3 Sheets--Sheet 1.

# SIMON W. WARDWELL, Jr.

## Improvement in Table and Treadle for Sewing Machines.

No. 121,828. Patented Dec. 12, 1871.

Fig. 1.

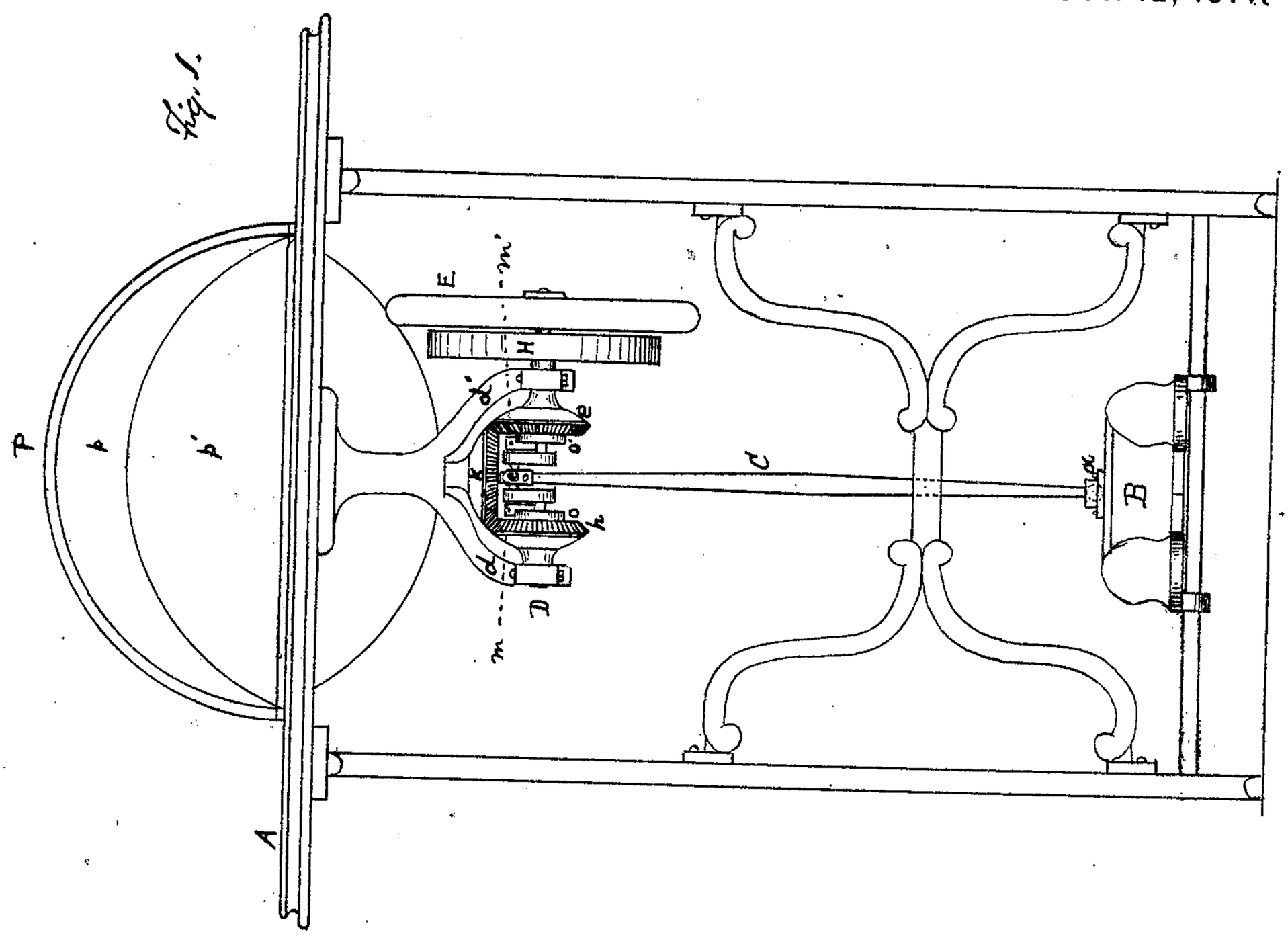
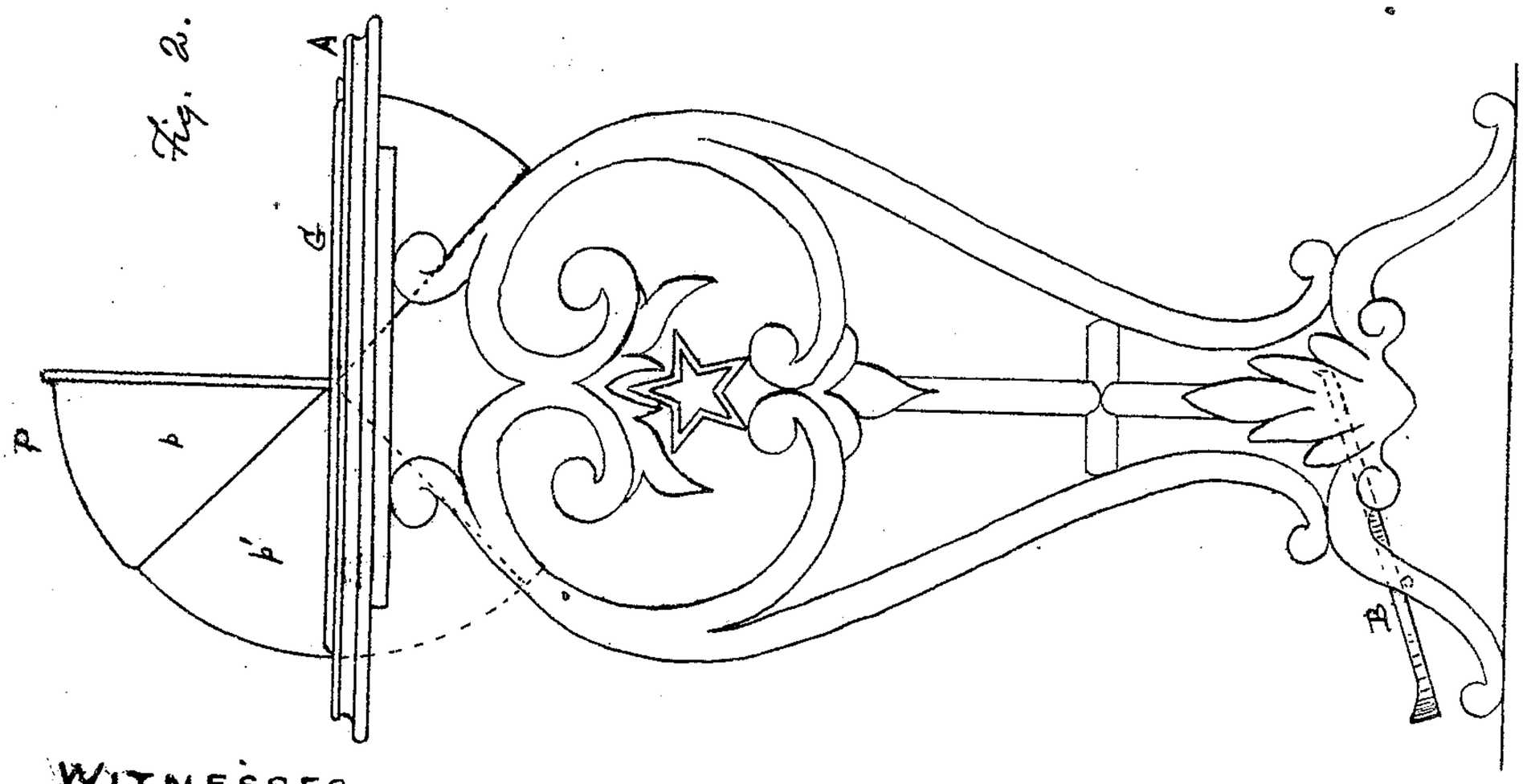



Fig. 2.




WITNESSES

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SIMON W. WARDWELL, Jr.

# Improvement in Table and Treadle for Sewing Machines.

No. 121,828. Patented Dec. 12, 1871.

Fig. 3.

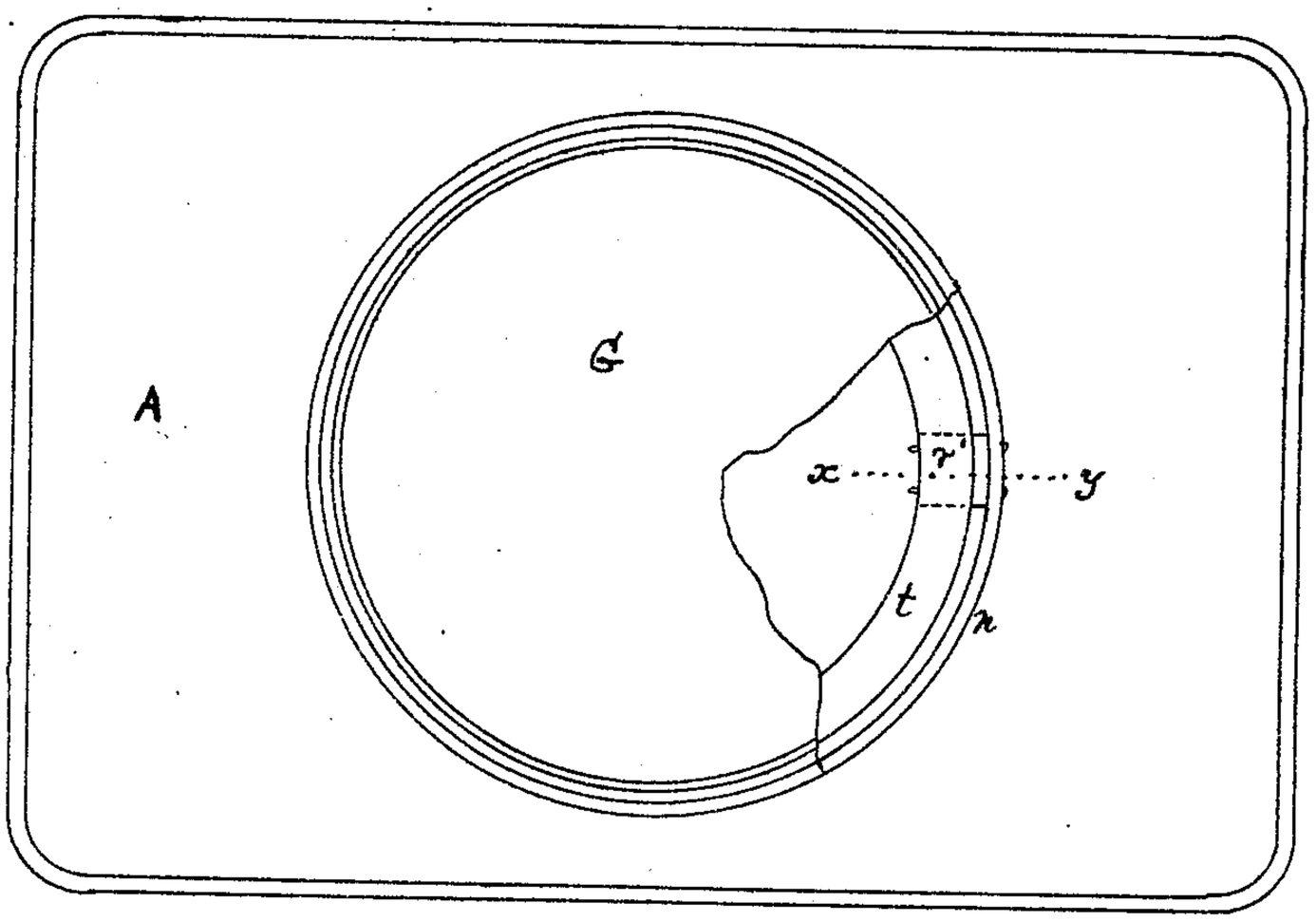



Fig. 6.

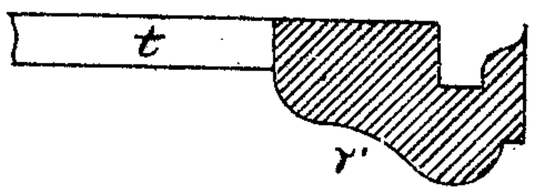



Fig. 7.

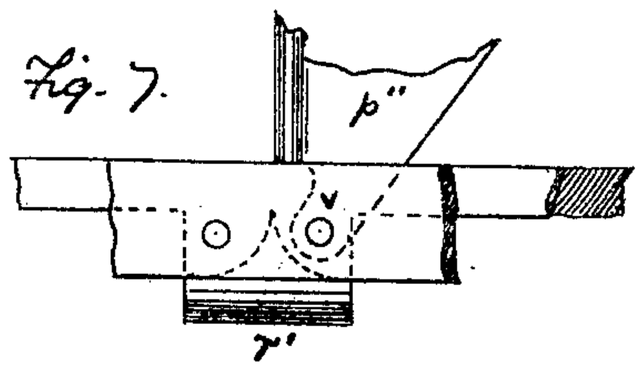



Fig. 5.

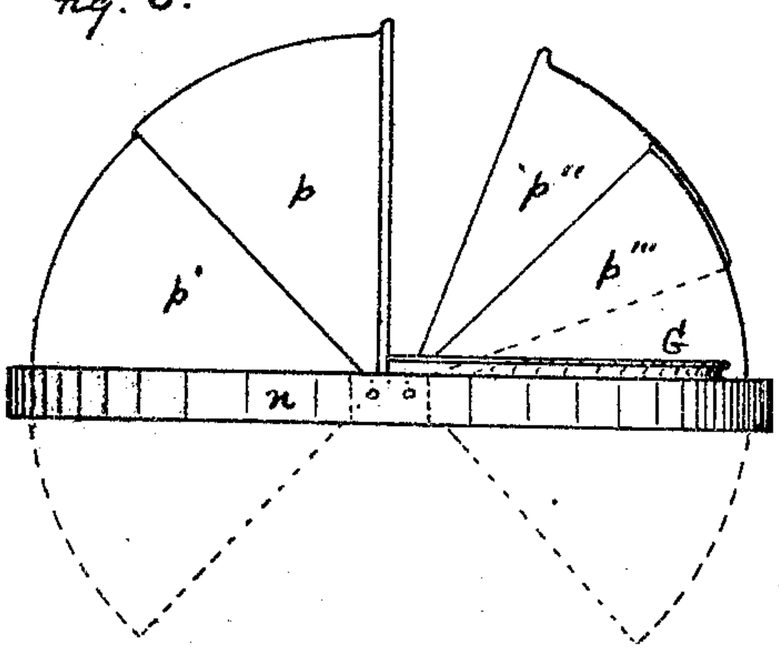
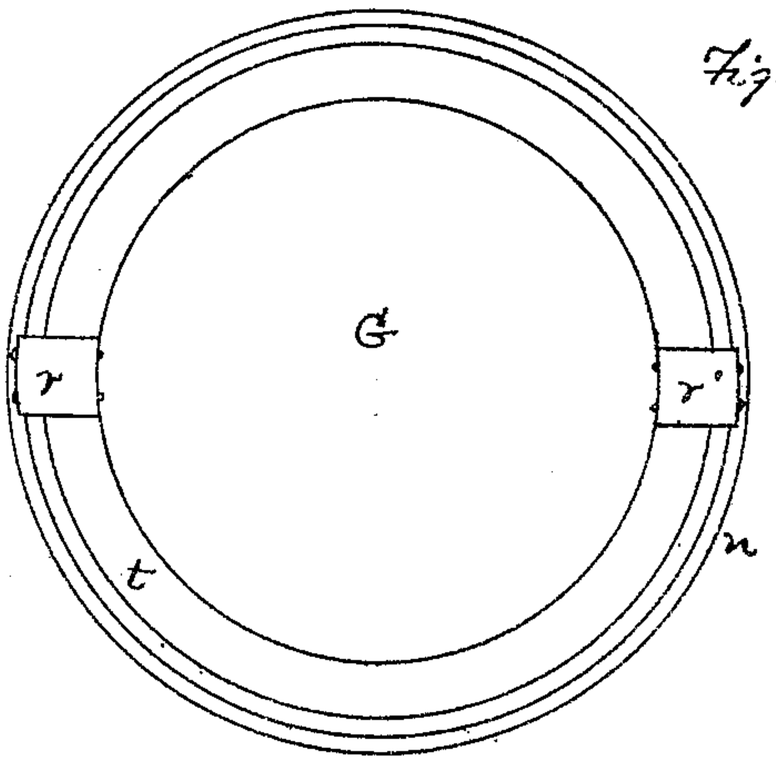



Fig. 4.

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# Improvement in Table and Treadle for Sewing Machines.

No. 121,828. Patented Dec. 12, 1871.

Fig. 8.

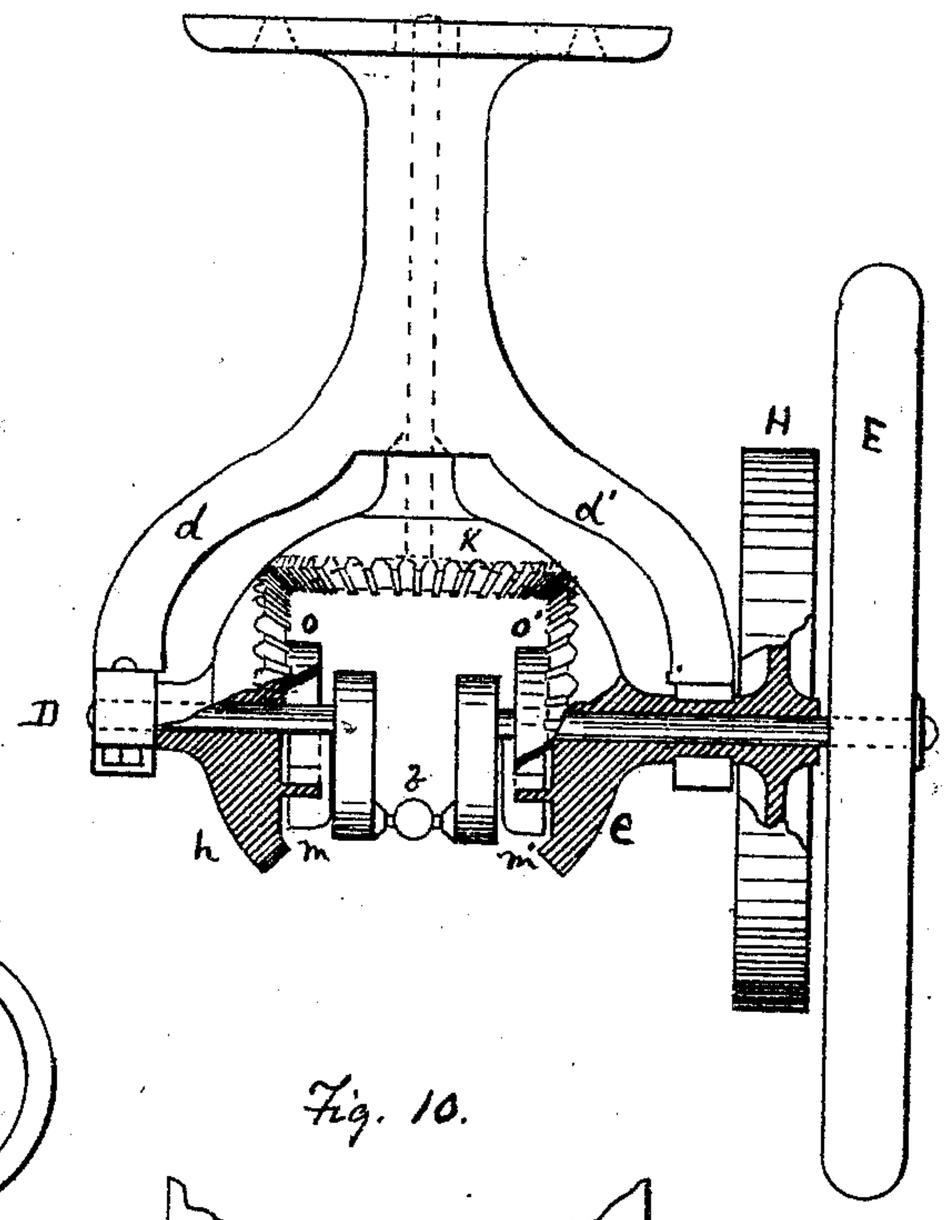



Fig. 9.

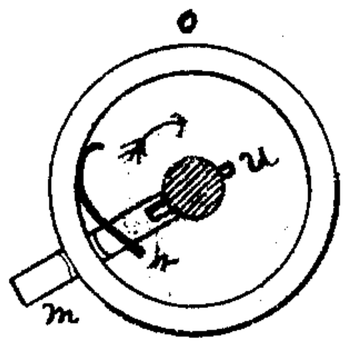



Fig. 10.

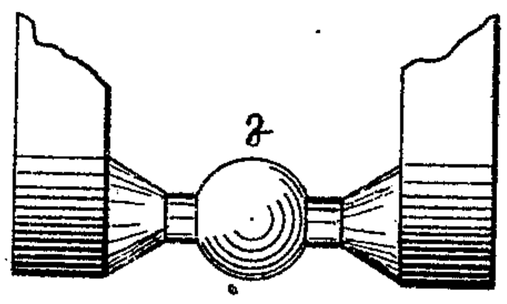



Fig. 12.

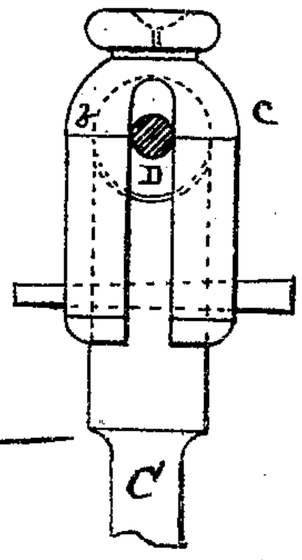
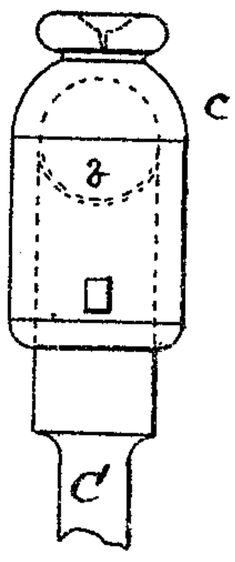



Fig. 11




WITNESSES

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INVENTOR

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Emil. S. Boyd

Atty.

# UNITED STATES PATENT OFFICE.

SIMON W. WARDWELL, JR., OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE W. SHAW, OF SAME PLACE.

## IMPROVEMENT IN TABLES AND TREADLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 121,828, dated December 12, 1871.

*To all whom it may concern:*

Be it known that I, SIMON W. WARDWELL, Jr., of the city and county of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Tables for Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 represents a front view of my table. Fig. 2 represents a side view of same in part. Figs. 3 and 4 represent, respectively, a top and bottom plan of the bed-plate. Fig. 5 represents a side view of the cover. Fig. 6 represents a transverse section of Fig. 3 at *x y*. Fig. 7 represents a side view at the same point, with a portion of the cover. Figs. 8, 9, 10, 11, 12 represent detached views of portions of the operating mechanism, as will be hereinafter shown.

Similar letters indicate like parts.

The object I have in view is to produce a sewing-machine table which may be applied to or used with any of the machines now in use by a very simple change in some of the connections of such machines, and which when so applied will enable the operator to turn the bed-plate, with the working parts of the machine, in a horizontal plane to any desired extent, even to making a complete circle, and still allow the operator to work the machine without moving from his position. I also produce a uniform or rather continuous rotary motion of the driving-wheel, even when the horizontal shaft giving motion to said wheel may have an alternate circular motion, which is very apt to be the case with other sewing-machines. Another point attained is a comely cover, which when the machine is in use is removed entirely out of the way and yet remains attached to the table.

A, Figs. 1, 2, 3, 4, represents the table top, supported, as seen, by suitable standards or frame-work. B, Figs. 1, 2, represents the usual sandal treadles, to which is attached the pitman C, made, as shown, of a single rod, by means of a ball-and-socket joint, *a*. The other end of this pitman is hollowed to receive the ball *b*, Figs. 8, 10, on the crank-shaft D, the latter being shown clearly in Fig. 8 and also appearing in Figs. 1, 10. A cap, *c*, Figs. 1, 11, 12, the latter figures giving, respectively, a front and side view, likewise hollowed, fits over the ball *b* and the top of the pitman, and is secured to the latter by a pin, as seen. The crank-shaft D finds its support and bearings in the forks *d d*, Figs. 1, 8, attached to the bottom of the bed-plate, as shown clearly in the former figure. On one end of the shaft D is an ordinary fly-wheel, E, Figs. 1, 8, and also a driving-wheel, H, and bevel-gear *e*, Figs. 1, 8, the two latter working loosely on the shaft D and connected together, as shown clearly in Fig. 8. On the other end of the shaft D is another loose bevel-gear, *h*, Figs. 1, 8. Engaging with these is a third bevel-gear, *k*, shown in the same figures, and attached to a vertical shaft, as shown clearly in the latter figure. On the inner face of the gears *e* and *h* is a projecting ring, *o o'*, Figs. 1, 8, 9, either cast with the wheels or firmly attached to them. Radial arms *m m'*, Figs. 1, 8, 9, having a slot in one end to receive a stud or pin, *u*, passing through the crank-shaft D, and also a slot in one edge to receive the ring *o o'*, as seen clearly in Fig. 9, are held in position by the cranks of the shaft D and the face of the gears *e h*. In each of these arms is inserted one end of a spring, *w*, Fig. 9, the other end playing, as seen, against the inner periphery of the rings *o o'*. These free ends point in opposite directions in the two rings. Now, these radial arms *m m'* being compelled to move with the crank-shaft, it is evident that as the shaft revolves in one direction or the other it will act directly on but one of the gears *e h*, causing it to revolve with it; for when the radial arm revolves in the direction indicated by the arrow in Fig. 9 the spring will slide along the face of the ring *o* without moving it; but when the arm moves in the opposite direction the friction caused gives motion to the ring and its connected gear in the same direction. The object, then, being to give a continuous rotary motion to the driving-wheel, the spring on the radial arm attached to the gear which is on the arm of the shaft carrying the driver must be arranged so that when it acts to set the gear in motion it shall carry the driving-wheel in the desired direction; then, when by any chance, as in starting the machine, the crank-shaft is driven in the contrary direction, the other radial arm and spring act upon the other gear, which communicates the desired motion to the driver through the connecting-gear on the vertical shaft, so that unless the crank hangs on a dead-center the machine may be set in motion by the treadles alone, with-

out any care as to whether the crank revolves in the one direction or the other. The bed-plate, which may be represented by G, of whatever shape it may be, will rest upon a ring, *n*, revolving in a seat made for it in the table top, as shown in Figs. 3, 4, while beneath the bed-plate will be another ring, *t*, Figs. 3, 4, 6, 7, having two flanged projections, *r r'*, Fig. 4, *r'*, Figs. 3, 6, 7, by which it is connected with the outer ring *r*. Between these rings is a sliding cover, P, Figs. 1, 2, 5, formed of several leaves, *p p'*, &c., working together, as seen in Fig. 5, so that the machine may readily be covered or uncovered, the covers sliding apart and vanishing beneath the table, as clearly shown, and leaving the whole surface of the table free. The two parts of the cover may be kept together when closed by any suitable lock or other fastening. The leaves of the cover work on pivots passing through the outer ring *n* and the ring *t*, as shown clearly in Fig. 7 at *r*.

One of the advantages of my table is that it can be worked by any one who knows how to work any of the sewing-machines in use, since by it the fabric to be sewed may be made to move in either direction the operator may desire; so that one who is accustomed only to a machine in which the fabric moves at right angles to the front of the table can have the fabric move in that direction, and one who can work no machine unless the fabric moves in a line parallel with the front of the table can arrange the table accordingly. Very many persons are unable to use a machine on account of the injurious effects of operating the treadles; but with my table this is entirely obviated, as the one who operates the treadles may be on one side of the table, while the one manipulating the work may sit at either end or on the opposite side of the table, and in each position direct the work equally well.

The cover, as shown, is entirely out of the way while the machine is being used, remaining attached to the table, and, as seen, becoming a guard to the working parts below, instead of either being removed from the table or, when turned back, taking up a great deal of space on the table which otherwise would be useful.

The peculiar attachment of the pitman and crank-shaft dispenses with any joints in the former which would be necessary were the connection made in any other way.

When all the parts are made of metal the operation will be comparatively noiseless, though if the gear *k* be made of wood there will be much less noise.

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

1. The gears *h e k*, radial arms *m m'*, and rings *o o'*, with the springs *w w'*, in combination with a crank-shaft, substantially as shown and specified.

2. The combination of the gears *h e k*, radial arms *m m'*, springs *w w'*, rings *o o'*, crank-shaft D with its ball *b*, pitman C, treadles B, plate G, and rings *t n*, all constructed and arranged substantially as and for the purpose shown and specified.

3. The combination of a sewing machine table and cover P formed of leaves *p p'*, &c., when constructed and operating substantially as shown and specified.

4. The combination of the cover P with the revolving plate G and table A, as and for the purpose shown and specified.

5. A sewing-machine table combining a revolving plate, G, and operating mechanism in the manner described, so that said plate and the sewing-machine connected therewith may be made to revolve in a horizontal plane at the will of the operator without interfering with the action of such mechanism.

S. W. WARDWELL, JR.

Witnesses:
SAML. S. BOYD,
GEO. W. SHAW.

(134)