

(Model.)

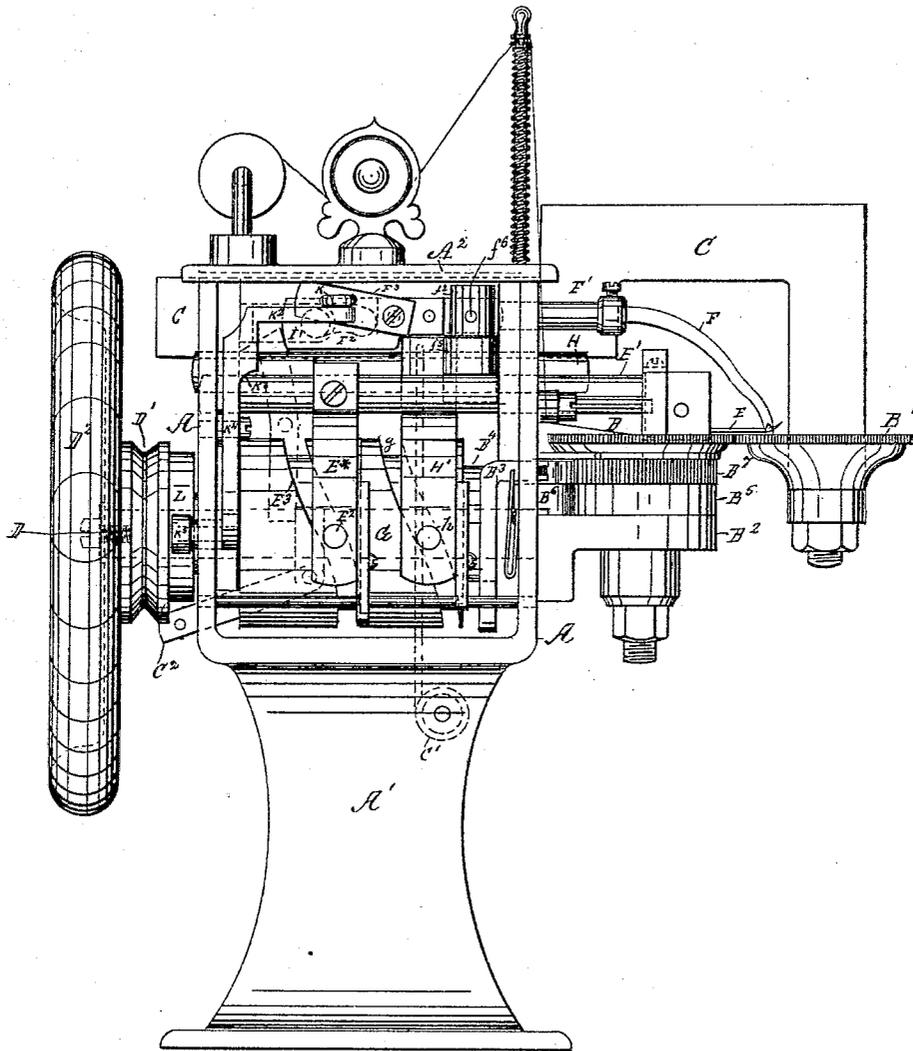
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W. LÜDEKE.
SEWING MACHINE.

No. 300,380.

Patented June 17, 1884.

Fig. 1.



WITNESSES:

W. Colborne Brooks
Charles Lang.

INVENTOR

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(Model.)

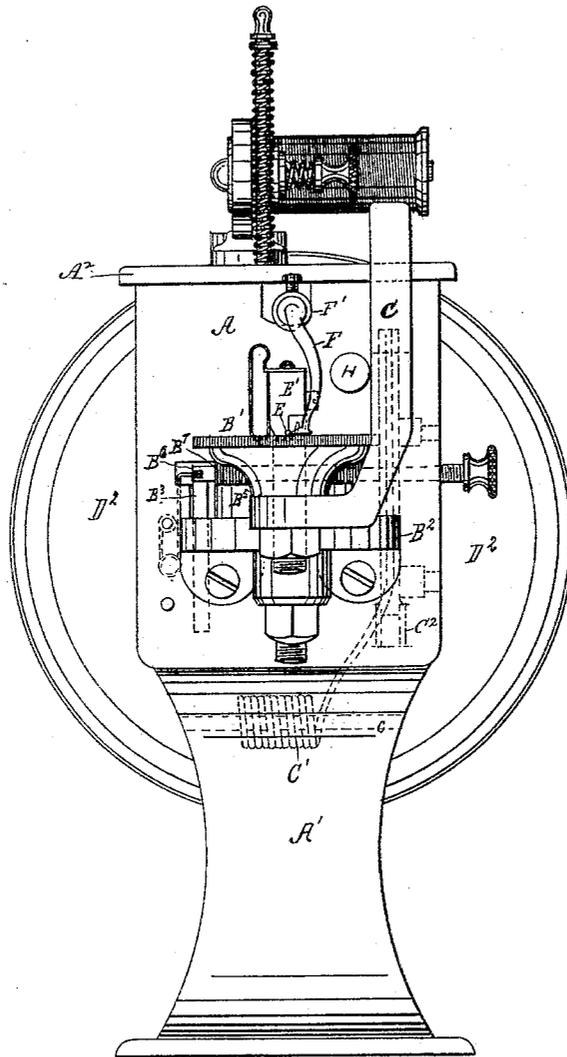
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Fig. 2.



WITNESSES:

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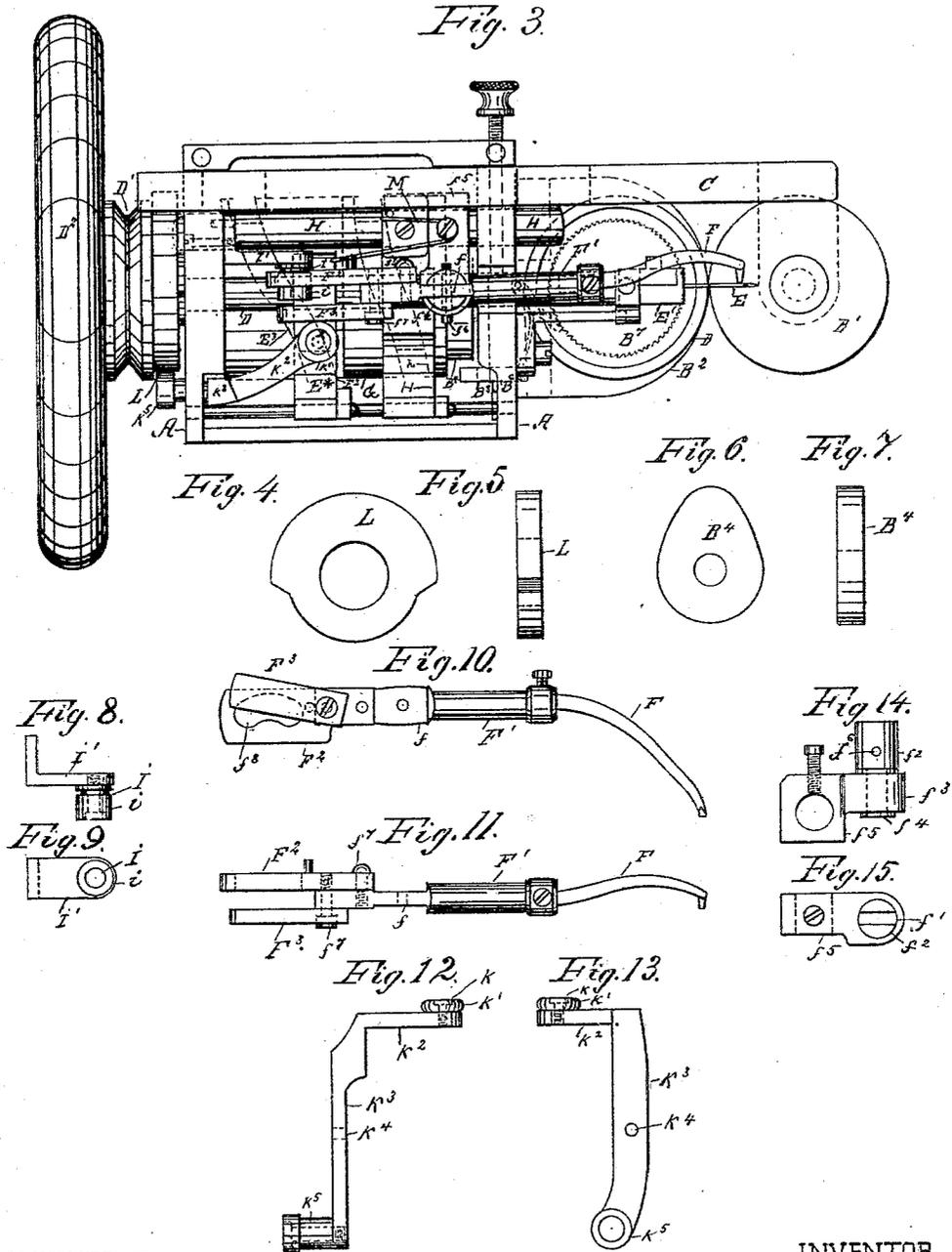
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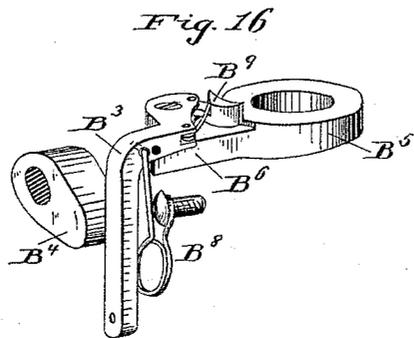
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W. LÜDEKE.
SEWING MACHINE.

No. 300,380.

Patented June 17, 1884.



Witnesses:

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E. D. Smith

Inventor:

Waldemar Lüdeke
by Henry Kaiser
Assd. Atty.

UNITED STATES PATENT OFFICE.

WALDEMAR LÜDEKE, OF HOBOKEN, NEW JERSEY.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 300,380, dated June 17, 1884.

Application filed August 7, 1883. (Model.)

To all whom it may concern:

Be it known that I, WALDEMAR LÜDEKE, a subject of the Empire of Germany, residing in Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention has reference to an improved machine, particularly adapted for sewing gloves, furs, leather, and other articles in which an overseam-stitch is required, and it is particularly designed as an improvement on a sewing-machine for which Letters Patent of the United States were granted to John Simon, bearing date on or about the 3d day of October, 1882, and numbered 265,451, and which Letters Patent were assigned before issue to Hermann E. Baumeister.

The nature of my invention will be fully explained by reference to the following specification and the drawings annexed, which form part of the same.

Figure 1 is a side view of my improved machine, with the outer side or face-plate removed. Fig. 2 is an end view of the same. Fig. 3 is a plan with the top plate removed. Figs. 4 to 15, inclusive, represent detail views of parts. Fig. 16 is a detail perspective view of a part of the feeding mechanism.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A A represent the main framing of the device, which is supported on a standard, A'. The casing A incloses the operating mechanism, which is generally of a construction similar to that described in the specification and drawings of the patent above referred to.

B and B' represent the inner and outer parallel feed-disks. The shaft of the inner feed-disk, B, is supported on vertical bearings formed on or affixed to a bracket, B², attached to the end wall of the casing A, and held in position by means of set screws or bolts. The circumference of the feed-disks B and B' are milled in the usual manner, so as to mutually engage by friction. The feed-disk B' is supported in the lower end of a bent arm or casting, C, which is supported with capability of sliding longitudinally in the casing or fram-

ing A parallel with the main or driving shaft. The bent arm or casting C is retained in position by means of a coiled or other suitable spring, C', one end of which is affixed to a pin or bar, c, carried by the casing or framing A, while the opposite end of the spring is extended upward and engages with the bent arm or casting C in such manner as to cause a constant pressure to be exerted on the material being sewed, except at such time as the pressure of the same is removed by means of the lever C' or equivalent mechanism, adapted to force the disk B' away from the disk B, so as to allow of the removal of the material from between the disks or for the proper adjustment of the same.

D is the main or driving shaft, by means of which motion is imparted to the various parts of the device. The said shaft is extended beyond the casing A, and is provided with a fly-wheel, D², and also with a pulley, D', to which motion is imparted by a belt from any suitable motive power.

The inner feed-disk, B, receives an intermittent axial motion from a bent lever, B³, which is operated by a cam, B⁴, on the driving-shaft D, and which is shown separately at Figs. 6 and 7. The bent lever is pivoted to and connected with a short arm, B⁵, attached to a ring, B⁵, which is supported loosely on a boss formed on or attached to the under side or stem of the disk B. The horizontal part of the arm B³ projects through a slot in the front side of the casing A, and its outer end is secured to the arm B⁶ of the ring B⁵. To the arm B⁶ is pivoted a spring-pressed pawl, B⁷, adapted to engage with a milled or toothed disk, B⁷, which is arranged below and by preference forms an integral part of the disk B. The vertical part of the arm B³ is held against the cam B⁴ by a spring, B⁸, said arm being thus operated by the cam and spring for the purpose of imparting motion to the ring, its arm B⁶, and the pawl B⁷, the latter, through the toothed disk B⁷, giving an intermittent motion to the feed-disks B and B'.

E is the needle, which is supported in and operated by a horizontally-reciprocating needle-bar, E', supported and guided in bearings formed in the end walls of the casing A. The needle-bar E' is provided with an arm, E², bolt-

ed or otherwise secured thereto, to the lower end of which is connected or affixed a pin or stud, E^2 , which, if desired, may be provided with an anti-friction pulley or surface. The pin or stud E^2 is adapted to engage with a cam-groove, E^3 , formed in or upon a hub or cylinder, G . The needle-bar E' , at its outer end, is provided with a socket or fastening device adapted for the reception and retention of the thread, and also with means whereby the thread is guided to the eye of the needle.

F is the looper, which is of a construction similar to that described in the specification of the Letters Patent of John Simon, hereinbefore referred to. The looper F , according to my invention, is supported in the outer end of a lever, F' , which is formed with a flat bearing portion, f , adapted to be received within a slot or recess, f' , formed in a post, f^2 , which is pivoted to a bracket, f^3 , by means of a short shaft or bearing, f^4 , mounted on a bracket, f^5 , carried by a rod, H , to which a regulated to-and-fro motion is imparted by means of an arm, H' , to the lower end of which is affixed a pin or stud, h , which may be provided with a friction pulley or surface adapted to be received within a cam-groove, g , formed in or upon the periphery of a hub or cylinder, G . The flat bearing portion f is pivoted within the slot or recess f' by means of a stud or pin, f^6 . The rear end of the looper-rod F' is provided with a pair of extensions, F^2 F^3 , as shown more clearly by Figs. 10 and 11, which, by preference, are secured and held in position by screw-bolts f^1 f^1 . The extension F^2 is formed with a cam-course, f^3 , in which a stud, I , (by preference formed or provided with a friction-pulley or surface, i), operates. The stud or projection I is carried by a bracket-piece, I' , as shown more clearly by Figs. 8 and 9. The bracket-piece I' is secured to the framing A by bolts or other suitable means.

As the machine is operated, the looper-rod or lever F' is carried backward and forward, and at the same time, at intervals, a tilting motion is imparted to it by means of the stud or projection I . In addition to this compound motion a lateral vibratory motion is imparted to the looper-rod or lever F' , by reason of the extension F^3 coming against and being controlled by a stud, K , by preference provided with a friction pulley or surface, K' . The stud K is formed on or affixed to the upper surface of a bent arm, K^2 , which is formed on or affixed to the upper end of a lever, K^3 , which is shown separately at Figs. 12 and 13. The lever K^3 is pivoted on a screw or axis, K^4 , carried by the main framing A , and at its lower end is provided with a pinion or bearing surface, K^5 , adapted to engage with a cam, L , formed on or affixed to the main shaft D . The cam or eccentric L is shown separately at Figs. 4 and 5, and is adapted to act in conjunction

with the parts before described in effecting the compound motion of the looper.

M is a spring, the function of which is to exert a pressure on the end of the looper-rod F' in a contrary direction to the pressure exerted by the lever K^3 .

The top of the casing A is, by preference, formed of a plate, A^2 , screwed or otherwise suitably connected to the framing A . Upon the upper surface of the plate A^2 , I mount the ordinary thread holding and tension devices ordinarily used with mechanism of this character.

The operation of the various parts of my machine, taken in conjunction with the specification of the patent previously referred to, and with the general knowledge of the state of the art, renders it unnecessary for me to enter into the details of all the operations of the various parts, as they will be readily understood by persons acquainted with this class of machinery.

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

1. In an organized stitch-forming mechanism, the combination, with the looper-carrying lever, and mechanism for imparting longitudinal and vertical movements thereto, of a vertical lever impinging against said looper-carrying lever and serving to move the same laterally, means for operating said vertical lever, and a spring for moving the looper-carrying lever in opposition to the said vertical lever, substantially as set forth.

2. The combination, in an organized stitch-forming mechanism, with the looper-carrying lever F' , having the extension F^3 , and mechanism for imparting longitudinal and vertical movements to said lever, of the vertical lever K^3 , having an arm, K^2 , the cam L , and the spring M , substantially as described.

3. The combination, in an organized stitch-forming mechanism, of the lever F' , having the extensions F^3 and F^2 , the latter formed with the cam-slot f^3 , the looper F , carried by the lever F' , the fixed bracket I' , having the stud I , the lever K^3 , the cam L , the spring M , and means for imparting longitudinal movement to the said lever F' , substantially as set forth.

4. The combination, in an organized stitch-forming mechanism, of the feed-disks B and B' , the toothed wheel B^2 , the ring B^3 , having arm B^4 , the pawl B^5 , the bent arm B^3 , the cam B^4 , and the spring B^5 , substantially as set forth.

In witness whereof I have hereunto set my hand this 2d day of February, 1883.

WALDEMAR LÜDEKE.

Witnesses:

WM. E. RICHARDS,
W. COLBORNE BROOKES.