

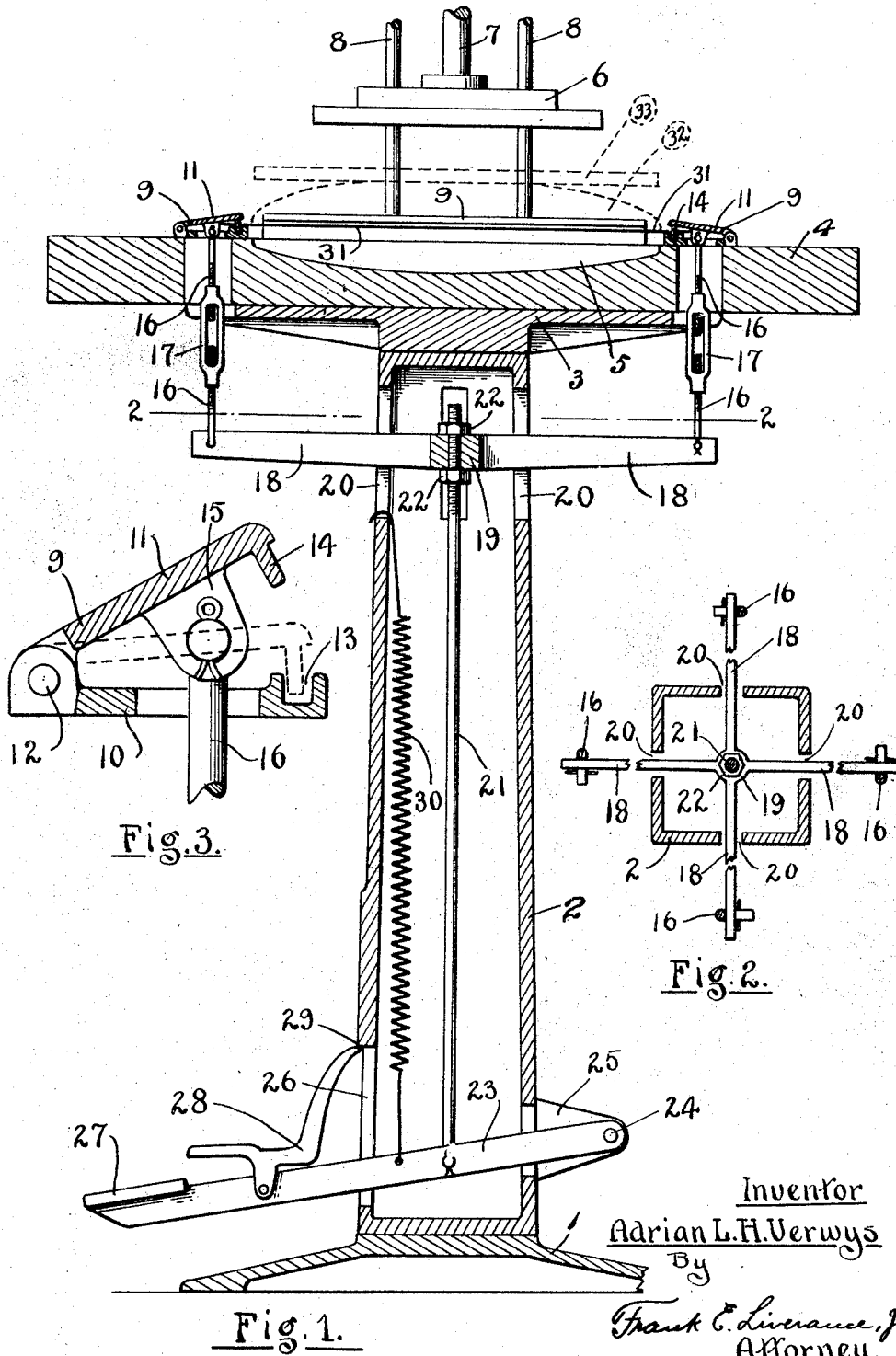
July 21, 1925.

1,546,689

A. L. H. VERWYS
UPHOLSTERING MACHINE

Filed Sept. 17, 1923

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

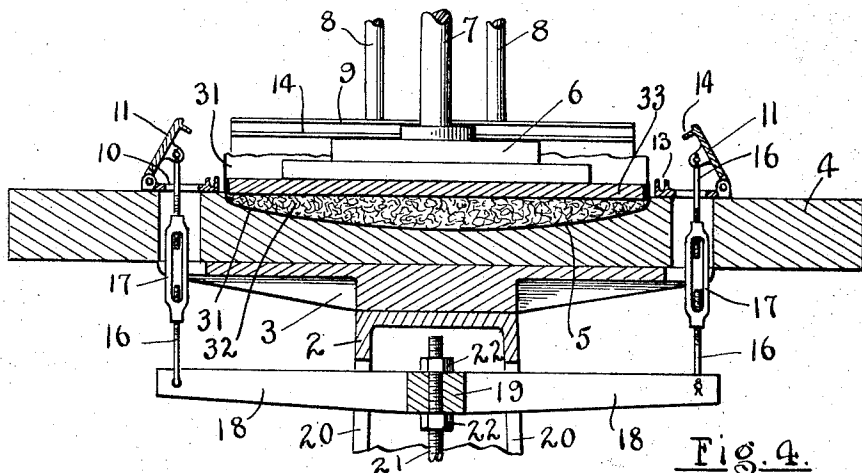


Fig. 4.

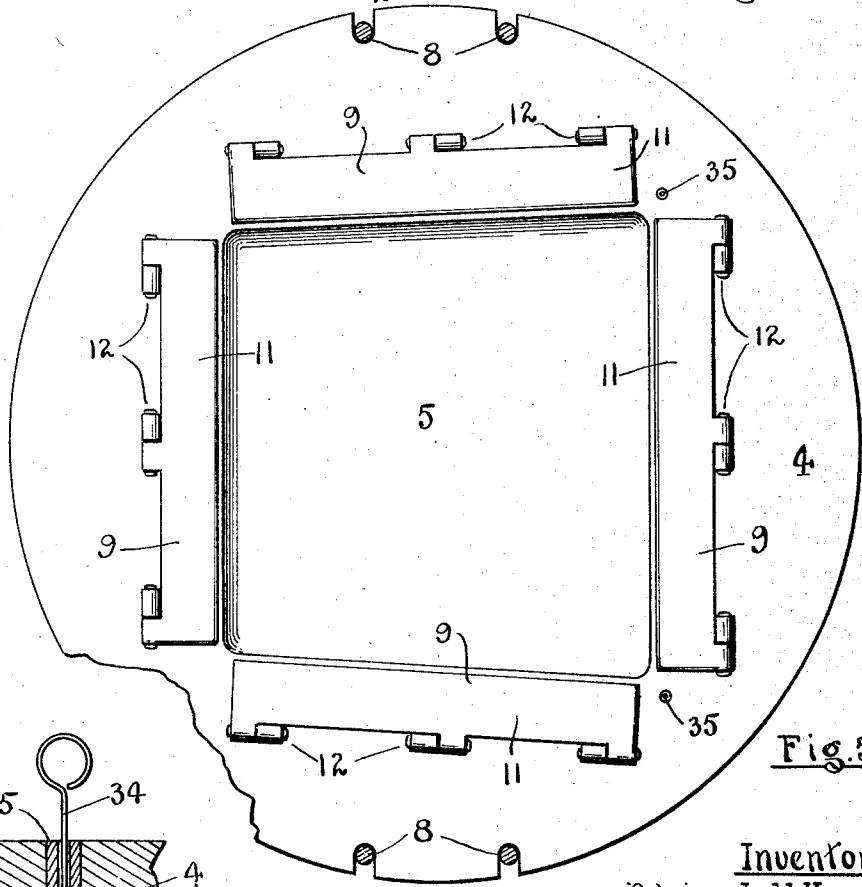


Fig. 5.

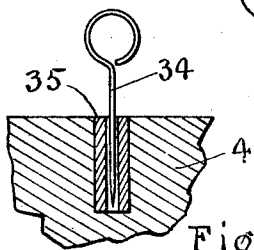


Fig. 6.

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UNITED STATES PATENT OFFICE.

ADRIAN L. H. VERWYS, OF GRAND RAPIDS, MICHIGAN.

UPHOLSTERING MACHINE.

Application filed September 17, 1923. Serial No. 663,167.

To all whom it may concern:

Be it known that I, ADRIAN L. H. VERWYS, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Upholstering 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.

This invention relates to improvements in upholstering machines and more particularly to such machines used in upholstering chair seats and the like, such as the machine shown in United States Patent No. 1,314,430 issued August 26th, 1919.

The particular object of this invention is to provide an efficient, convenient and effective means for stretching the covering material over a mold so that it will be drawn tightly over the padding and seat board to which it is fastened. The clamping and stretching devices are adapted to be operated by a foot lever in a convenient manner and are provided with adjustable members whereby the proper tension may be had on the covering material. The device is provided with various novel features of construction and arrangement as hereinafter more fully described and particularly pointed out in the claims, reference to be had to the accompanying drawings in which:

Fig. 1 is a sectional elevation taken substantially through the middle of a device embodying this invention, with the upper portion broken away.

Fig. 2 is a sectional plan with parts broken away, on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged transverse section of one of the clamping devices.

Fig. 4 is a sectional elevation of the upper portion of the device showing the clamping members released from the covering material and the covering material and padding forced into the mold.

Fig. 5 is a plan view with a portion broken away, of the mold and clamping devices and

Fig. 6 is an enlarged fragmentary section showing in detail one of the holding pins.

Like numbers refer to like parts in all of the figures.

1 represents the base of a pedestal 2 upon the upper end of which is a saddle 3 which supports the mold 4. The mold 4 has a

depression 5 in its upper surface corresponding to the shape desired for the upholstered surface of the seat and into which the covering material and padding are forced by a plunger 6 on a rod 7 which is actuated by any suitable means, preferably such means as are shown in the above mentioned patent. Vertical rods 8 support the plunger operating mechanism above the mold, this mechanism not being shown in the drawings as it forms no part of the present invention.

Near each edge of the depression 5 on the mold 4 is located a clamping member 9 which comprises a fixed plate 10 and a hinged plate 11, the two members preferably being hinged to each other as at 12. The fixed plate 10 has a groove 13 extending parallel with and near one of its edges in the upper surface thereof and the hinged plate 11 has a corresponding tongue 14 somewhat narrower than the groove 13 and adapted to enter same.

Each of the hinged plates 11 is provided near its center with an ear 15 to which is attached a rod 16 which is divided and joined by a turn buckle 17 whereby its length may be adjusted. The lower ends of each of the rods 16 are attached to arms 18 radiating from a hub 19, said hub being within the hollow pedestal 2, and the arms 18 extending through vertical slots 20 in the sides of the pedestal. The rod 21 passes through the hub 19 and is provided with nuts 22 screwed onto its upper end which is threaded and by which it is adjustably fastened to the hub 19. The rod 21 extends downward through the pedestal and is connected at its lower end with the foot lever 23 which is pivoted at 24 to extensions 25 on the pedestal and extends through a slot 26 and terminates in a pedal 27. A latch 28 adapted to be operated with the foot catches under a ledge 29 to retain the lever in depressed position, and a spring 30 fastened to the lever and also to the pedestal yieldably raises the lever upward when the latch 28 is released.

31 represents the covering material, 32 the padding and 33 the seat board which is to be upholstered. The object of this device is to stretch the covering material 31 tightly over the depression 5 and the mold 4 so that when the padding 32 is spread above it and the inverted seat board 33 placed upon the padding and the plunger 6 brought forcibly down upon the seat board to force the

covering material and padding into the depression 5 so that they will take the proper shape, the covering material will be tightly stretched in all directions, leaving no wrinkles or looseness in its surface. In order to accomplish this the hinged plates 11 are raised by releasing the latch 28 and allowing the lever 23 to rise and the covering material previously cut to approximate shape is laid over the depression 5 with its edges between the jaws of the clamping members and to aid in locating and holding it in place until the clamping members are brought down upon it, the holding pins 34 are provided which fit into bushings 35 placed in the mold, near each end of one of the clamping members. By piercing the covering material with the pins 34 which are inserted in the bushings 35, one edge of the covering material is temporarily held in place and the operator grasps the other edge with his fingers and stretches it evenly across the depression and then by depressing the lever 23 the clamping members are brought into engagement with each of the respective edges of the covering material and the tongue 14 of each clamp by forcing the covering material into the groove 13 stretches it tightly across the depression and holds it securely in place.

To attain the greatest stretching effect it is desirable to have the tongue 14 enter the groove 13 near its rear edge or the edge farthest away from the depression 5, there being only sufficient space between the tongue and the side of the groove to tightly receive the covering material. By this arrangement the covering material is gripped tightly at the rear edge of the groove as the tongue descends, and as the tongue lowers into the groove the material is drawn into the clamp over the forward edge of the groove.

After the covering material has been stretched over the depression 5 in the mold the padding 32 is distributed above it and the seat board 33 placed on top of the padding the plunger 6 is brought down upon the seat board forcing the covering material and padding into the depression 5 as shown in Fig. 4. The covering material will be still farther stretched during this operation and if necessary will slip through the clamping jaws to allow it to be forced into the depression. While plunger 6 is pressing the seat board downward and holding the padding and covering material firmly into the depression, the clamps are released and the edges of the covering material folded over upon the seat board and tacked down, whereupon the plunger 6 is raised and the upholstered seat removed.

I claim:

1. The combination with an upholstering

machine having a mold with a depression therein, of a plurality of clamping devices arranged near the edges of said depression, each clamping device comprising a fixed plate having a groove therein and a hinged plate having a tongue to enter said groove in the fixed plate and means for closing the clamping devices upon the covering material.

2. An upholstering machine comprising a pedestal, a mold having a depression in its horizontal surface mounted on top of the pedestal, a plurality of clamping devices located on the top surface of the mold adjacent the edges of the depression therein, a lever pivoted near the bottom of the pedestal, a latch on the lever to retain it in depressed position, a rod extending upward from the lever, arms radiating from the upper end of said rod and connecting links connecting each of said arms with the movable members with each of the said clamping devices.

3. An upholstering machine comprising a hollow pedestal, a mold having a depression in its upper surface located on the upper end of the pedestal, a plurality of clamping devices each comprising a fixed member and a hinged member located adjacent the edges of said depression, an adjustable connecting link extending downward from each hinged member of each clamping device, a plurality of radially extending arms each connected at its outer end with the lower end of one of the adjustable connecting links, a rod extending vertically within the hollow pedestal and adjustably connected at its upper end with all of said radially extending arms, a lever pivoted near the lower end of the pedestal and connected to the lower end of said rod on a spring attached to the lever to yieldably raise the same, and a latch on the lever to retain it in depressed position.

4. In combination with a machine of the class described, a clamp having a fixed plate with a groove extending parallel with one of its edges, a movable plate hinged to the fixed plate at the edge opposite the groove therein and a tongue on the hinged plate narrower than the groove.

5. In combination with a machine of the class described, a clamp comprising a fixed plate having a groove parallel with one of its edges, a movable plate hinged to the fixed plate at the edge opposite the groove therein and a tongue on the movable plate narrower than the groove in the fixed plate and adapted to enter said groove nearer the side which is closest to the hinged connection.

In testimony whereof I affix my signature.

ADRIAN L. H. VERWYS.