(No Model.)

S. ROSENBLUM.

SEWING MACHINE MOTOR.

No. 564,535. Patented July 21, 1896.

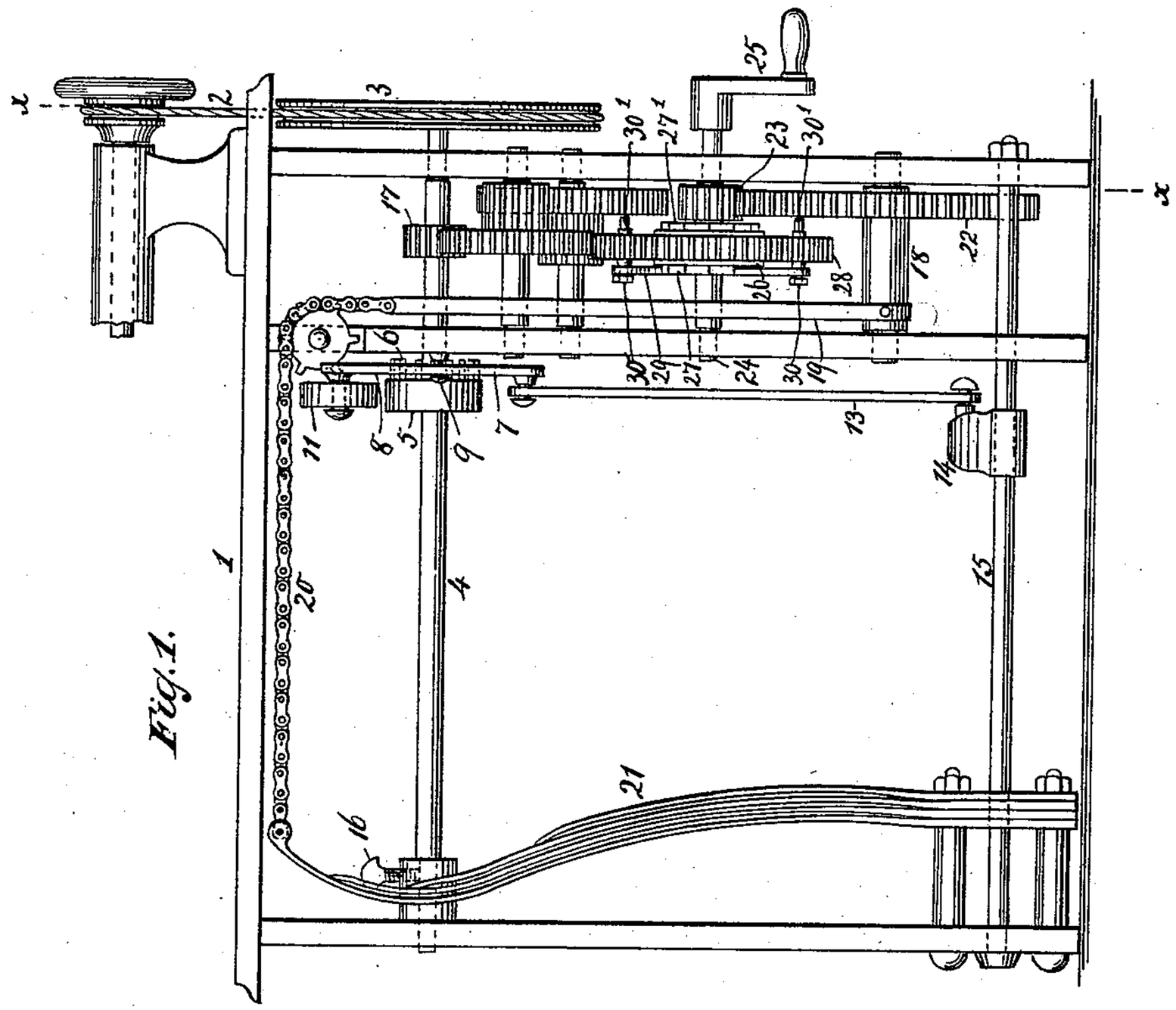

Fig. 1.

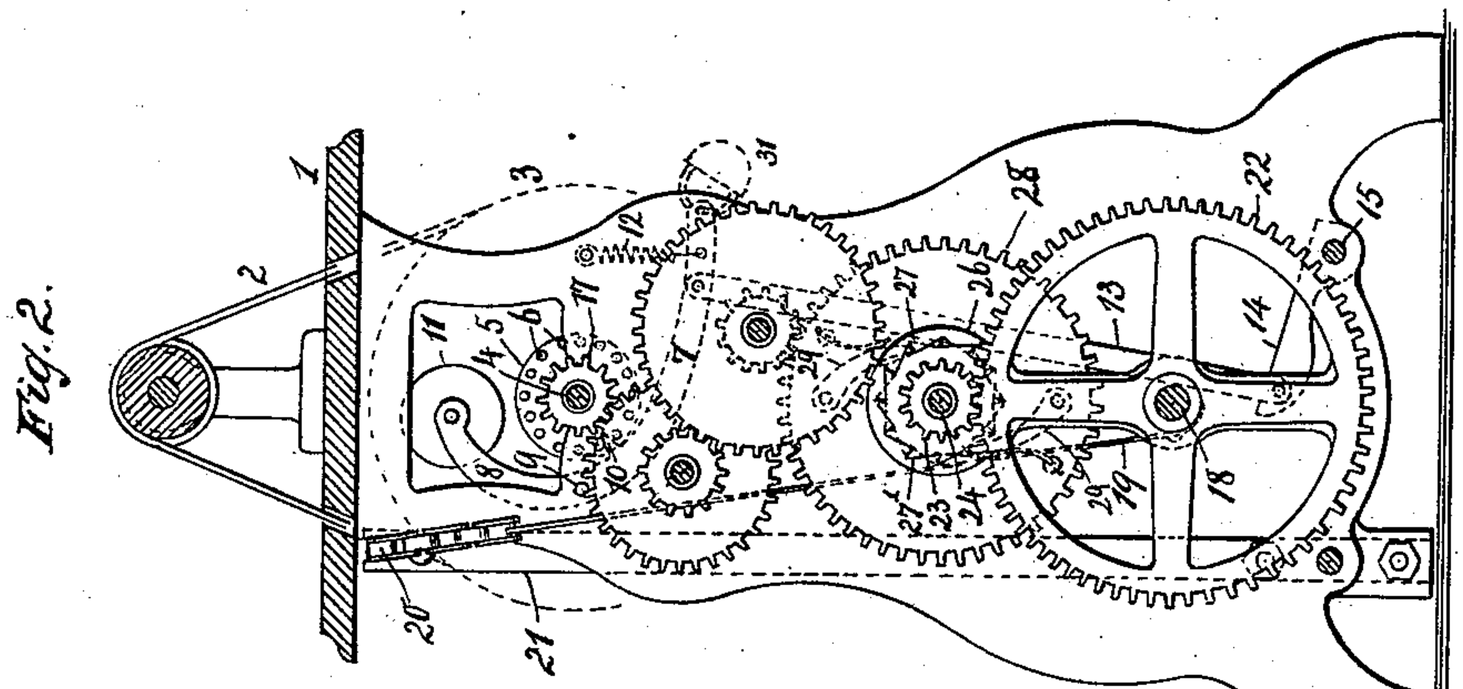

Fig. 2.

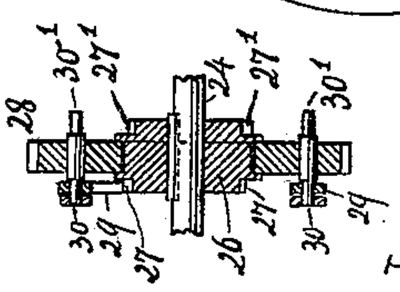

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

SISCIND ROSENBLUM, OF NEW BRUNSWICK, NEW JERSEY.

SEWING-MACHINE MOTOR.

SPECIFICATION forming part of Letters Patent No. 564,535, dated July 21, 1896.

Application filed February 20, 1896. Serial No. 580,109. (No model.)

To all whom it may concern:

Be it known that I, SISCIND ROSENBLUM, a subject of the Emperor of Russia, residing at New Brunswick, in the county of Middlesex and State of New Jersey, have invented new and useful Improvements in Sewing-Machine Motors, of which the following is a specification.

This invention relates to motors for operating sewing-machines, and has for its object to provide new and improved means whereby motion in either direction is transmitted to the driving-wheel of the machine.

To accomplish this object, my invention consists in the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a front elevation of the motor. Fig. 2 is a section along *x x*, Fig. 1. Fig. 3 is a sectional view of ratchets.

The work-table 1 of a sewing-machine is provided, as known, with suitable sewing mechanism actuated by belt 2 from fly-wheel or pulley 3 on driving-shaft 4, actuated the motor hereinafter described. The driving-shaft carries a disk 5, having laterally-projecting studs or teeth 6. A detent or stop-lever 7 8 is fulcrumed at 9, and has a stop-tooth or detent 10 for engaging the teeth 6, and a brake, such as a pulley or friction-surface 11, for engaging disk 5. A spring 12 suitably applied will tend to hold or move detent 10 in engagement with teeth 6. A link 13 connects lever-arm 7 with a lever or pedal 14, fulcrumed at 15. The pedal 14, being suitably actuated or pressed, will move lever 7 8 against the force of spring 12 to clear the detent 10 and leave the shaft 4 free to revolve. The detent 10 and brake 11 being located on opposite sides of fulcrum 9, the motion of lever to carry the detent out of action will carry the brake into action, and vice versa. The brake 11 being pressed into action, as required, will suitably regulate the speed of shaft 4. In case a permanent braking of shaft 4 is required, the brake or friction-screw 16, being suitably tightened, will brake the shaft as required.

The driving-shaft 4 has secured thereto a gear-wheel 17, receiving motion from the motor-train located at one side of the sewing-machine. The transmission-shaft of the motor is shown at 18, and a flexible band 19, such as thin spring-steel, is adapted to be wound about shaft 18. The band 19 connects by a chain or flexible connection 20 with a spring 21, located at the side of the sewing-machine opposite the motor. This spring 21 can be made of considerable power, as by taking a carriage-spring, so that the energy of the spring suffices to keep the motor in action during a considerable period. The spring 21 and the motor being located at opposite sides of the sewing-machine will leave the center portion of the sewing-machine clear. The power of the spring acting on connections 20 19 is transmitted by the transmission-shaft 18 to the gear 22 on said shaft 18, and thence by gear 23 to the winding-shaft 24, adapted for turning or winding by key or crank 25.

Secured rigidly to winding-shaft 24 is a disk 26, having ratchet-wheels or toothed portions 27 and 27′, the teeth of which face or incline in opposite directions. Sitting loosely about the disk 26 is a toothed wheel or ring 28. If the pawls 29 are mounted on the studs 30 on one side of the wheel or ring 28, so as to engage ratchets 27, the key 25 has to be turned in a certain direction for winding. If the pawls 29 are transferred to the studs 30′ on the opposite side of the ring 28, so as to engage the ratchets 27′, the key or handle 25 has to be turned in the opposite direction for winding. By this reversible winding mechanism the toothed ring 28 can be made to rotate in one direction or another, according as said ring-gear 28 is to rotate the gears leading to shaft 4, together with said shaft, in opposite directions. Various sewing-machines, if made to have their driving-shafts rotated in opposite directions, can thus readily have the motor arranged for rotating and for being wound in one direction or another, as required.

The stop-lever 7 8 could be secured in locking position by suitable well-known means, such a padlock 31, locking the lever to a frame part, as when the machine is left for over night.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a sewing-machine or other motor, of a winding-shaft having two

ratchet-wheels rigidly secured thereto and the teeth of which incline in opposite directions, a loosely-mounted toothed wheel or ring arranged in operative connection with said ratchet-wheels and provided with studs which extend from opposite sides thereof, interchangeable pawls adapted to be mounted on the studs at either side of the toothed wheel or ring, whereby the winding-shaft turning in one direction can be caused to turn the toothed wheel or ring in either direction, gearing for connecting the said wheel or ring with the driving-shaft of the machine to be operated, a flexible band, a shaft connected to said band and geared to said winding-shaft, and a spring to which the flexible band is connected, substantially as and for the purposes described.

2. The combination in a sewing-machine or other motor, of a winding-shaft, a disk rigidly secured to the winding-shaft and having two toothed portions, the teeth of which incline in opposite directions, a toothed wheel or ring journaled on said disk intermediate the two toothed portions thereof, studs extending from opposite sides of the wheel or ring, pawls adapted to be mounted on the said studs at either side of the wheel or ring, whereby the winding-shaft can be made to turn the toothed wheel or ring in either direction, a gear-wheel having a shaft and geared with the winding-shaft, a flexible band connected with the shaft of said gear-wheel, a spring connected with the flexible band, and gearing for connecting the winding-shaft with the driving-shaft of the machine to be operated, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SISCIND ROSENBLUM.

Witnesses:
WM. C. HAUFF,
CHAS. E. POLUSGEN.