

No. 701,749.

Patented June 3, 1902.

H. S. MARTIN.
MATTRESS SEWING MACHINE.

(Application filed Nov. 12, 1896.)

(No Model.)

2 Sheets—Sheet 1.

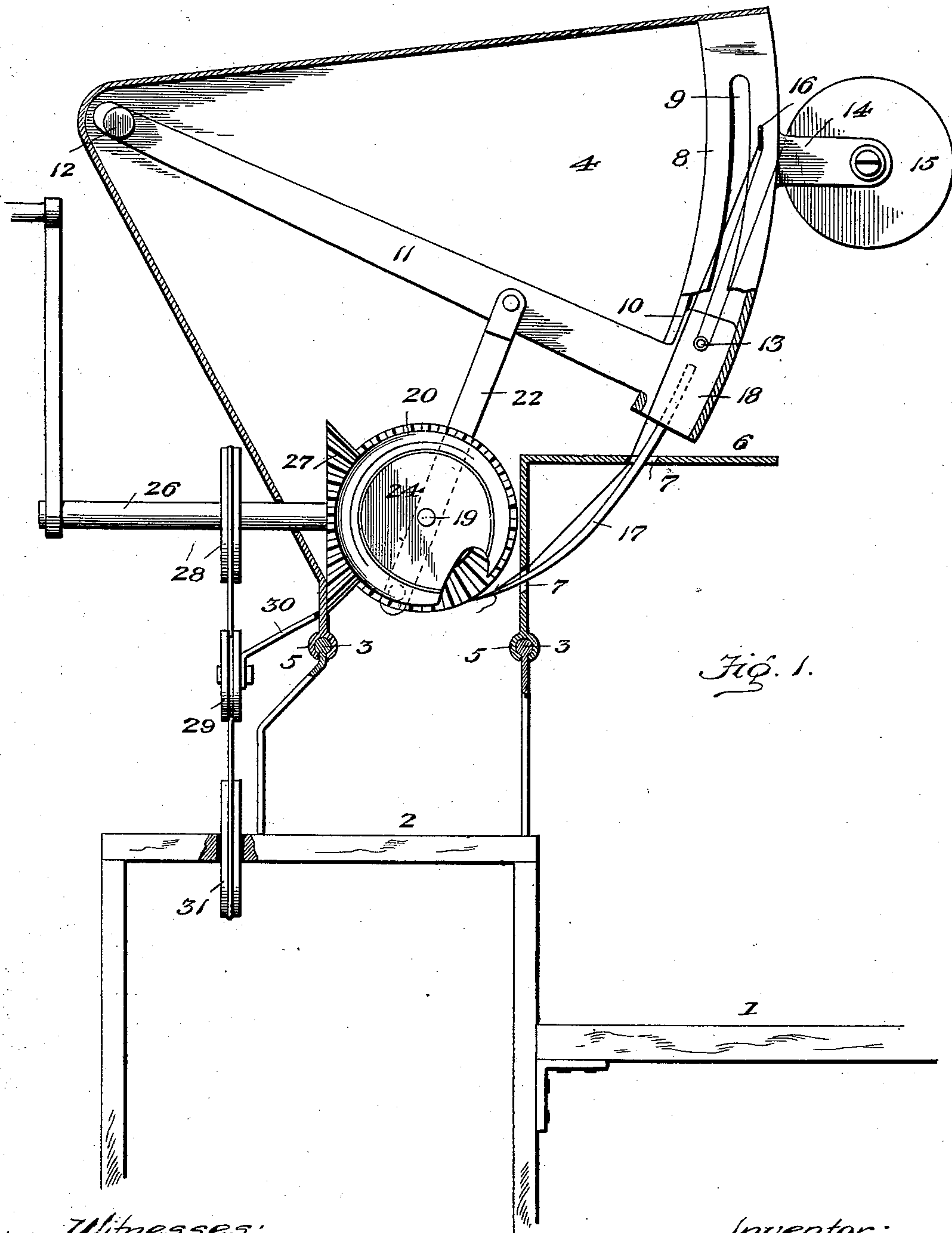


Fig. 1.

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No. 701,749.

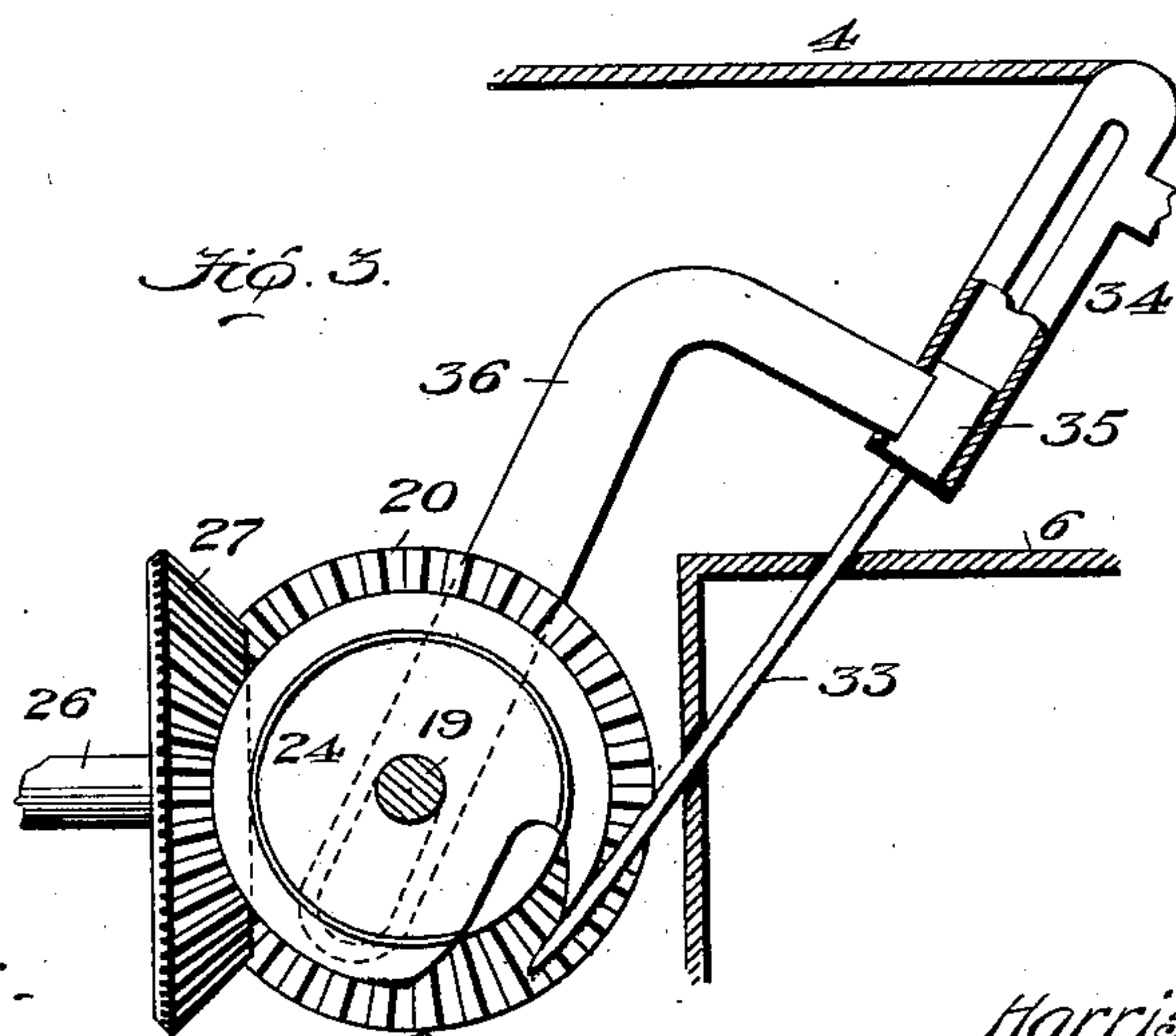
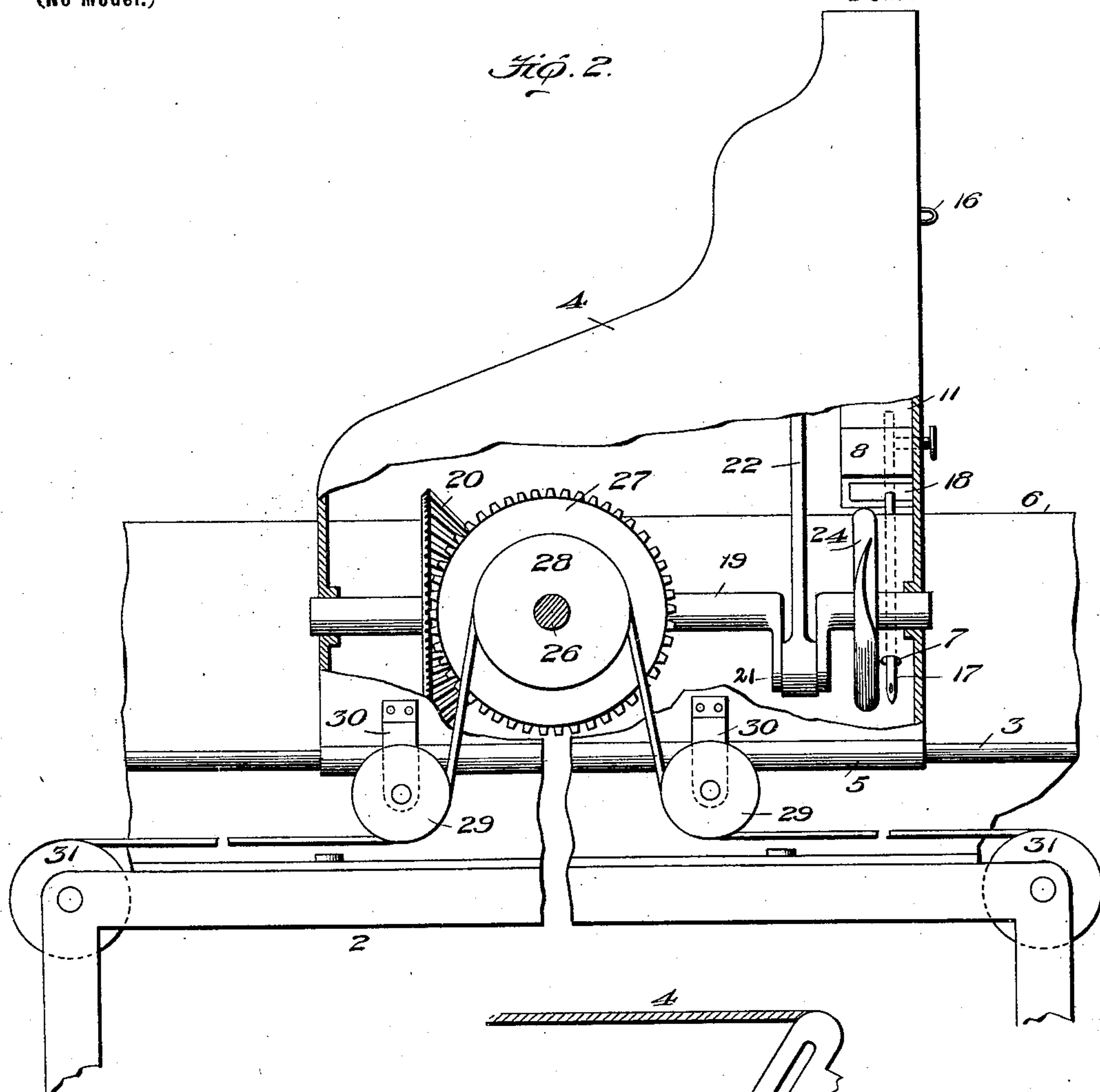
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Witnesses.

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UNITED STATES PATENT OFFICE.

HARRISON S. MARTIN, OF WASHINGTON, DISTRICT OF COLUMBIA.

MATTRESS-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 701,749, dated June 3, 1902.

Application filed November 12, 1896. Serial No. 611,896. (No model.)

To all whom it may concern:

Be it known that I, HARRISON S. MARTIN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Mattress-Sewing 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 improvements in sewing-machines, and more particularly to that class of sewing-machines termed "special" and designed for stitching the edges of mattresses after the filling of the tick for the purpose of forming the finished edge, technically known as "boxing."

The objects and advantages of my invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a partial side elevation and vertical transverse sectional view of a machine embodying my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a view similar to Fig. 1, illustrating a slightly-modified form of machine.

Like numerals of reference indicate like parts in all the figures of the drawings.

A rest or table 1 is supported at the side of a suitable stand or framework 2, the rest or table being designed to support the mattress in proper relative position to the machine hereinafter described. Immediately above the framework 2 and supported thereby is a pair of parallel track-rails 3, which are of a length equaling or exceeding the length of a mattress. Mounted for movement back and forth upon these track-rails 3 is a housing 4, preferably of the shape shown and provided at its lower end with suitable hook-shaped eyes or travelers 5 for loosely receiving the aforesaid track-rails. In order to reduce friction, grooved wheels may be substituted for the eyes. The front wall of the housing is provided at its lower portion with an angular plate 6, designed to fit over and loosely embrace the upper corner of the mattress that is to be sewed. This plate is provided with openings 7, arranged in the arc of the same

circle, and immediately above and in line with the openings is the hollow machine-head 8. This machine-head 8 is slotted at one side, as at 9, and at its inner side, as at 10, and designed for movement within the head is the inner end of the needle-carrying lever 11, the opposite end of which is fulcrumed, as at 12, in the rear end of the housing. It is therefore obvious that the machine-head 8 and the openings 7 in the angular plate 6 are in the arc of the circle the center of which is the point of fulcrum 12 of the lever 11. In its movements the lever 11 vibrates in the slot 10, and a pull-off 13 of ordinary construction and which is fixed to the end of the lever 11 moves in the slot 9.

In suitable brackets 14 that project from the head 8 of the machine is supported the spool 15 of sewing-cord, any ordinary tension device being provided. A guide-eye 16 projects from the side of the machine-head, and through it the sewing-cord passes after having been passed around the pull-off 13. The leading end of the cord is of course then passed through the eye of the needle 17, which is secured in a suitable socket formed in the head 18 of the lever 11, and such needle, it will be observed, is curved or arc-shaped and designed to pass through the openings 7 in the plate 6.

Journaled in the opposite side walls of the housing 4 is a shaft 19, and arranged on said shaft so as to move with the same is a beveled gear 20. Near one end the shaft has formed therein a cranked portion 21, and loosely connected with said crank is a pitman-rod 22, the upper end of which is forked and loosely pivoted, as at 23, to the lever 11, so that, as will be obvious, each rotation of the shaft 19 will cause a complete reciprocation of the pitman-rod 22, a complete vibration of the lever 11, and a reciprocation or complete stitch by the curved needle 17. Any suitable looper, as 24, which is of the Wheeler & Wilson pattern, may be fixed to the shaft 19 and designed to carry a bobbin, as is usual in this class of machines.

It will be observed from the foregoing description that the machine is intended to be fed along the track-rails 3, and I wish to say at this point that any suitable mechanism

may be employed for feeding the machine and giving motion to its various parts. In the present instance I journal in the housing at a right angle to the shaft 19 a power-shaft 26, at the inner end of which a beveled gear 27 is located and adapted to move therewith, and inasmuch as it intermeshes with the gear 20 of the shaft 19 said shaft and gear and parts operated by the shaft receive motion. This shaft 26 may be driven by hand, but I prefer to locate upon the same a grooved pulley 28, and at opposite sides and below said pulley to journal in line therewith companion guide-pulleys 29. The latter pulleys are supported in the present instance upon hanger-brackets 30, the upper ends of which may form, as herein shown, the bearings for the shaft 19. At opposite ends of the framework 2 and below the plane of the pulleys 29 and in alinement therewith are end pulleys 31, one of which is designed to be driven by any suitable motor. The opposite pulley 31, like the pulleys 29, are mere guide-pulleys or idlers. Around the pulley 28, under the pulleys 29, and around the pulleys 31 is passed an endless belt, by which motion is imparted to the pulley 28 and its shaft as the power-pulley 31 is driven. This also causes a movement or feeding of the machine as well as an operation of its parts.

In operation the filled mattress is laid upon the table 1, which brings its edge that is to be boxed by sewing under the angular plate 6. The corner edges of the tick are successively presented to the action of the machine, after which it is simply necessary to start the machine. The sewing, it will be seen, is on an oblique line through the top and side of the mattress, thus forming a rolled or box edge that greatly enhances the durability and appearance of the finished mattress and has heretofore greatly increased the cost, as it had to be done by hand. By my machine, however, the rolled or boxed edge is produced at a minimum cost and by a machine composed of very few parts that are easily and cheaply constructed and replaced.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree within the knowledge of the skilled mechanic without departing from the spirit and principle of my invention—as, for example, instead of employing a curved needle and curved guide for the same I may, as shown in Fig. 3, employ an inclined needle 33, mounting the same in an inclined guide 34, having the characteristics heretofore described. The needle is reciprocated by the arm 36, which is connected to the head 35, that carries the needle, and at its opposite end to the crank-shaft heretofore described. It will therefore be understood that by the term “inclined needle” as used in the claims I mean either curved or straight, but so disposed as to pass through the horizontal and

vertical surfaces forming the corners of the mattress.

Having described my invention, what I claim is—

1. The combination with a horizontal rest or table to support the lower edge of a mattress, and tracks arranged at one side thereof, of a sewing-machine mounted on said tracks and having an angular guide-plate overhanging said rest or table to receive the upper, inner corner of a mattress; obliquely-alined needle-apertures being formed in the vertical and horizontal members of said guide-plate, a pivoted vertically-vibrating lever having a needle-head at its outer end above said guide-plate and provided with a needle to pass through said apertures and stitch the upper inner corner of a mattress, a looper adjacent to the lower inner aperture, and means for operating and feeding the machine, substantially as specified.

2. In a machine of the class described, the combination with a framework having a track, of a machine-housing mounted for movement upon the track and having an overhanging right-angular plate at its lower front edge, a lever fulcrumed at its upper end in the rear end of the housing and at its front end having a needle-carrying head, a hollow machine-head coincidentally curved with relation to the pivot of the lever and in line with needle-openings in the plate and serving as a guide for the needle-carrying head, a shaft journaled in the housing, a looper carried by the shaft and arranged adjacent to the path traversed by the needle, a crank formed in the shaft and a pitman-rod loosely connected to the crank and to the lever, and means for rotating the shaft and advancing the machine, substantially as specified.

3. In a machine of the class described, the combination with a housing provided at its lower front part with an angular plate having openings at opposite sides of its angle and above the same having a hollow, slotted machine-head, a needle-carrying head arranged in the latter, a lever fulcrumed in the housing and connected to and adapted to operate the needle-carrying head, a transverse shaft journaled in the housing in rear of the angular plate, means for conveying motion from the same to the lever for vibrating the latter, a looper arranged on the shaft adjacent to the lower needle-opening in the angular plate, and eyes on the lower end of the housing for loosely receiving the track, of a power-shaft journaled at an angle to the horizontal shaft, a gear-wheel on each of said shafts and intermeshing with each other and means for driving the power-shaft and advancing the machine, substantially as specified.

4. The combination with a rest-table to support the lower edge of a mattress, and tracks arranged parallel thereto and at one side thereof, of a sewing-machine having an angular portion arranged above and overhang-

ing said rest-table, said angular portion being provided with obliquely-alined openings, a needle-carrying head arranged in the machine and provided with a needle, said needle-carrying head being inclined downwardly and inwardly with relation to the table, whereby the needle is adapted to pass through the oblique openings and stitch through the upper corner of the mattress, a looper cooperating with the needle, and means for operating said needle and looper.

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

HARRISON S. MARTIN.

Witnesses:

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FRANK D. BLACKSTONE.