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PATENTED AUG. 25, 1903.

W. H. HOBBY.

MACHINE FOR MAKING SADDLE SEATS FOR CHAIRS.

APPLICATION FILED FEB. 27, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

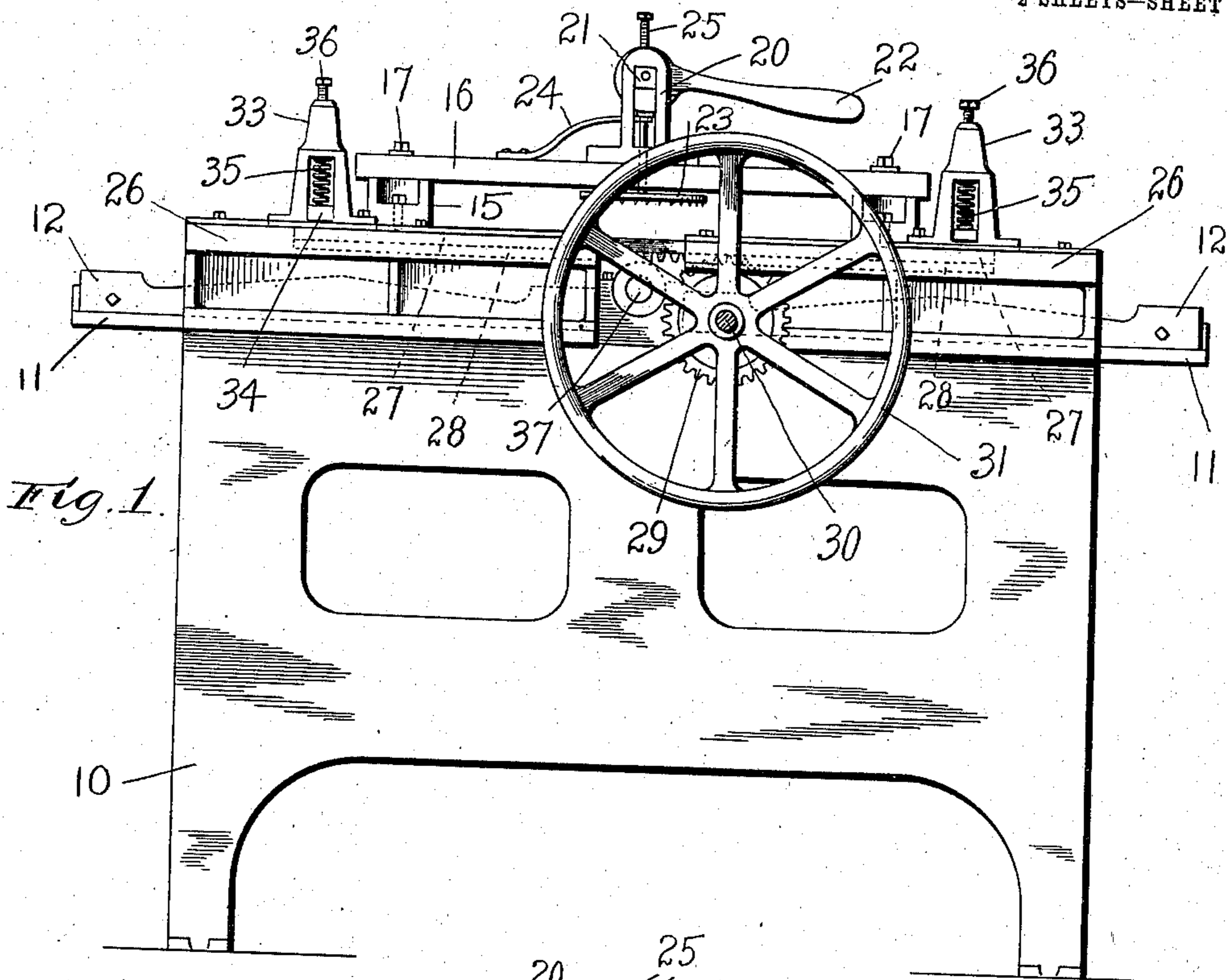


Fig. 1.

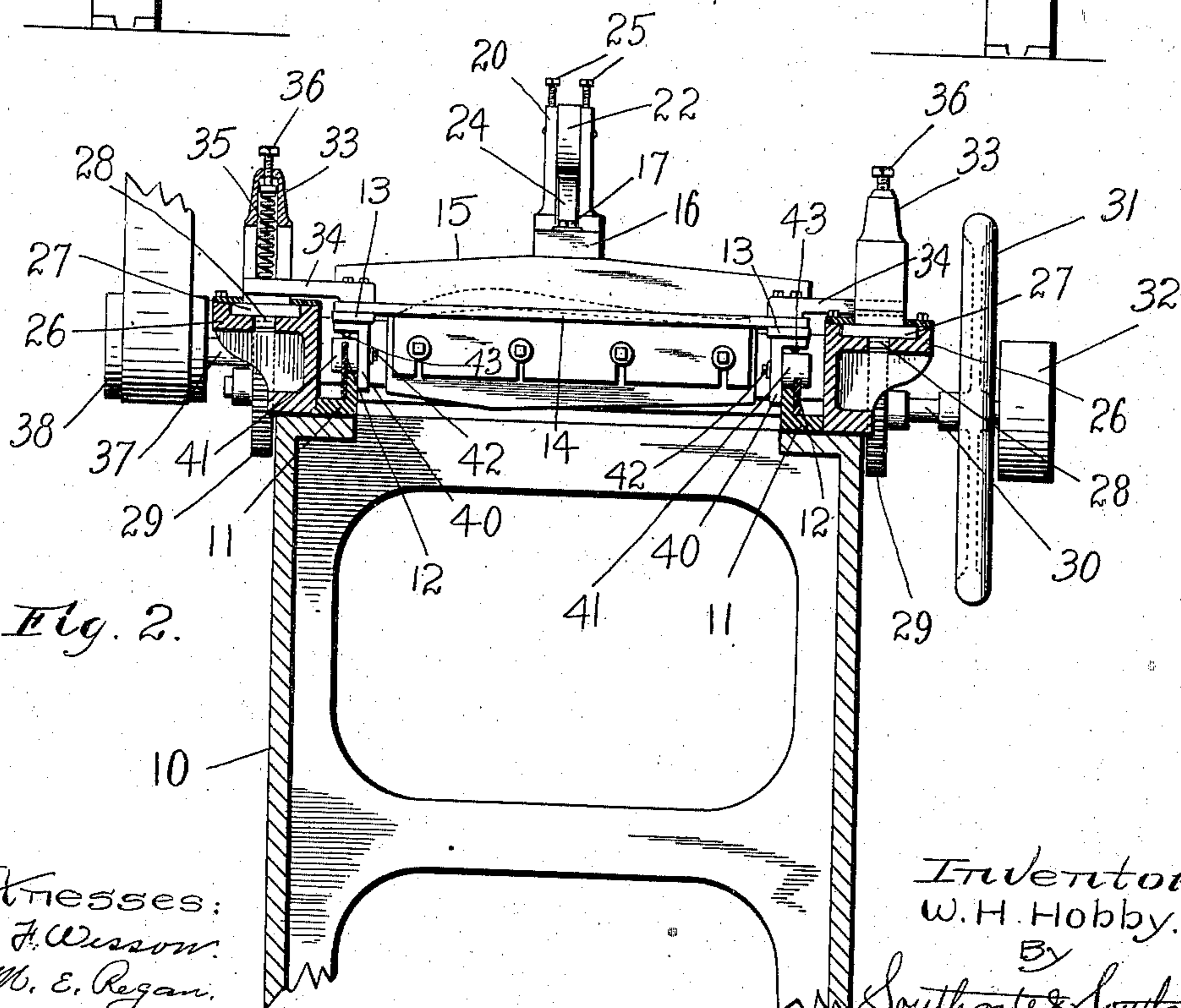


Fig. 2.

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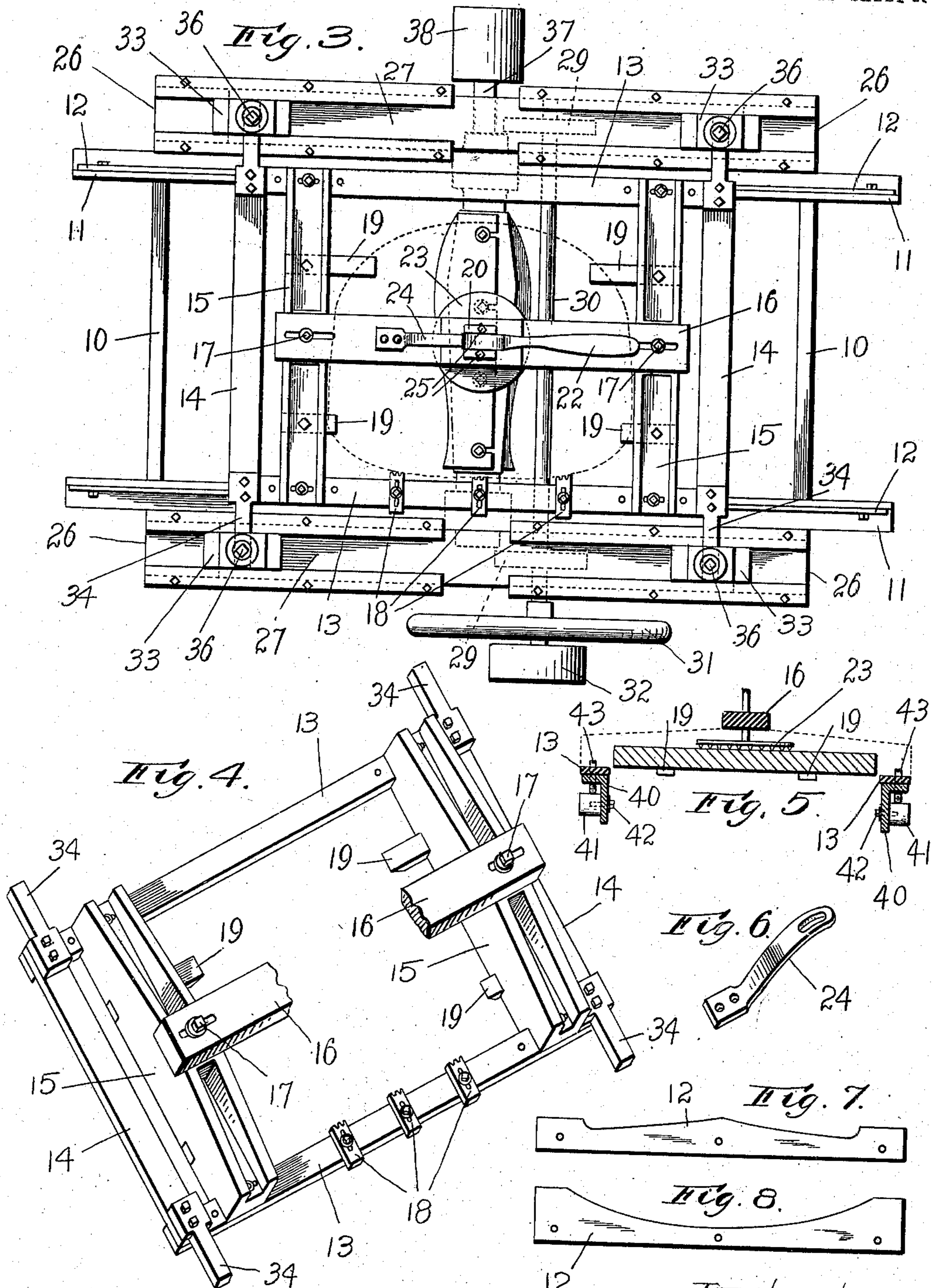
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. HOBBY, OF GARDNER, MASSACHUSETTS.

MACHINE FOR MAKING SADDLE-SEATS FOR CHAIRS.

SPECIFICATION forming part of Letters Patent No. 737,235, dated August 25, 1903.

Application filed February 27, 1902. Serial No. 95,924. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HOBBY, a citizen of the United States, residing at Gardner, in the county of Worcester and State of Massachusetts, have invented a new and useful Machine for Making Saddle-Seats for Chairs, of which the following is a specification.

This invention relates to that class of chair-seat-making machines in which the work is presented to a cutter by a horizontally-movable carriage which is also tipped or tilted, so that by one passage over a rotating cutter the chair-seat will be scooped out according to any desired pattern.

The especial object of this invention is to provide an improved construction for operating the carriage and improved devices for clamping the work in the carriage.

To these ends this invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying two sheets of drawings, Figure 1 is a side view of a machine constructed according to my invention. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a plan view of the carriage. Fig. 4 is a perspective view of the carriage. Fig. 5 is a detail sectional view of the carriage. Fig. 6 is a detail view of the spring for raising the central clamping-plate. Fig. 7 is a detail view of one of the front pattern-plates, and Fig. 8 is a detail view of one of the rear pattern-plates.

In order to cut out a depression of the desired shape in a saddle-seat for a chair, it is necessary to provide special machinery. For this purpose it has been proposed to clamp the blank or piece of work from which the chair-seat is to be formed in a carriage which is moved horizontally over a special molding-cutter, the carriage being allowed to tip or tilt to scoop or mold out a hollow of the desired shape in the under face of the blank.

The especial objects of my present invention are to improve the carriage feeding and controlling connections in a machine of the

class referred to and to provide special clamping mechanism for holding the work rigidly in place in the carriage, so as to enable me to produce a better grade of work and at higher speeds than has heretofore been possible. To accomplish these results, the carriage-actuating mechanism of a machine constructed according to my invention consists, essentially, of actuating-slides which are flexibly connected to the carriage, so that the carriage may be tipped or tilted independently of its actuating-slides. In the specific construction which I have herein illustrated the actuating-slides are arranged in guides on the frame of the machine, one at each side of the carriage. Each of the slides is provided with a rack which meshes with and is driven by a gear secured on a feed-shaft. Mounted on each of the slides are two slotted bearing-pieces, each of which receives an arm projecting out from the carriage. Mounted in each of the bearing-pieces is a spring having a screw for adjusting its tension. The carriage is provided substantially at each of its corners with a bearing piece or roller which runs on a pattern-plate, so that by means of this construction a loose connection will be provided between the carriage and its actuating-slides, which will permit the carriage to be tipped or tilted, while by properly tensioning the springs in the slotted bearing-pieces the work will be held down onto the cutter with sufficient rigidity to insure the production of high-grade work even when the machine is being operated at high speed.

Referring to the drawings for a detail description of a machine constructed according to my invention, the machine, as illustrated, comprises a frame 10, mounted on which are the angle-irons 11. Detachably bolted to the angle-irons 11 are the pattern-pieces 12, four separate pattern-pieces being preferably employed, so that room may be left at the center of the machine for the bearings of the cutter-shaft and feed-shaft. The form of pattern-plates 12 may be varied according to the style of chair-seat which it is desired to produce. In practice the front pattern-pieces, as illustrated in Fig. 7, are each provided with

a central rise, and the rear pattern-pieces are each provided with a central depression.

The construction of the carriage in which the work is mounted is most clearly illustrated in Fig. 4. As shown in this figure, the carriage consists of a steel frame comprising the side bars 13 and end bars 14. Adjustably mounted on the side bars 13 are cross-bars 15. The cross-bars 15 preferably have the form of box-girders and may be set into engagement with the sides of the work, as illustrated in Fig. 3. Planed into and secured in the adjustable cross-pieces 15 are supports or ledges 19. On the front bar of the carriage I secure the adjustable spurs 18, against which the work is driven from the rear side.

Carried by the cross-pieces 15 and adjustably secured thereto by bolts 17 is a center piece 16, which forms the support for the clamping mechanism which holds the work down in place. This clamping mechanism is most clearly illustrated in Figs. 1 and 2. As shown in these figures, the center piece 16 is provided with slotted standards 20, adjustably mounted in which are the journal-boxes 21, which receive the shaft of a cam-clamping handle 22. The clamping-plate 23 is normally lifted by a spring 24 and may be forced down into engagement with the work by the clamping-handle 22, the position of the journal-boxes 21 of the clamping-handle being adjusted by screws 25.

To prevent a transverse motion of the carriage, the carriage is provided substantially at each corner with a slotted bracket 40, which extends down inside the angle-irons 11, as shown in Fig. 2, and mounted in each of the slotted brackets 40 is a bearing-piece 41, which is secured in place by a bolt 42 and which may be set to different positions by a screw 43, as illustrated in Fig. 5.

Mounted on the frame of the machine, at each side of the carriage, are guide-pieces 26, movably mounted in which are actuating-slides 27, having racks 28, which mesh with gears 29, secured on the feed-shaft 30. The feed-shaft 30 is ordinarily operated from a hand-wheel 31, although it may be driven by pulley 32 from a belt from any suitable source of power, if desired.

Mounted on each of the actuating-slides 27 are two slotted bearing-pieces 33, each of which receives an arm 34, extending out from the side of the carriage. Mounted in each bearing-piece 33 and pressing down on the arm 34 is a spring 35, the tension of which may be adjusted by a screw 36, so that the carriage will be held down to its work with any desired degree of pressure.

Journaled in the frame 10 is a transverse cutter-shaft 37, having a pulley 38, which may be driven by belt from any suitable source of power, and secured on the cutter-shaft is a molding-cutter of special outline or form,

designed to produce the desired shape of cut in the under side of the work as the same is presented to the cutter by the travel and tilting motion of the carriage.

I am aware that changes may be made in practicing my invention by those who are skilled in the art without departing from the scope thereof as expressed in the claims. For example, instead of using bearing-pieces 41, running on the pattern-plates 12, I may provide supporting-rollers for this purpose, although in practice I prefer to use the solid bearing-pieces in order that the carriage may be controlled with the greatest possible rigidity.

I do not wish to be limited to the special construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a machine of the class described, the combination of a carriage for presenting the work to the cutter, and actuating-slides having slotted bearings for receiving arms projecting from the carriage so that the carriage may be rocked or tilted transversely to its line of travel independently of the actuating-slides.

2. In a machine of the class described, the combination of a carriage for presenting the work to the cutter, an actuating-slide movably mounted on the frame of the machine at each side of the carriage, and spring-pressed connections between the actuating-slides and carriage to permit the carriage to be rocked or tilted transversely to its line of travel.

3. In a machine of the class described, the combination of the carriage, an actuating-slide mounted in the frame of the machine at each side of the carriage, a pair of slotted bearing-pieces carried by each slide in position to receive an arm projecting from the carriage, a spring in each bearing-piece normally tending to prevent the sides of the carriage from rising, means for adjusting the tension of said springs, and a feed-shaft geared to simultaneously operate the slides.

4. In a machine of the class described, the combination of the pattern-plates, a carriage having bearing pieces or rolls resting on the pattern-plates, an actuating-slide movably mounted at each side of the carriage, two slotted bearing-pieces mounted on each slide to receive arms projecting from the carriage, springs normally holding the carriage down into engagement with the pattern-plates, means for adjusting the tension of the springs, a transverse feed-shaft, and gears mounted on the feed-shaft in position to engage the racks of the slides to simultaneously actuate said slides.

5. In a machine of the class described, the combination of a carriage, means for supporting the work in the carriage, a clamping-plate for holding the work down on its supports, and adjustable means for actuating the

clamping - plate, adapted to clamp different
thicknesses of stock in place in the carriage,
comprising vertically-movable journal-boxes,
screws for regulating the position of the jour-
5 nal-boxes, and a clamping-handle having its
shaft mounted in the journal-boxes.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing
witnesses.

WILLIAM H. HOBBY.

Witnesses:

PHILIP W. SOUTHGATE,
JOHN F. CROWELL.