

No. 648,185.

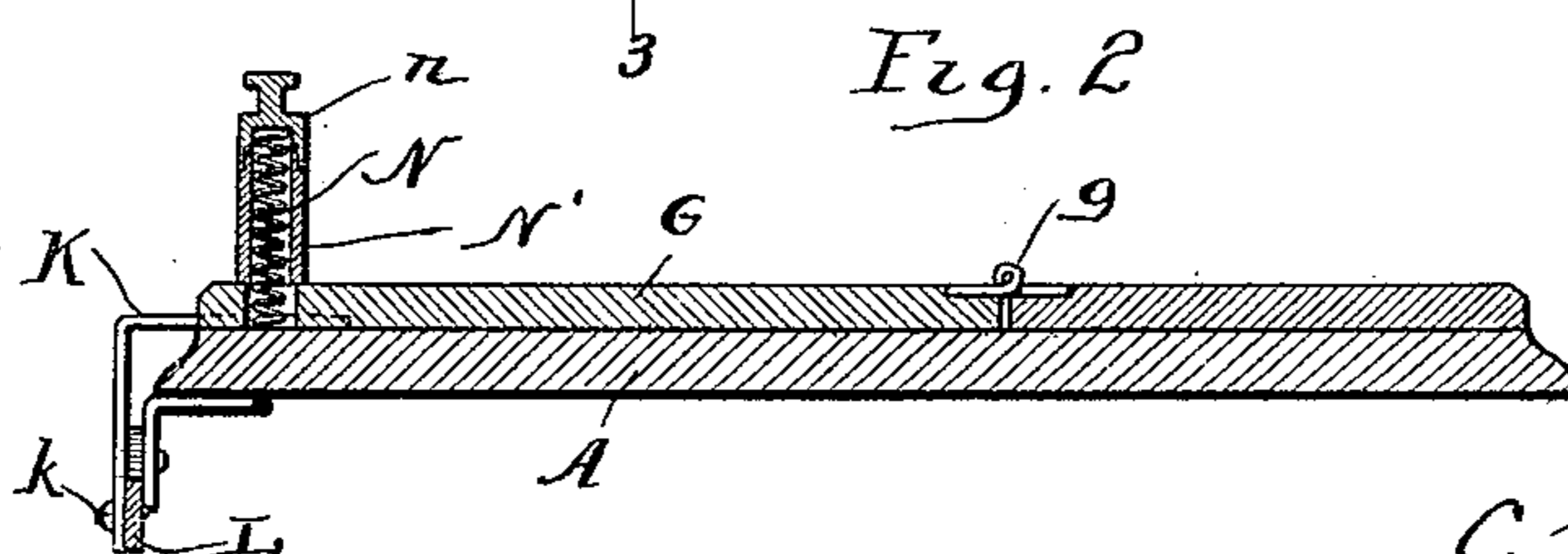
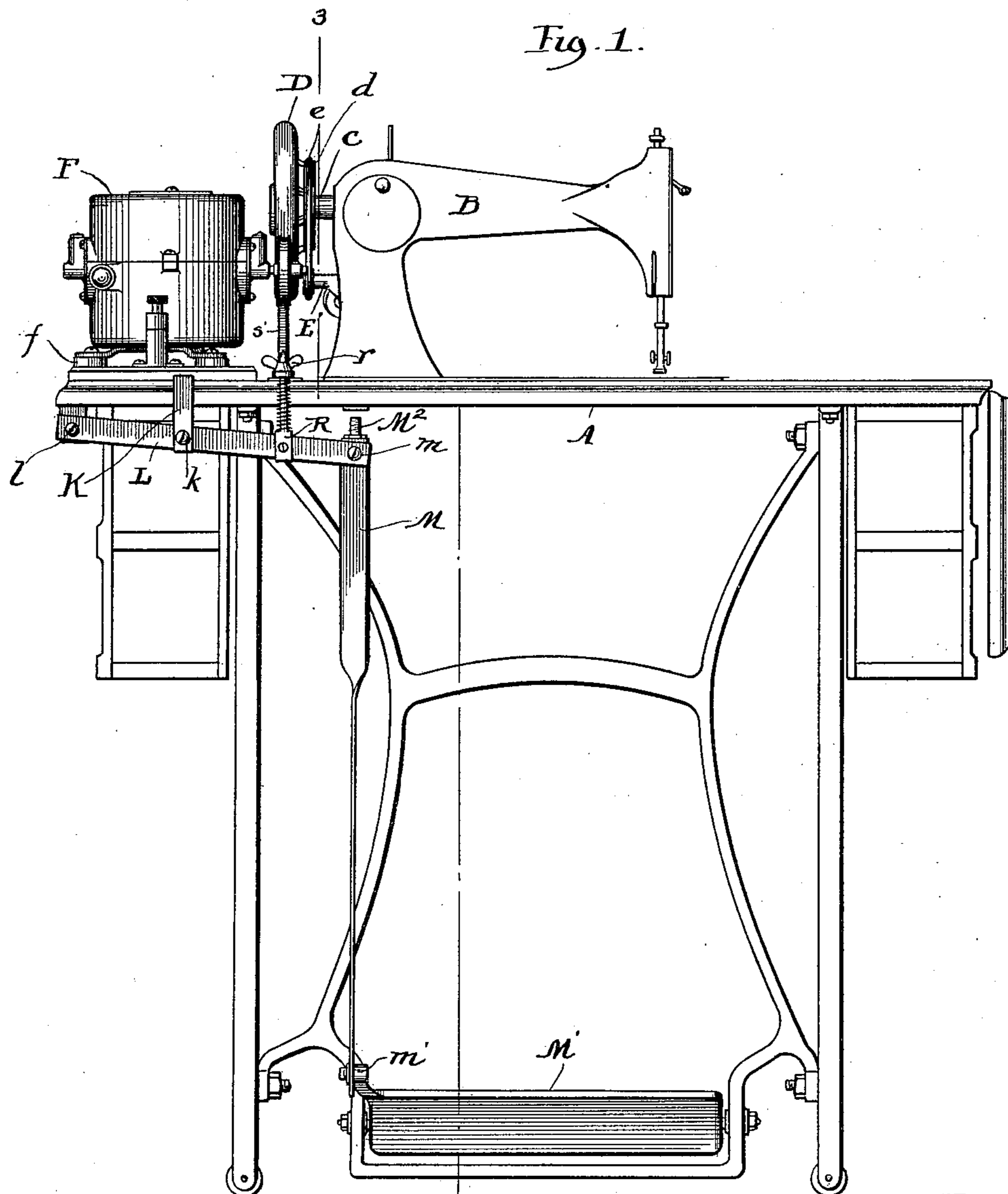
Patented Apr. 24, 1900.

C. G. ATKINS & J. THULIN.
MOTOR ATTACHMENT FOR SEWING MACHINES.

(Application filed May 22, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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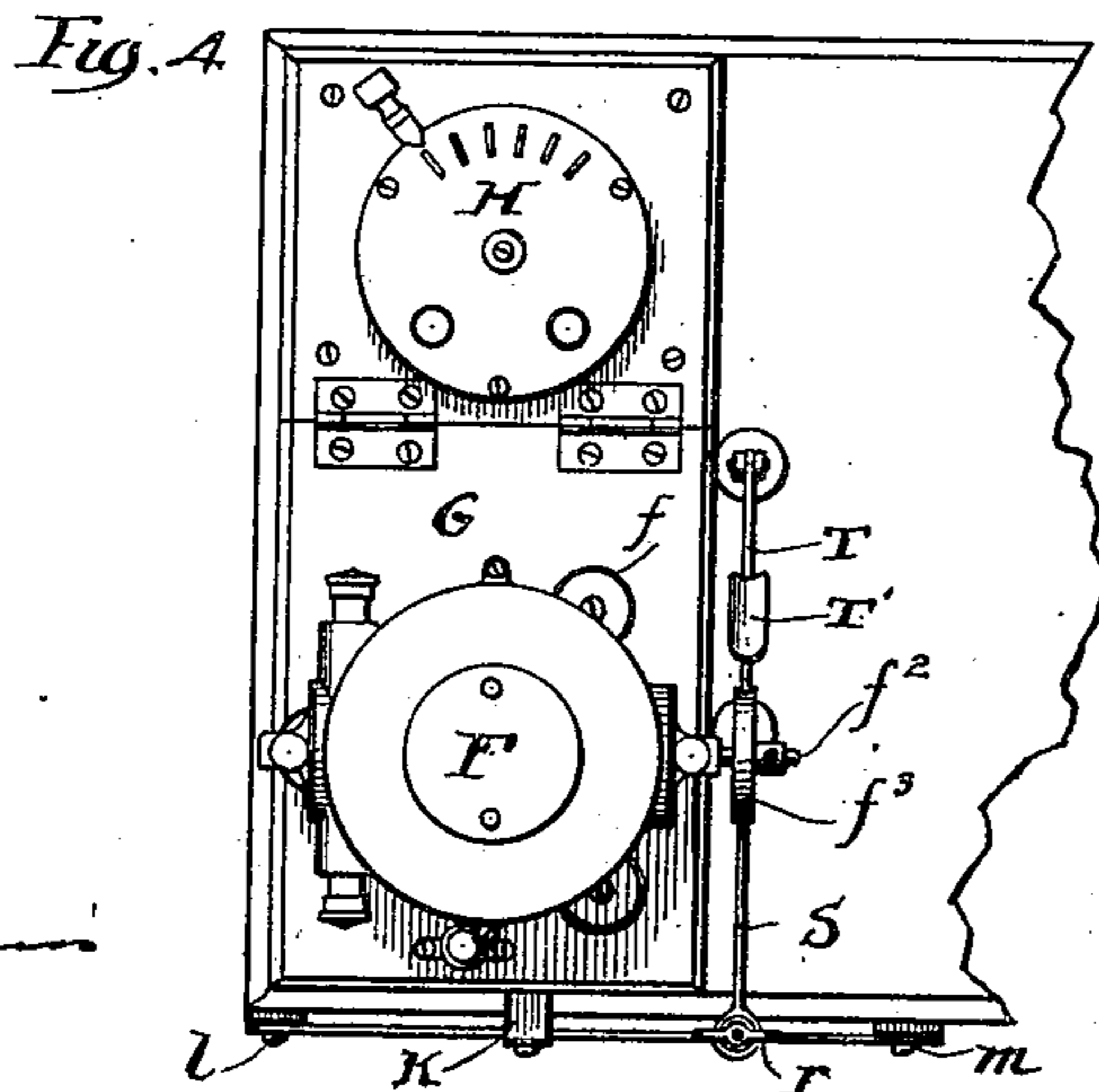
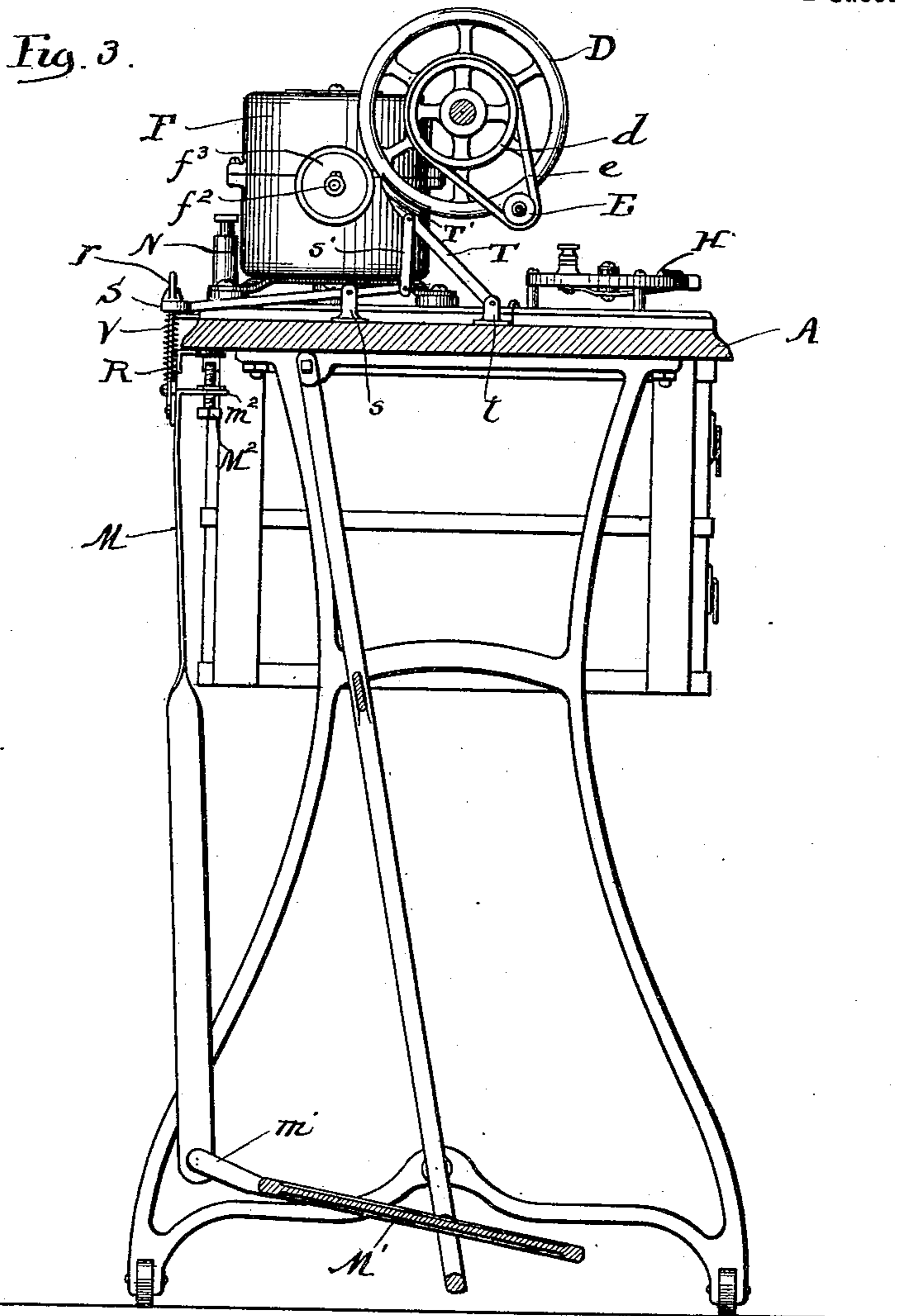
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CHARLES G. ATKINS AND JOHN THULIN, OF CHICAGO, ILLINOIS, ASSIGNORS
TO SAMUEL INSULL, OF SAME PLACE.

MOTOR ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 648,185, dated April 24, 1900.

Application filed May 22, 1899. Serial No. 717,681. (No model.)

To all whom it may concern:

Be it known that we, CHARLES G. ATKINS and JOHN THULIN, residents of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Motor Attachments for Sewing-Machines and Like Mechanism, of which the following is a full, clear, and exact description.

10 The present invention, while more especially designed to provide improved mechanism whereby motors may be applied for the driving of sewing-machines, will be found applicable also for the driving of other mechanism—such as scroll-saws, lathes, or the like—and the invention is not to be understood, therefore, as restricted in its application to any particular type of machine to be driven.

20 The object of the invention is primarily to afford a simple and efficient means for applying the power of the motor to the machine and for permitting the machine to be readily stopped when the power of the motor is released, so that the machine shall be under the effective control of the operator.

25 The invention consists in features of improvement hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

30 Figure 1 is a view in rear elevation of a sewing-machine having our invention applied thereto. Fig. 2 is a view in vertical section through the top plate of the machine and the bed-plate of the motor. Fig. 3 is a view in vertical section on line 3 3 of Fig. 1. Fig. 4 is a detail plan view of the motor, its rheostat, and adjacent parts.

40 A designates the top plate of a sewing-machine, from which top plate rises the arm B, wherein is journaled the main drive-shaft C, having fixed at its outer end the wheel D, this wheel being shown as furnished with an annular grooved offset *d*, that is connected by a belt *e* with a small pulley E, conveniently supported by a bracket E', projecting from the vertical part of the arm B. The pulley E is furnished with the usual stem or spindle
50 adapted to receive the spool to be wound with thread.

Upon the top plate A of the machine-frame is placed a suitable support, whereby the motor F may be movably sustained. Preferably this support consists of a base-plate, 55 one section G of which is suitably hinged, as at *g*, to the adjacent section. A rheostat or like controller H will be provided for the motor. As shown, the motor rests upon legs *f*, that are attached to the movable base G. 60 The motor may be of any suitable construction, and its drive-shaft *f*² is provided with a drive-pulley *f*³, that extends into proximity to the periphery of the wheel D at the end of the sewing-machine shaft C. The base or 65 movable support G of the motor F is preferably shifted by the following means, although manifestly other suitable devices may be employed for accomplishing this purpose without departing from the scope of the invention. 70

Beneath the support G extends an angular arm K, the downwardly-bent portion of this arm being attached, as at *k*, to a lever L, one end of which is shown as pivotally connected, as at *l*, to a suitable part depending from the 75 top plate of the main frame. The opposite end of the lever L is pivotally connected, as at *m*, to the upper end of a treadle-rod M, the lower end of this treadle-rod being pivotally attached to an arm *m*' of the sewing-machine treadle M', of usual or suitable construction. As shown in Fig. 3, the upper end of the treadle-rod M is provided with an offset arm *m*², through which passes a set-screw M², by the adjustment of which the extent of 85 upward movement of the rod M can be determined. The weight of the motor F and of its support G is preferably counterbalanced by a spring N, and, as shown in Fig. 2 of the drawings, the lower end of this spring passes 90 through a hole in the support G and bears against the top plate A of the main frame, while the upper part of the spring is held within a casing N'. This casing N' is furnished with a screw-threaded cover *n*, where- 95 by the top of the casing is closed and whereby also the tension of the spring may be varied, or, if preferred, an adjusting-screw for the spring may pass through the top of the casing N. The casing N has flanges at its 100 base that are screwed to the support G. When the motor F is in normal position—

that is to say, out of action—the parts will occupy the position shown in the several views of the drawings, and at such time the drive-pulley f^3 of the motor will stand slightly away
 5 from the periphery of the wheel D, as shown in Fig. 3 of the drawings. When, however, it is desired to start the sewing-machine, the operator will depress the front end of the treadle M', thereby forcing upward the
 10 treadle-rod M and through the medium of the lever L and arm K lifting the support G and the motor F until the drive-pulley f^3 of the motor bears firmly against the periphery of the wheel D.

15 In order to promptly arrest the movement of the sewing-machine and thus place it under effective control of the operator, we provide a brake mechanism, preferably of the construction next to be described. To the
 20 lever L is connected a rod R, the upper threaded end of which passes through one end of a lever S, that is pivoted to a bracket s, rising from the top plate A of the main frame. The opposite end of the lever S is con-
 25 nected by a link s' with a brake-lever T. The lower end of the brake-lever T is pivotally connected to a bracket t , while its upper end carries a brake-shoe T', adapted to engage with the periphery of the wheel D. Preferably a
 30 coil-spring V encircles the rod R beneath the lever S, the tension of this spring being regulated by a thumb-nut r upon the threaded end of the rod R. It will thus be seen that when the operator depresses the front por-
 35 tion of the treadle M' the drive-pulley of the motor F is thrown into engagement with the wheel D of the sewing-machine, and the rear end of the lever S is raised, so as to retract the brake-lever T and hold the brake-shoe T'
 40 away from the wheel D. Inasmuch as the rear end of the lever S rests upon the coil-spring V it will be seen that during the lifting of the lever S the spring is compressed somewhat, and hence the brake-shoe is gradu-
 45 ally withdrawn from the drive-wheel D, thus preventing too sudden starting of the machine. When, however, the opposite end of the treadle M' is depressed, the drive-pulley of the motor will cease to engage the wheel
 50 D and the brake-shoe T' will be thrown into engagement with the periphery of the wheel D, and thus promptly arrest the operation of the machine.

Our invention affords a simple and effective means whereby sewing-machines and
 55 like mechanism may be easily and effectively driven by motors, the construction of parts being such that the starting and stopping of the machine are placed under the easy control
 60 of the operator, whose hands are left entirely free for the manipulation of the work.

It is manifest that the precise details of construction above set out may be varied without departing from the spirit of the in-
 65 vention and that any suitable type of motor may be employed.

Having thus described our invention, what

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

1. An attachment for sewing-machines comprising a motor provided with a drive-wheel, a movable support whereby said motor is sus-
 70 tained, a pivoted lever for shifting said motor-support, a treadle-rod connected to said pivoted lever, a brake for engaging the mechanism to be driven and suitable lever mechanism intermediate said brake and said treadle-rod. 75

2. An attachment for sewing-machines or like mechanism, comprising a motor provided
 80 at one end with a drive-wheel, a movable support for said motor adapted to be mounted upon the machine-table, a lever provided with means whereby it may be pivotally connected to the machine-table, said lever being con-
 85 nected to the motor-support whereby said support may be raised to throw its drive-wheel into engagement with the machine, and a treadle-rod connected to said lever.

3. An attachment for sewing-machines or
 90 like mechanism comprising a motor having a drive-wheel at one end, a support whereby said motor may be pivotally sustained upon the machine-table with said wheel in the ver-
 95 tical plane of the drive-wheel of the machine to be driven, a lever provided with means whereby it may be pivotally connected to the machine-table, said lever being connected to the motor-support, a treadle-rod connected to
 100 said lever, a brake for arresting the machine to be driven, a brake-lever for operating said brake and connections between said brake-lever and the lever whereby the motor is shifted.

4. The combination with a sewing-machine or like mechanism having a drive-wheel, of a
 105 motor having a drive-wheel arranged in the same plane as the drive-wheel of the machine and in proximity thereto, a hinged support for said motor mounted upon the table of the machine and whereby the drive-wheel of the
 110 motor may be moved into engagement with said drive-wheel of the machine, a pivoted lever connected to said motor-support, a treadle connected to said lever, a brake mounted above the machine-table and lever mechanism
 115 connected with the treadle for throwing said brake out of action.

5. An attachment for sewing-machines or like mechanism, comprising a motor, a mov-
 120 able support for said motor whereby it may be thrown into gear with the machine to be driven, a treadle for operating said motor-support, a brake for arresting the movement of the machine when the motor is thrown out
 125 of gear therewith, suitable connections between said brake and said treadle and a spring interposed between the treadle mechanism and the brake whereby the release of the brake from the machine is gradually ef-
 130 fected.

6. The combination with a sewing-machine or like mechanism, having a drive-wheel, of a motor having a drive-pulley arranged in the same plane as the drive-wheel of the machine,

a hinged support for said motor whereby the pulley of the motor may be brought into engagement with said drive-wheel of the machine, a lever for lifting said motor-support, 5 a treadle connected to said lever, a brake arranged to engage the drive-wheel of the machine, and lever mechanism for throwing said brake out of action, said brake-lever mechanism being suitably connected with the 10 treadle whereby the motor is shifted.

7. The combination with a sewing-machine or like mechanism having a main frame and having a drive-wheel D, of a motor-support 15 pivotally mounted upon said main frame, a motor carried by said support and having a

drive-pulley arranged to engage the drive-wheel of the machine, a lever L connected with said motor-support, a treadle-rod M and treadle for shifting said motor-support, a brake-lever T provided with a brake T' and 20 a lever S connected with the brake-lever T at one end and connected at its opposite end with the lever L whereby the motor-support is shifted.

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