H. A. CLARK. SEWING MACHINES.

No. 122,107. Patented Dec. 26, 1871.

FIG. 1.

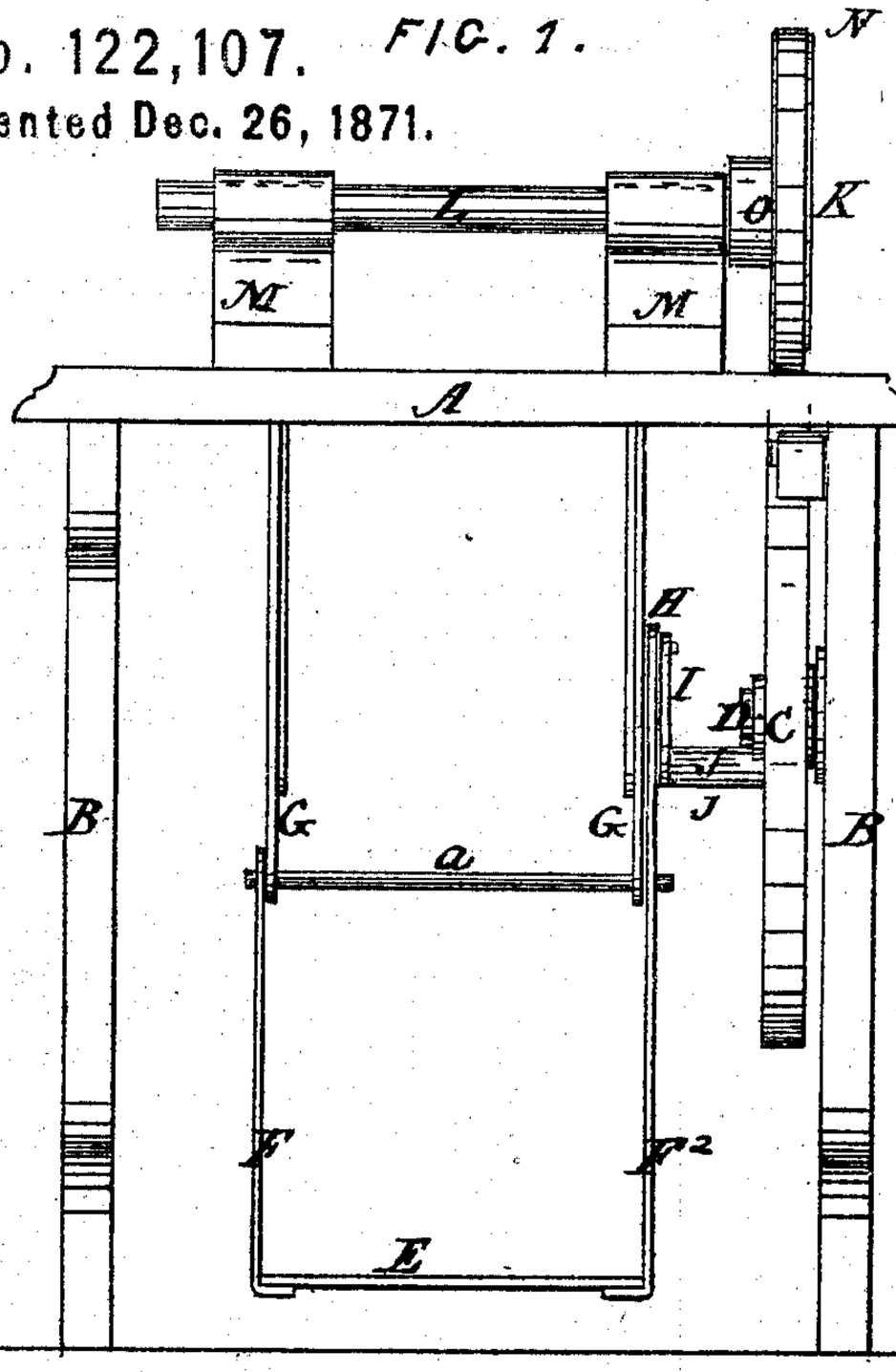


FIG. 2.

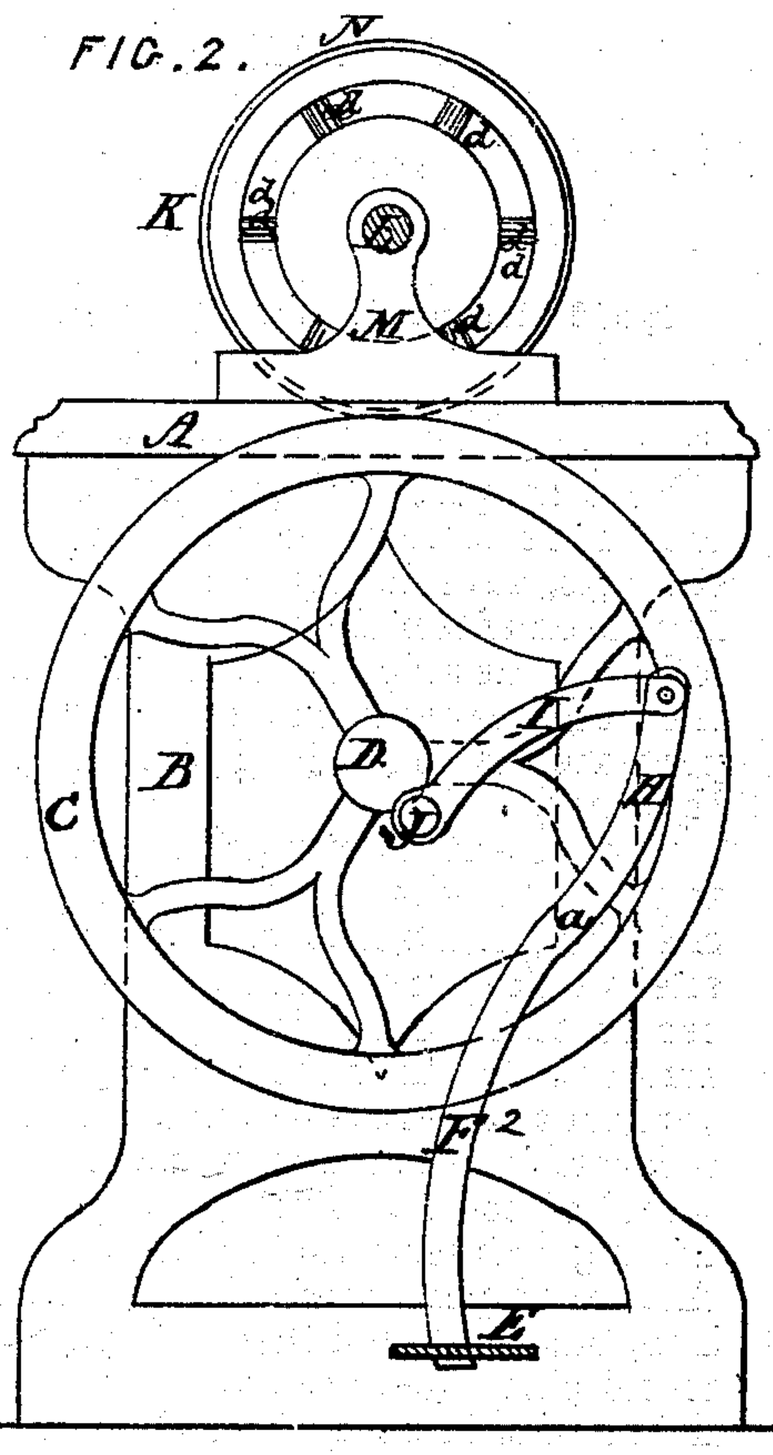


FIG. 3.

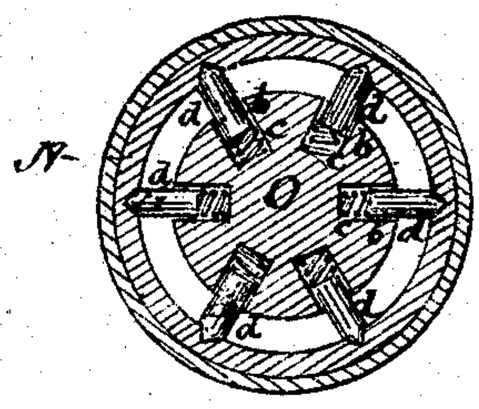
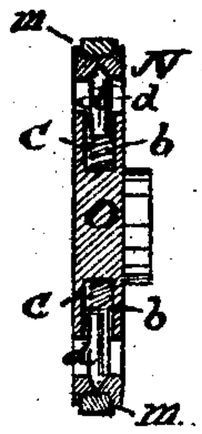


FIG. 4.



WITNESSES.

Albert W. Brown.

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HENRY A. CLARK, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TREADLE FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 122,107, dated December 26, 1871; antedated December 6, 1871.

To all persons to whom these presents shall come:

Be it known that I, HENRY A. CLARK, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines; and that the following description, taken in connection with the accompanying plate of drawings forming a part thereof, is a full and exact specification of the same.

The present invention relates more particularly to the driving of sewing mechanism; and it consists, first, of a treadle or foot-rest, secured to parallel vertical arms that are hung on a common center, to have a swinging motion more or less across the width of the machine, with one of said vertical arms extended, and connected through a pitman-rod to and with the driving or balance wheel of the machine. Second, of a frictional driving or intermediate wheel, constructed with the rim or periphery independent of the center hub, but connected therewith through a series of radial pins, moving in and out of radial sockets in the hub, in each of which is located a spring or elastic cushion to force the said pins outward, thus securing an additional frictional contact of the wheel with the wheel in connection with which it is to operate, obviating the jamming together of the wheels, which necessitated the exertion of great power to run them. Third, of a peculiar constructed cam-stop, to prevent backward motion to the machine.

In the accompanying plate of drawings my improvements in sewing-machines are illustrated, Figure 1 being a front elevation of a sewing-machine table having the same applied thereto; Fig. 2, a transverse vertical section in plane of line *x x*, Fig. 1; Figs. 3 and 4, vertical sections of the frictional wheel, respectively, in planes at right angles to each other.

A in the drawings represents a table or platform, supported by parallel uprights B, one at each end. C, the balance or driving-wheel, hung upon a suitable journal, D, of one of the uprights B, so as to be free to turn. E, the foot-rest or treadle, fastened to the ends of parallel arms F F^2 that are hung to and upon a common center pin or axis, *a*, that is arranged within and across the vertical arms G attached to the under side of the table A, projecting downward from the same. One, F^2, of the arms F F^2, by which the treadle or foot-rest is suspended, is extended beyond the axis *a*, and, by the end of its extension H, it is hung to one end of a connecting-rod, I, that, at its other end, is hung to a stud or pin, J, of the wheel C, this stud or pin being located between the center hub and rim of the wheel.

With a suspension of the treadle, such as above described, in driving the treadle its motion is of a swinging character, more or less, across the width of the table, the wheel C being driven in consequence thereof through the connection between the wheel and treadle herein described.

The principal advantage of this hanging of the treadle—that is, the cross swinging movement of the treadle over the usual hanging of the treadle or foot-rest—that is, the vertical swing—is, that the leg of the person is worked more from the knee-joint than from the thigh-joint, thereby lessening the possibility of injury to the health of the person, as is obvious.

K is a wheel, arranged, in the present instance to run in frictional contact with the periphery of the wheel C. This wheel K is secured to a horizontal shaft, L, arranged to turn in bearing-posts M secured to the upper side of the table; the shaft L being the shaft by and through which the sewing mechanism is to be driven by a suitable connection of parts; N, the rim or periphery, made of an annular or ring form; and O, the hub of the wheel K. The hub O, at several points of its periphery—in the present instance shown as six—is provided with similar sockets *b* extending in radial lines from the periphery thereof toward the center or axis of the wheel. Within each socket *b* a spiral spring, *c*, is located, with a pin or stem, *d*, to bear thereon, that are severally connected to the inner periphery of the annular rim N, securing thereby the rim N to the hub. The connection between the rim and pins *d* may be by screwing the pins into the rim, or by forming suitable seats in the rim for the pins to set in, or by other modes.

With a construction of the wheel K, as above described, in the running of the same in frictional contact with another wheel, the rim, through the system of stems and springs, exerts a yielding or elastic pressure on the wheel with which it is running in contact, securing all the frictional contact necessary at every point of the revolution of the wheels, without requiring the wheels to be "jammed" together.

To secure a closer contact between the wheel

t is well to provide either one or both with a rubber or other elastic tire. In the present instance it is shown as applied to the wheel K, which, for such purpose, has its rim N constructed with a groove or recess, *m*, entirely around it, nto which the rubber is placed, projecting beyond the depth of the flanges forming the boundry of such groove or recess.

Having thus described my invention, I shall tate my claims as follows:

1. The treadle or foot-piece E, connected to parallel arms F F^2 suspended on a common axis, , with one, F^2, of said arms extended and connected through rod I with the driving or balance wheel C, constructed, arranged, and operating substantially as described, for the purpose specified.

2. The wheel K, constructed with the rim N and hub O, not contiguous to each other, but connected together for operation through the stems *d d* and springs *c c*, substantially as and for the purpose set forth.

The above specification of my improvements in sewing-machines signed by me this 5th day of January, 1871.

HENRY A. CLARK.

Witnesses:

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