M. F. HAYES.

MATTRESS TURNING APPARATUS.

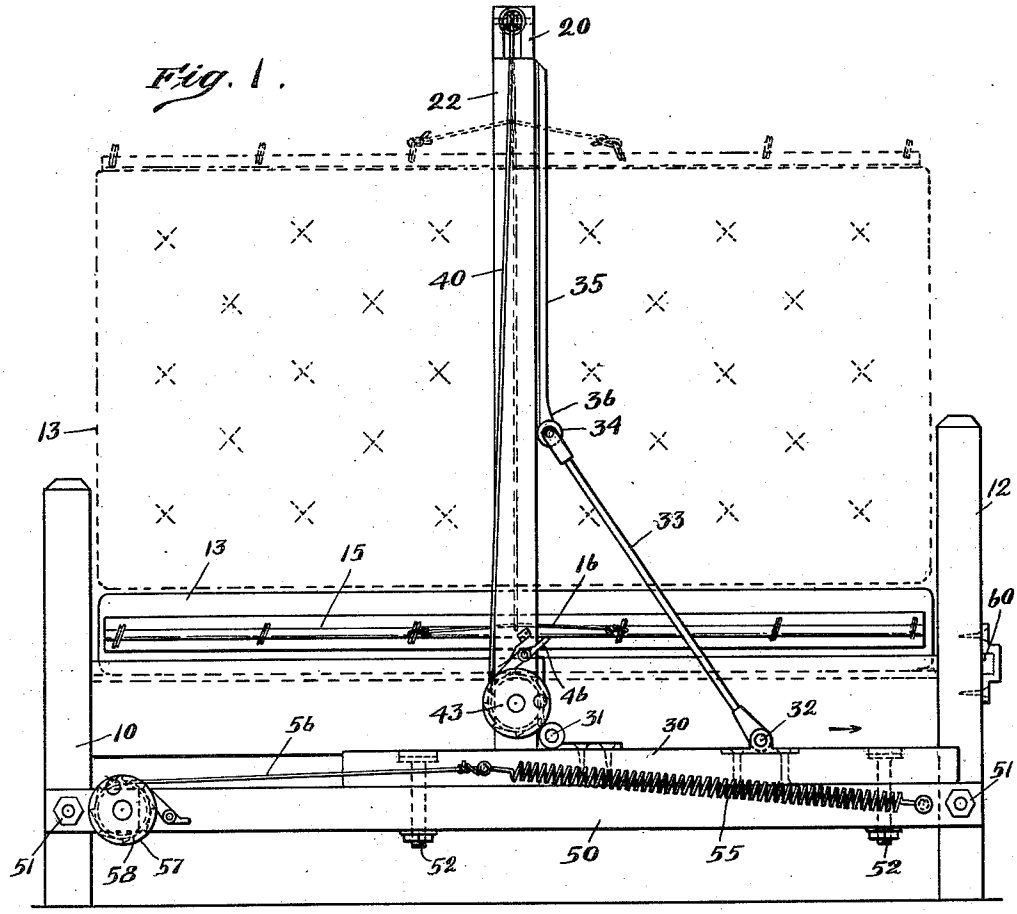
APPLICATION FILED DEC. 14, 1911.

1,018,825.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



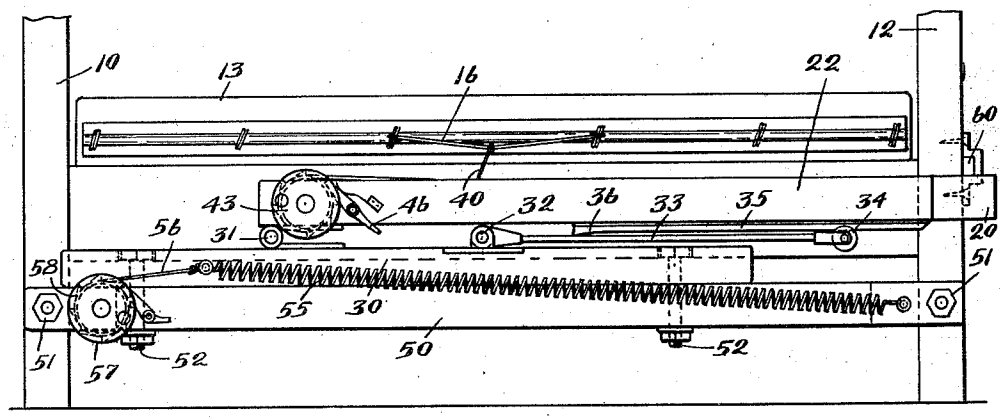


Fig. 2.

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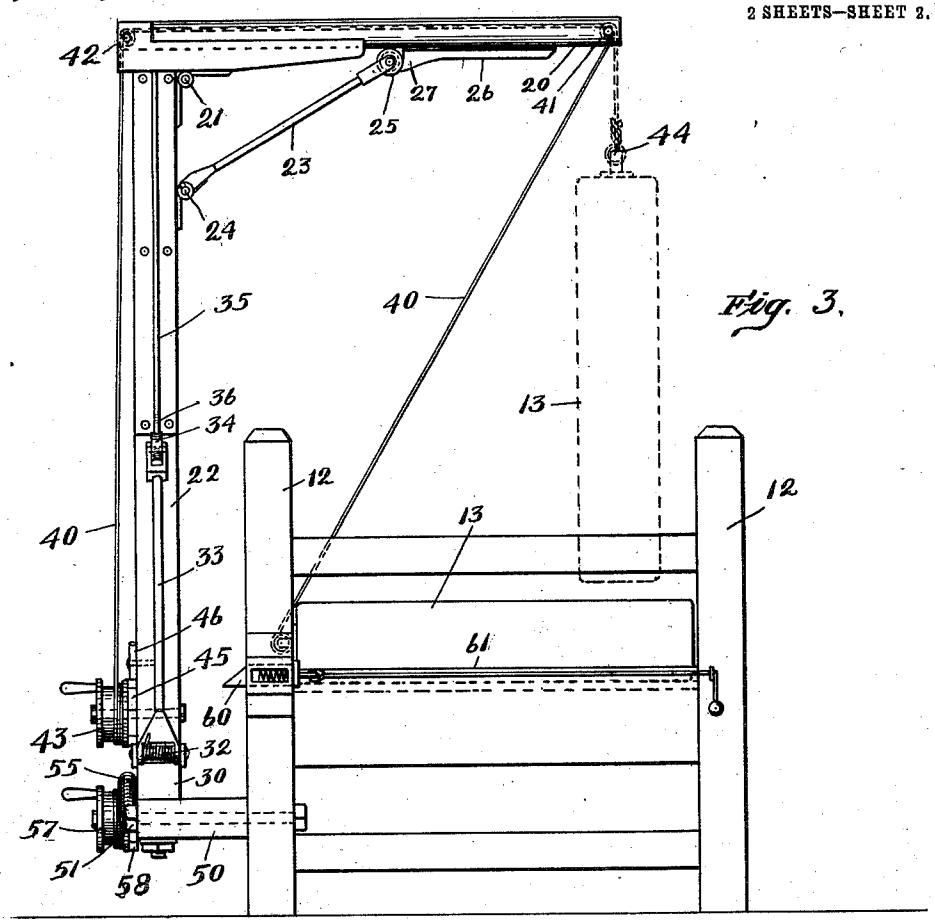

Fig. 3.

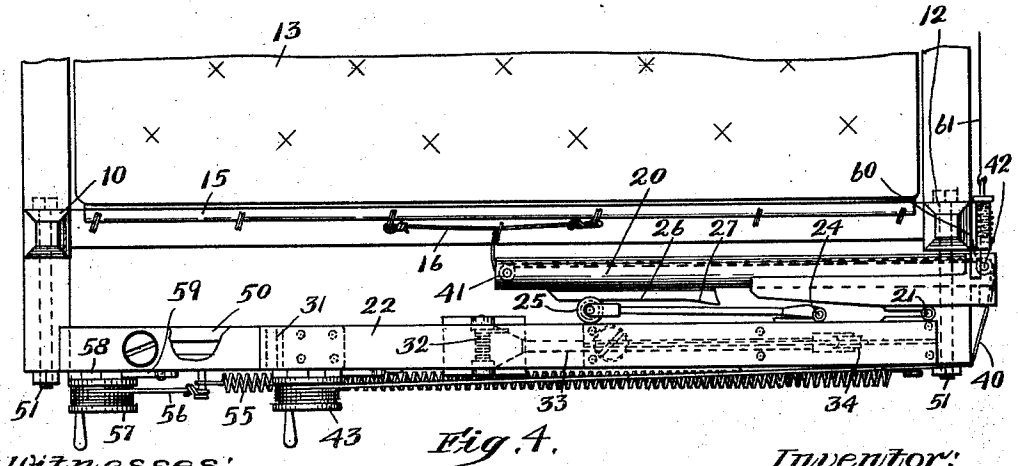

Fig. 4.

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UNITED STATES PATENT OFFICE.

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MATTRESS-TURNING APPARATUS.

1,018,825. Specification of Letters Patent. Patented Feb. 27, 1912.

Application filed December 14, 1911. Serial No. 665,763.

To all whom it may concern:

Be it known that I, MICHAEL F. HAYES, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Mattress-Turning Apparatus, of which the following is a specification.

This invention relates to mattress-turning apparatuses, and has for its object to construct an apparatus by which a mattress may be lifted bodily from a bed, so that it may be turned end for end, in order that when replaced on the bed its position is reversed; also the mattress may be turned over without reversing its position end for end; also the mattress may be turned end for end and also turned over, or allowed to remain in suspension for a period of time, the several results being optional with the operator.

Another object of the invention is to construct the apparatus in such manner that it is collapsible, so that when not in use it will occupy a position at the side of the bed and require but little space.

Another object of the invention is to make the apparatus detachable so that it may be connected with different beds.

Figure 1 is a side elevation of a mattress-turning device embodying this invention arranged on the side of a bed, its parts being in position for use. Fig. 2 is a similar side elevation, the device being collapsed, illustrating the positions of the parts when the device is not in use. Fig. 3 is an end elevation of the device as represented in Fig. 1. Fig. 4 is a plan view of the device.

10 and 12 represent two of the posts of any usual or suitable bed at the head and foot thereof, respectively, and 13 a mattress which, while here shown as of full size, yet it may be of two-thirds size, as usual. A bar 15, such as a strip of metal, or it may be of wood, is arranged along one side of the mattress and permanently attached thereto, said bar being extended, preferably, from end to end of the mattress or thereabout. At or about the middle of said bar a hanger 16 is arranged, which is adapted to be engaged by suitable means to lift the mattress, the bar being of sufficient stiffness to prevent the mattress from sagging when the latter is raised bodily from the bed.

20 represents a horizontal or overhanging arm of a crane, hinged at 21 to the upper end of an upright post 22, to admit of its being moved from a horizontal to a vertical position, parallel with and close to said post, and a spring hinge is employed which when permitted acts to move said arm from a vertical to a horizontal position.

A prop 23 is hinged at its lower end to the post 22, a spring-hinge 24 being employed, and its upper end bears a roller 25, which is grooved to receive a longitudinal guiding-strip 26, arranged on the under side of the arm, and to roll along thereon as the arm is moved on its hinged connection, the inner end of said guiding-strip terminating at a point whereby the roller passes off of it when the arm occupies a horizontal position, so that the roller at such time bears against said inner end of the strip, and said inner end of the strip has a projection 27 over which the roller passes, so that said inner end of the strip forms an abutment for the roller, to enable the prop to sustain the arm in horizontal position. When it is desired to move the arm into vertical position the prop is moved by hand sufficiently to enable its roller to pass over the projection at the inner end portion of the guiding-strip, so as to engage said guiding-strip and roll along thereon as the arm is moved. The upright post 22 is hinged at its lower end to a horizontal bar 30, a spring hinge 31 being employed, the tendency of which is to move said post into upright position yet permit it to be moved into a horizontal position parallel with the bar 30. The upright post 22 is sustained in vertical position by a prop 33, which is hinged at its lower end to the bar 30, a spring hinge 32 being employed, and its upper end bears a roller 34, which is grooved to receive a longitudinal guiding-strip 35, arranged on the side of the upright post, the lower or inner end of said strip terminating at a point whereby the roller passes off of it when the post is in upright position, and said inner end of the guiding-strip 35 has a projection 36 over which the roller passes, so that the said inner end of the strip forms a stop or abutment for the prop. Connecting the arm with the post by a hinge connecting the post with its support by a hinge admits of the crane being folded when not in use, so as to occupy but little space, as shown in Figs. 2 and 4.

A cord 40, passes over sheaves 41, 42, and around a windlass 43, and the end of said cord has an eye or hook 44, which engages the loop 16 on the bar at the side of the mattress and by rotating said windlass said

cord is operated to lift the mattress from the bed, as represented by dotted lines Figs. 1 and 3. The windlass has a ratchet-wheel 45 connected with it, which is engaged by a pawl 46, so that it may be locked in different positions. While the mattress is suspended it may be easily turned end for end, so that when lowered its position on the bed is reversed. Furthermore, when the mattress is lowered its lower end may be directed to either side of the bed. In fact, by lifting the mattress bodily from the bed, and holding it in suspended position it may be turned in any manner desired, and replaced on the bed either side uppermost. In lieu of a cord it will be obvious that a chain or rope of any material may be substituted as an equivalent therefor, hence the term "cord" as herein employed is intended to include such well known equivalents.

The bar 30, which serves as a support for the folding-crane is slidably mounted on a base-bar 50, adapted to be detachably connected to the posts of the bed by bolts 51, or to some other part of the bed-frame, so that it is securely supported. Said base-bar has a longitudinal slot through which bolts 52 pass, which are connected with the supporting-bar 30, thus admitting of the bar 30 sliding longitudinally on and with respect to the base-bar. Providing a sliding supporting-bar enables the employment of a short bar which may be moved to a position on the base-bar to support the crane at the middle of the side of the bed, or at such other point as desired, but more particularly provides for supporting the crane when folded in such manner that it will not project beyond the end of the bed. As here shown, a strong spring 55, is attached at one end to the stationary base-bar 50, and at the other end to the sliding supporting-bar 30, the action of which is to move said sliding supporting-bar toward the right, as represented by the arrow Fig. 1, and a cord 56 is attached to the sliding supporting-bar 30 which cord passes around a windlass 57, provided with a ratchet-wheel 58 and pawl 59, so that by turning said windlass the cord is operated to draw the sliding supporting-bar 30 toward the left, opposite to the arrow Fig. 1, thereby to move it far enough to enable the crane when folded not to project beyond the end of the bed, and such movement of the sliding-bar acts to extend the spring 55. For the purpose of holding the sliding-bar in the position shown in Fig. 2, the pawl may be utilized to engage its ratchet-wheel; and to hold the folding crane in its out-of-use position, a spring latch 60 is mounted on the end of the bed, which engages the inner end of the arm 20, said latch having a cord 61 attached to it for the purpose of withdrawing it to release the crane.

I claim:—

1. In a mattress-turning apparatus, a folding crane and support therefor, and a cord passing over sheaves mounted on said crane having means at the end to engage the side of the mattress, substantially as described.

2. In a mattress-turning apparatus, a folding crane, a sliding support therefor, a base-bar upon which said support is mounted, and a cord passing over sheaves mounted on said crane, having means at the end to engage the side of the mattress, substantially as described.

3. In a mattress-turning apparatus, a folding crane, a cord passing over sheaves on said crane having means at the end to engage the side of a mattress, a sliding-support therefor, a base-bar upon which said support is mounted, spring-actuated means to move said support in one direction and means to move said support in the opposite direction and to set said spring-actuated means in condition to operate, and means to release said spring-actuated means, substantially as described.

4. In a mattress-turning apparatus, a crane comprising an overhanging arm hinged to an upright post, and an upright post hinged to a support, a support for the crane, adapted to be attached to a bed, and a cord passing over sheaves arranged on said crane having means at the end to engage the side of a mattress, substantially as described.

5. In a mattress-turning apparatus, a crane comprising an overhanging arm hinged to an upright post, and an upright post hinged to a support for the crane, a support, means to connect said support with a bed, props arranged on the upright post and on the support to sustain the overhanging arm and post in position for use, and means to engage the mattress and lift it bodily from the bed, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

MICHAEL F. HAYES.

Witnesses:
B. J. NOYES,
H. B. DAVIS.