2 Sheets—Sheet 1.

T. F. WOODBRIDGE.

TREADLE FOR SEWING-MACHINE.

No. 171,904. Patented Jan. 4, 1876.

Fig 1

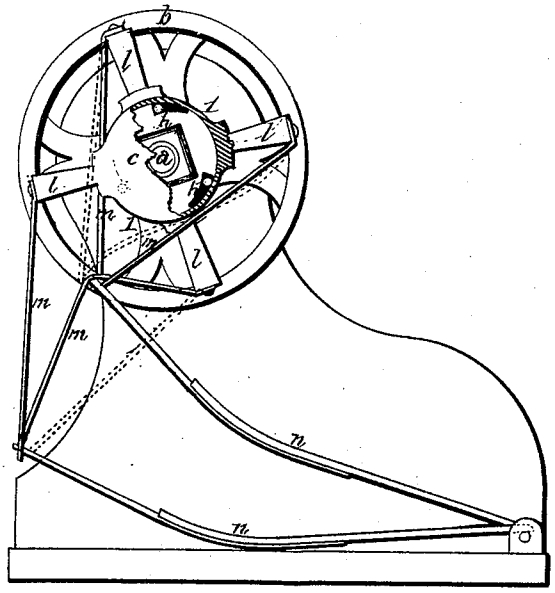
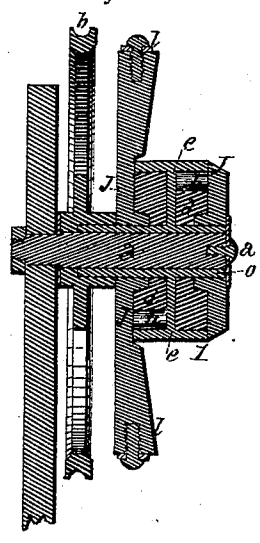


Fig 2.



WITNESSES.

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per T. A. Lehmann Atty.

2 Sheets—Sheet 2.

T. F. WOODBRIDGE.

TREADLE FOR SEWING-MACHINE.

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Fig. 3

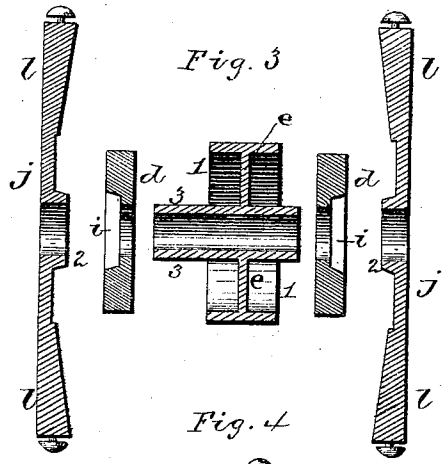


Fig. 4

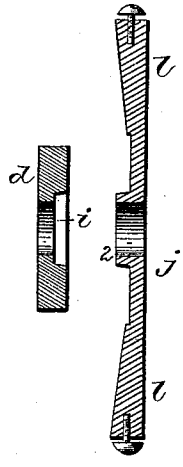
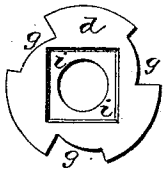


Fig. 5.



WITNESSES.

C. W. Lemon

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UNITED STATES PATENT OFFICE.

THEODORE F. WOODBRIDGE, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN TREADLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **171,904**, dated January 4, 1876; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, THEODORE F. WOODBRIDGE, of Mendota, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Treadles and Power for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved treadle and power attachment for sewing-machines; and it consists in a shell, that is divided by a partition in the center, and which has a sleeve formed upon one end to receive the fly-wheel, so that when the shell is made to revolve by the clutches, placed in each end, the wheel will revolve with it. The clutches are operated, alternately, by means of caps that close the ends of the shell, which caps are each provided with two arms, to which the upper ends of the straps are fastened, and tenons to catch in the clutches and operate them.

Heretofore clutches have been employed for this purpose; but they have not been provided with arms for the double purpose of giving greater leverage to the operator, and to enable them to move the clutches a greater distance at each movement of the treadle. Neither have the straps been attached to the clutches, as here shown.

The accompanying drawings represent my invention.

Figure 1 is a side elevation of my invention. Fig. 2 is a vertical section of the same. Figs. 3, 4, 5 are detail views of the same, shown in detached positions.

a represents the rod or pivot, upon which the fly-wheel *b* and the motor *c* are placed, which rod or pivot is secured to one of the legs in the usual manner. The fly-wheel *b* is secured to a sleeve, 3, that projects out from the side of the shell 1, so that when the shell is made to revolve it will carry the wheel with it. The motor *c* consists of two friction-clutches, *d*, that are placed in each end of the shell 1, and which are separated from each other by the partition *e*. These clutches consist of flat plates that have the inclined recesses *g* cut in their edges to receive the elongated friction-rollers *h*, and which have the square recesses *i* sunk into their outer sides. The recesses *g* are of such a depth at their deeper ends that the rollers *h*, when at these ends, allow the clutches freely to move backward within the shell; but as soon as the motion is reversed these rollers are forced upward toward the more shallow ends, where they bind against the inside of the shell, and then as they are drawn forward they draw the shell forward with them. The open ends of the shell are closed by the caps *j*, which have square-shaped tenons or projections 2 on their inner sides to fit in the recesses *i* in the clutches. Each one of the caps has the long arms *l* projecting from opposite sides, to which the four straps *m* are attached, and by means of which the two clutches are connected with the two independently-moving treadles *n*. The straps of each treadle are made to cross each other, so that one strap will be attached to the arm of one clutch, and the other to an arm of the other, so that an alternating forward motion will be given to each clutch.

The inner cap *j* has a sleeve, *o*, formed upon its outer side, over which the hub of the fly-wheel passes, and to which the wheel is secured by means of a set-screw.

By means of the arm *l* a great leverage is obtained upon the clutches, by means of which the machine can be operated with an ease never before obtained.

I am aware that straps have been attached directly to the peripheries of clutches for the purpose of operating them; but in these cases the straps have little or no leverage, and the consequence is that it is just as difficult to operate the machine as without them.

I am aware that a projection has been attached to one side of the clutches, so as to give the straps a slight leverage, and this I disclaim.

In my device the arms form part of the clutches themselves, and extend out beyond them to such a distance that the straps nowhere come in contact with the clutches.

Having thus described my invention, I claim—

In treadles and power for sewing-machines,

in which the main shaft is operated by means of friction-clutches and straps or rods, the shell 1, constructed with sleeve 3, having a partition, *e*, and recess on each side thereof, in combination with the clutches *d*, recessed at *i*, and arranged to operate with the friction-rollers and with caps *j*, having arms *l* connected with straps *m m'*, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of April, 1875.

THEODORE F. WOODBRIDGE.

Witnesses:
CLEMENT T. GUY,
ALBERT A. BLACK.