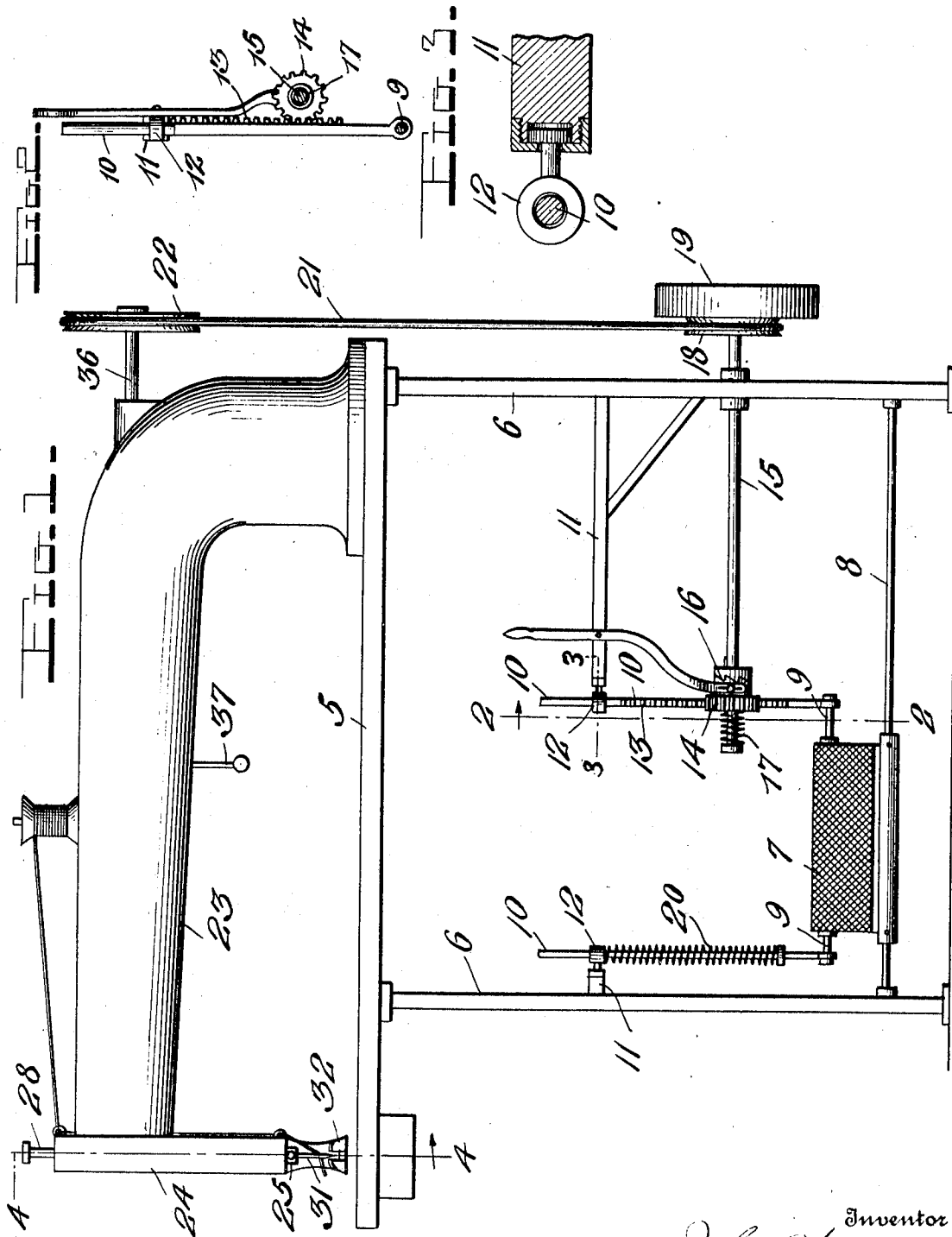


J. HAYS.
MECHANICAL MOVEMENT.
APPLICATION FILED DEC. 31, 1909.

1,039,390.

Patented Sept. 24, 1912.



Witnesses

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JOHN HAYS, OF UNIONTOWN, PENNSYLVANIA.

MECHANICAL MOVEMENT.

1,039,390.

Specification of Letters Patent.

Patented Sept. 24, 1912.

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To all whom it may concern:

Be it known that I, JOHN HAYS, a citizen of the United States, residing at Uniontown, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in sewing machines and has for its object to provide a new and novel operating mechanism whereby the needle bar is reciprocated.

15 With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

20 Figure 1 is a side elevation of the machine constructed in accordance with the present invention; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a detail section taken on the line 3—3 of Fig. 1.

Referring to the drawings 5 indicates the bed plate or base of the machine, and 6 the supporting legs at the opposite ends thereof. A foot treadle 7 is mounted adjacent to one of its longitudinal edges upon the rod 8 secured in the supporting legs 6. This treadle carries the laterally extending studs 9 to the ends of which the vertical rods 10 are swiveled. These rods are supported for reciprocatory movement by means of the longitudinally extending bars 11 attached to the supporting legs. Eyes 12 are swiveled in the outer ends of these rods through which the vertical bars 10 extend. One of the bars 10 is formed with a rack 13 which meshes with the teeth of a pinion 14 loosely mounted upon a longitudinally extending shaft 15. This shaft is supported in a bearing mounted upon one of the supporting legs 6 and one of the heads of a clutch 16 is integrally formed with the pinion 14, the other of the clutch heads being rigidly secured to the shaft 15. These clutch heads are normally engaged, and are held in locking position by means of a spring 17 disposed upon the longitudinal shaft between the face of the pinion 14 and the enlarged end of said shaft. Upon the outer end of the shaft 15 a band

wheel 18 is secured. This band wheel is integrally formed with the balance wheel 19 which imparts momentum thereto. This balance wheel 19 also overcomes the weight and the strain upon the shaft 15 caused by the downward movement of the rack bar 10, said shaft being suitably secured in its bearing against longitudinal sliding movement. The other of the vertical reciprocatory bars 10 has disposed thereon between the swiveled eye 12 of the bar 11 and a collar on the bar 10, a spiral spring 20 which normally holds the treadle 7 in its elevated position and the teeth of the rack 13 in engagement with the teeth of pinion 14. At the start of the downward movement of the rack 13 by pressure upon the treadle 7, rotary movement is imparted to shaft 15 and this rack is swung inwardly in the continued downward movement of the rod 10 to disengage the same from the teeth of the pinion 14 so that when pressure upon the treadle is released, the spring 20 on the other of the rods 10 immediately returns the treadle and the rack 13 to their normal positions.

From the foregoing it is thought that the arrangement and construction of the various parts of my improved operating mechanism will be fully understood. The device is simple, durable and effective in practical operation.

While I have shown and described what I believe to be the preferred embodiment of the invention, it will be understood that numerous minor modifications may be resorted to without materially departing from the essential features or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed is:

The herein described operating mechanism for sewing machines comprising in combination, a band wheel shaft, a pinion loosely and slidably mounted on said shaft, a clutch head keyed on the shaft to co-act with a clutch head carried by said pinion, a supporting arm, a lever pivotally mounted thereon and connected to said pinion to slide the same and engage or disengage the clutch heads, a pivoted foot treadle, vertically disposed rods pivotally connected at their lower ends to said treadle, a second arm, guide eyes swiveled on said arms to receive the upper

ends of said rods and movably support the same, a rack formed upon one of the rods engaging with the teeth of said pinion to rotate the band wheel shaft upon downward pressure on the treadle, and a spring arranged upon the other of said rods placed under tension in the downward movement of the treadle and adapted to return said treadle

and said rack to their normal positions upon the release of pressure on the treadle.

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

JOHN HAYS.

Witnesses:

WILLIAM GOODWIN,
HARRY A. SKINNER.