these figures the sides are separated the desired distance, and the said rectangular portions are of a size sufficient to just form a square compartment. The adjustable bottom J is made narrow or of a width that will just fill the space between the sides when the latter are closed. When separated, false bottoms K and L may be used. To make this more clear, if we suppose the bottom J to be four inches in width and it is desired to make the tufting five inches in width the side B is moved outward and a loose bottom K, five inches in width, is placed upon the bottom J. By the same rule we make a six-inch tufting or wider ones by employing a larger portion L. In Fig. 3 I show the various sizes of the bottoms. However, I do not confine myself to any particular width of the bottom in the construction thereof, but merely illustrate in the figure one way of accomplishing the desired end. By means of the crank J^4 the bottom may be raised and lowered to the distance required to obtain the proper depth of the mold for thickness of tuft wanted. Within the several compartments formed by the partition upon the bottom may be placed shaping-blocks R, as shown in Fig. 2. These aid in the work of making tufting, but are not new, and I attach no claim thereto. I make the fingers O adjustable on the shaft N, so that they can be shifted to the proper position between the partitions wherever the latter may chance to be placed.

In making tufting with this apparatus the side B is given the position wanted for the width of tuft to be made, the bottom is raised or lowered to give the depth desired, the partitions are placed in their slots the required distance apart, and the machine is ready for work after placing a length of string or other tying medium upon the bottom against the partition within the slots, the latter being made of a size to easily admit both the strings and the partitions. Although the method of using devices of this nature is well known, I will describe the same here, so that all may be clearly understood. A length of

burlap of suitable width is laid upon the partitions and pushed down between them upon the bottom, and this is followed by a filling of hair, moss, excelsior, or other suitable material, and upon this is laid a strip of suitable fabric to finish. The fingers O are lowered by means of the crank P to the position shown in dotted lines in Fig. 3. In this position the fingers press upon the tufting and hold it in place while the tying of the strings is undergone.

I do not confine myself to the construction shown in any of the figures; but I wish to make plain the main points that I wish to claim for myself. These consist in the use of an adjustable side for varying the width of the tufting, the adjustable bottom for changing the depth of the mold to form varying thickness of the tufting, the use of the slots for containing the tying medium, and the removable partitions. I may substitute a screw for each of the thread-bars E, and thus simplify and cheapen construction. I may do the same with the thread-bars J' for moving the bottom. It is not absolutely necessary to use the false bottom portions K and L, as the bottom J will serve every purpose. Tightly-stretched cords passing through the slots in the sides may be employed in place of the partitions, if desired, and they will fill every need.

It will be seen that in my apparatus any size of tufting may be easily and quickly made and of any form and thickness as well. The fingers O need not necessarily be used, as pressure of the hand upon the tufting being tied will answer in the same capacity, or by laying a weight upon the material the same result will obtain.

In Fig. 4 I have shown in dotted lines dowel-pins which when the sides A and B are made of wood prevent the breaking of the tongues created by the slots. The depth of the slots is not important, as these may run the full depth of the side or only a portion thereof, as desired.

I claim—

1. An upholstering-machine comprising a stationary side, an adjustable side for varying the width, for the purpose set forth, there being slots in the sides, removable and adjustable partitions in the slots for dividing the tufting and a bottom adjustable for height for varying the thickness of the tufting, substantially as set forth.

2. An upholstering-machine comprising the stationary and the movable side, there being slots in the side, partitions within the slots said partitions being adjustable therein and adapted for withdrawal therefrom, an adjustable bottom, and a series of fingers adapted to bear upon the tufting being formed between the partitions substantially as set forth.

3. In an upholstering-machine the combination of a stationary side, a movable side, the movable bottom adapted to rise and fall for the purpose of changing the depth of the apparatus, there being a series of vertical

slots Q⁵ in the sides, a second series of similar slots Q³, a series of slots Q⁴ arranged substantially as set forth and described and a series of movable partitions adapted to be arranged at equal distances apart within the series of slots for the purposes set forth.

4. In an upholstering-machine the combination of a fixed side a movable side for changing the width of the apparatus, a thread-bar E at each end of the machine for shifting the said movable side, a sprocket-wheel on each of the said thread-bars, a sprocket-chain adapted to run over the sprockets, a crank for operating the thread-bars, the movable bottom, a thread-bar at each end thereof, a sprocket on each of said bars, a sprocket-chain on the sprockets and a crank for moving the same, a series of removable and adjustable partitions, a rock-shaft at one side of the machine, a series of fingers secured thereto and adapted to be lowered upon the top of each compartment formed by the said partitions substantially as set forth.

5. In an upholstering-machine the combination of a stationary and a movable side, the movable bottom, means for shifting the said side and bottom which consists of a thread-bar at each end thereof, a sprocket-wheel on each thread-bar a sprocket-chain for each series of sprockets, a rock-shaft at the side of the machine adjustable fingers thereon, there being a series of slots Q³, a series of slots Q³, and a series of slots Q⁴ in the sides of the machine and partitions adapted to be seated in such slots at regular distances apart to form

the compartments for containing the tufting all arranged substantially as set forth.

6. In an upholstering-machine the combination of a stationary and a movable side, the movable bottom, means for shifting the said side and bottom which consists of a thread-bar at each end thereof, a sprocket-wheel on each thread-bar, a sprocket-chain for each series of sprockets, a rock-shaft at one side of the machine, adjustable fingers thereon, there being a series of slots Q⁵, a series of slots Q³, and a series of slots Q⁴ in the side of the machine partitions adapted to be seated in such slots at regular distances apart to form compartments for containing tufting, and a series of shaping-blocks seated on the said adjustable bottom between the partitions substantially as set forth and described.

7. In an upholstering-machine a mold or former comprising a fixed and an adjustable side, means for moving the said adjustable side, an adjustable bottom adapted to be raised and lowered between the sides, means for moving said bottom, and a series of partitions held in the sides to form a series of tufting-compartments, said partitions being of sufficient length to accommodate the greatest outward limit of the said adjustable side.

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

JOHN L. HEFFNER.

Witnesses:

J. E. WALKER,
ARTHUR KEITHLEY.