

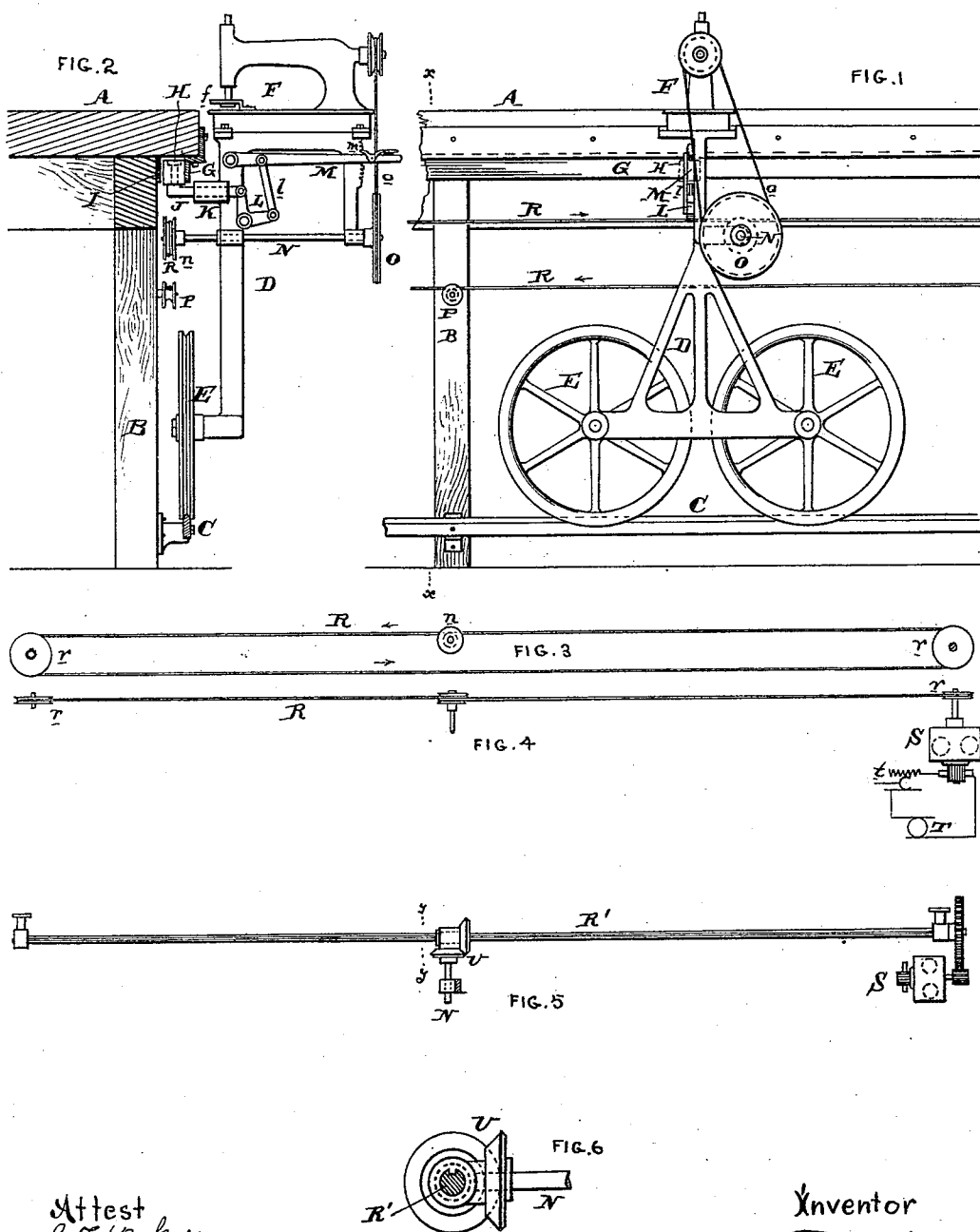
(No Model.)

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APPARATUS FOR HOLDING AND SEWING FABRICS.

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APPARATUS FOR HOLDING AND SEWING FABRICS.

SPECIFICATION forming part of Letters Patent No. 460,507, dated September 29, 1891.

Application filed November 1, 1890. Serial No. 370,048. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH M. HUNTER, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Apparatus for Holding and Sewing Fabrics, of which the following is a specification.

My invention has reference to apparatus for holding and sewing fabrics; and it consists of certain improvements, which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements in this application (Case 15 178) have particular reference to the means for supporting the carriage, whereby it may travel parallel to the edge of a supporting table or frame upon which the fabric to be sewed is placed or stretched, and whereby the 20 power from a stationary source may be conveyed to the sewing-machine for the purpose of operating the same and imparting to it a traveling motion commensurate with the speed of sewing.

My improvements also comprehend, in a machine of this class, means for moving the sewing-machine laterally to or from the table, whereby great irregularities in the edge of the fabric may be readily followed.

Referring to the drawings, Figure 1 is a front elevation of a machine embodying my improvements, a portion thereof being broken away. Fig. 2 is a cross-section of same on line 30 *x x*. Fig. 3 is an elevation showing the power-transmitting cable. Fig. 4 is a plan view of same, showing the connection with the electric motor or primary source of power. Fig. 5 is a modified power-transmitting device which may be used in place of the cable, and 35 Fig. 6 is a cross-section of same on line *y y*.

A is the table, and is provided with a vertical leg B. The construction of this table is immaterial.

C is the longitudinal rail arranged near the 45 lower part of the leg B and close to the table, so as to be out of the way of the operator.

D is the carriage, which is supported upon the large groove-wheels E, which run upon the rail C.

50 F is a sewing-machine of any suitable construction securely fastened to the carriage D.

G is a rail arranged upon the upper portion of the table A, and in contact with which a vertically-supported roller H runs. This roller H is journaled upon the end of a horizontal arm J, movable in a transverse guide 55 K upon the carriage D, and said arm, with its roller, may be moved or adjusted laterally by means of the bell-crank L, link *l*, and hand-lever M, which latter is provided with a de- 60 tent-locking device *m* for holding it firmly in various positions of adjustment. The tendency of the carriage D is to rotate upon the rail C as an axis and fall away from the edge of the table A. This action is prevented by 65 the wheel H running against the vertical rail G.

It will be observed that by adjusting the lever M (which may be performed while the machine is traveling) the upper edge of the 70 carriage D and the sewing-machine F, with its guide *f*, may move laterally to or from the table A and with respect to the edge of the fabric supported thereon.

It is immaterial to my invention what means 75 are employed to adjust the roller H laterally with respect to the carriage D, as various mechanical equivalents of the devices shown may be resorted to, if desired. A rail I may be employed upon the opposite side of the 80 roller H, so as to form with rail G a groove having metallic walls, between which said roller travels.

The carriage is provided with a transverse shaft N, upon one end of which is a band- 85 wheel O, from which a band *o* extends to the sewing-machine F for operating it. Upon the other end of said shaft end is secured a grooved wheel *n*, about which the transmitting-cable R passes. This transmitting-cable R is made 90 endless and is passed about the wheels *r* at each end of the table and is wrapped about the grooved wheel *n*, so as to create a friction thereon. One of the wheels *r* is connected with an electric motor S, which is operated 95 from a source of electrical energy T through suitable circuits and controlled by a regulator *t*. The motor S being put into motion, the endless cable R is caused to travel at any desired rate of speed and imparts to the wheel 100 *n* and its shaft N a rotary motion, which in turn is imparted to the sewing-machine F by the

band *o*. The lower portion of the endless cable *R* may be guided upon supporting-pulleys *P*, arranged upon the legs of the table. The carriage *D*, with its shaft *N*, is caused to travel longitudinally over the railway *C* by means of the ordinary feed motion of the sewing-machine operating upon the edges of the fabric guided under the guide *f*. The sewing-machine thus pulls the carriage and itself along over its railway by its gripping action upon the fabric. While the carriage is traveling along, the shaft *N* is kept in constant rotation, and to make the machine work more easily the transmitting portion of the cable *R*, acting upon the wheels *m*, should preferably travel in the direction which the sewing-machine and its carrier should move when sewing the fabric.

In place of using an endless cable and a grooved wheel *n* the shaft *N* may be rotated by means of bevel-gears *U*, (see Fig. 5,) which are rotated by means of a shaft *R'*, provided with a longitudinal groove, in which a spline extends from one of the gears *U*, sleeved upon said shaft. This shaft is rotated by means of an electric motor *S*. The shaft *R'* is supported on the table, and by the action of the gears with the carriage *D* through the shaft *N* the said gears are caused to travel along the shaft with the movement of the said carriage.

I do not limit myself to any special mechanism for imparting the motion to the shaft *N* from a source of power stationary with respect to the railway, as various methods may be employed for accomplishing this result.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for sewing fabrics, the combination of a table for supporting the fabric in a horizontal position, a supporting-rail arranged parallel to the table, a carriage provided with wheels adapted to run upon the rail of the railway, a sewing-machine supported upon the carriage and having its needle adapted to reciprocate vertically, a lateral-faced guide-rail secured to the table at a different elevation from the supporting-rail, a roller pressing upon the lateral face of said guide-rail, and an adjustable support for said roller carried upon the carriage, whereby said carriage and sewing-machine may be adjusted laterally with respect to the railway and table.

2. In a machine for sewing fabrics, the combination of a table for supporting the fabric in a horizontal position, a supporting-rail arranged parallel to the table, a carriage provided with wheels adapted to run upon the rail of the railway, a sewing-machine supported upon the carriage and having its needle adapted to reciprocate vertically, a lateral-faced guide-rail secured to the table at a different elevation from the supporting-rail of the railway, a roller pressing upon the lateral face of said guide-rail, an adjustable support for said roller carried upon the car-

riage, whereby said carriage and sewing-machine may be adjusted laterally with respect to the railway and table, and locking devices carried upon the carriage for locking said adjusting mechanism against movement after being adjusted.

3. In an apparatus for holding and sewing fabrics, the combination of a horizontal table for holding the fabric supported at a distance from the ground upon upright leg portions, a supporting-rail secured close to the upright leg portions near the floor, a carriage having large supporting-wheels running upon said rail, the wheels being arranged substantially at right angles to the surface of the table upon which the fabric is laid and the carriage-frame projecting away from the table and overhanging the rail, a guide-rail secured to the table near its top and above the supporting-rail, a guide-wheel journaled upon an axis arranged substantially at right angles to the axis of the supporting-wheels and secured to the carriage to run against the lateral face of the guide-rail to prevent the carriage falling away from the edge of the table, and a sewing-machine secured to the carriage, having its cloth-plate arranged substantially on the same level as the surface of the table and arranged horizontally.

4. In a machine for sewing fabrics, the combination of a table for supporting the fabric in a horizontal position, a rail supported below the edge of the table, a traveling carriage provided with grooved wheels running upon said rail, a sewing-machine supported upon said carriage and having its needle adapted to reciprocate vertically, a guide-rail secured to the upper portion of the table above the first-mentioned rail, a roller running against the lateral face of said guide-rail and secured to the said carriage for the purpose of holding it against lateral rotation about the lower rail, and adjusting devices for adjusting the carriage and sewing-machine with reference to the guide-roller and moving them about the lower rail as an axis.

5. In an apparatus for holding and sewing fabrics, the combination of a horizontal table for holding the fabric, supported at a distance from the ground upon upright leg portions, a supporting-rail secured close to the upright leg portions near the floor, a carriage having large supporting-wheels running upon said rail, the wheels being arranged substantially at right angles to the surface of the table upon which the fabric is laid and the carriage-frame projecting away from the table and overhanging the rail, a guide-rail secured to the table near its top and above the supporting-rail, a guide-wheel journaled upon an axis arranged substantially at right angles to the axis of the supporting-wheels and secured to the carriage to run against the lateral face of the guide-rail to prevent the carriage falling away from the edge of the table, a sewing-machine secured to the carriage, having its cloth-plate arranged substantially

on the same level as the surface of the table and arranged horizontally, and means to adjust the sewing-machine laterally with respect to the rails and edge of the fabric-supporting table.

6. In a machine for holding and sewing fabrics, the combination of a table upon which the fabric is held in a horizontal plane, a railway arranged parallel and close to one side of the table, a carriage having wheels adapted to travel over said railway and loosely supported thereon, a sewing-machine supported upon the carriage and having feed-motion mechanism to act upon the fabric to propel the sewing-machine, a rotating part journaled in a bearing arranged at one end of the table, and a power-transmitting connection extending parallel and close to the table and mechanically connected with the sewing-machine, whereby the latter may be operated from a stationary source of power during the travel of the carriage and sewing-machine over the railway and the sewing-machine may travel with a speed commensurate with the speed of sewing of the fabric.

7. In a machine for holding and sewing fabrics, the combination of a table for holding the fabric in a horizontal position, a railway arranged against the side of the table and in which the rails are located at different elevations one above the other, a carriage running upon the railway, a sewing-machine secured upon the carriage and having feed-motion mechanism acting upon the fabric to propel the sewing-machine and carriage upon the railway, guide-wheels arranged close to the table at each end thereof, an endless cable passing about said guide-wheels and arranged between the carriage and the table, and mechanical power-transmitting devices between the said cable and sewing-machine, whereby the latter may be operated and caused to travel over the railway with a speed commensurate with that of the sewing of the fabric.

8. In a machine for holding and sewing fabrics, the combination of a table for holding the fabric in a horizontal position, a railway arranged against the side of the table and in which the rails are located at different elevations one above the other, a carriage running upon the railway, a sewing-machine secured upon the carriage and having feed-motion mechanism acting upon the fabric to propel the sewing-machine and carriage upon the railway, guide-wheels arranged close to the table at each end thereof, an endless cable

passing about said guide-wheels and arranged between the carriage and the table, and mechanical power-transmitting devices between the said cable and sewing-machine, consisting of a transverse shaft journaled on the carriage and provided with a wheel at one end about which the endless cable passes for rotating it and mechanically connected at the other end with the shaft of the sewing-machine, whereby the latter may be operated and caused to travel over the railway with a speed commensurate with that of the sewing of the fabric.

9. In a machine for holding and sewing fabrics, the combination of a table for holding the fabric in a horizontal position, a railway arranged against the side of the table and in which the rails are located at different elevations one above the other, a carriage running upon the railway, a sewing-machine secured upon the carriage and having feed-motion mechanism acting upon the fabric to propel the sewing-machine and carriage upon the railway, guide-wheels arranged close to the table at each end thereof, an endless cable passing about said guide-wheels and arranged between the carriage and the table, mechanical power-transmitting devices between the said cable and sewing-machine, supporting-wheels for the cable, an electric motor to rotate the supporting-wheels to propel the cable, a source of electrical energy, and a regulator to control the speed of the motor, whereby the latter may be operated and caused to travel over the railway with a speed commensurate with that of the sewing of the fabric.

10. In an apparatus for holding and sewing fabrics, the combination of a table having a horizontal surface upon which the fabric is placed and in which said horizontal table has its edge projecting beyond its support, a railway located substantially to one side of a vertical plane through the edge of the table, a traveling carriage supported by the railway and having its frame located substantially to the other side of the vertical plane through the edge of the table and extending away from the table, and a sewing-machine secured to the carriage and located close to the edge of the table, but wholly to one side thereof.

In testimony of which invention I have hereunto set my hand.

R. M. HUNTER.

Witnesses:

ERNEST HOWARD HUNTER,
A. J. DUNN.