

(No Model.)

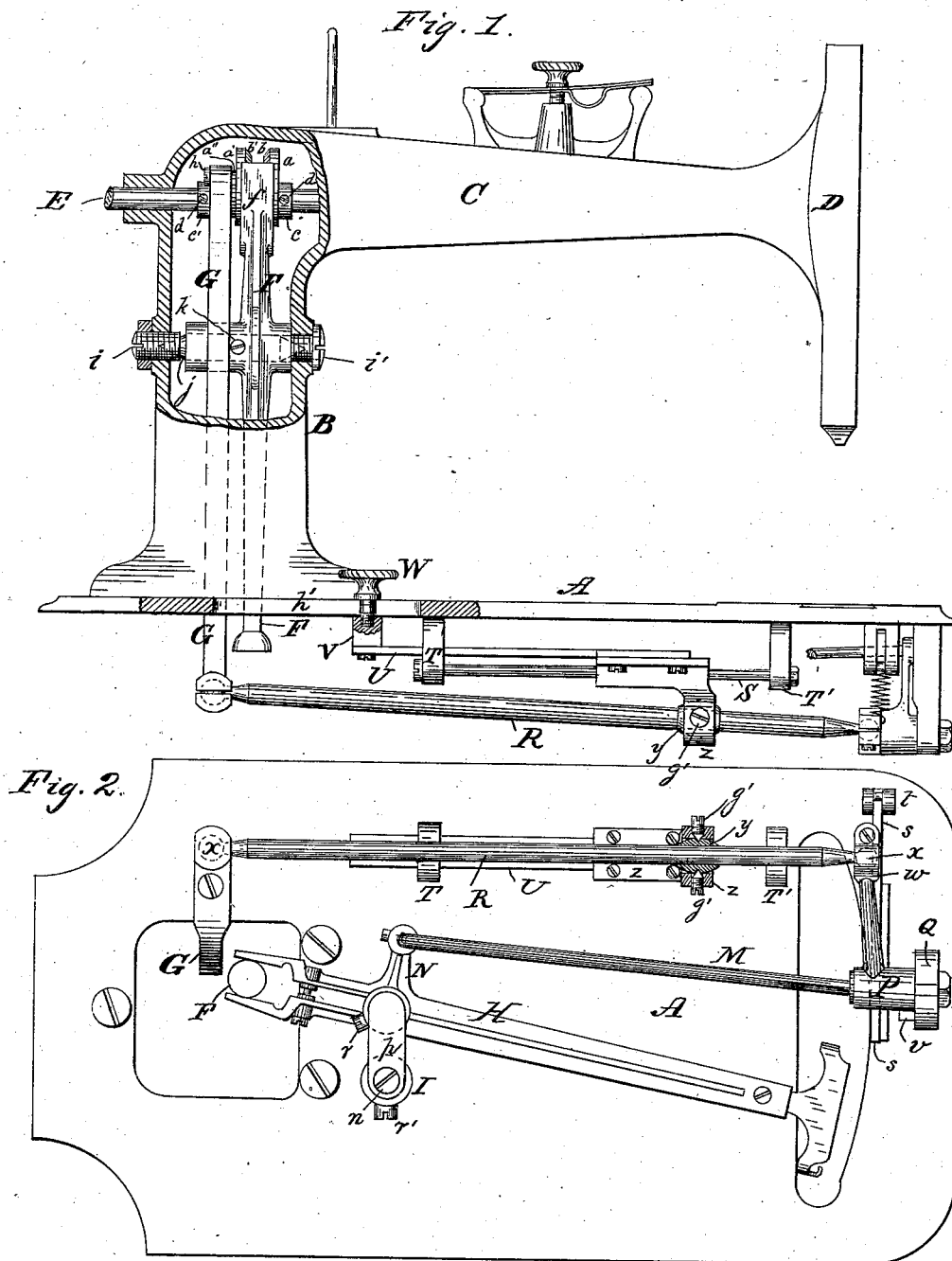
2 Sheets—Sheet 1.

T. B. ROBERTS.

SEWING MACHINE.

No. 260,240.

Patented June 27, 1882.



WITNESSES:

J. J. J. J.
A. Connolly

Thomas B. Roberts, INVENTOR,

Connolly & Frost & McTigue

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

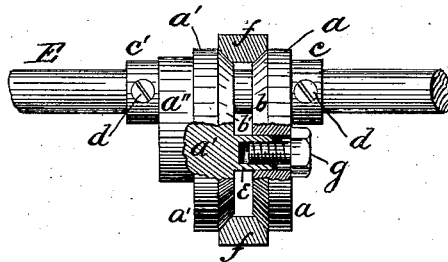
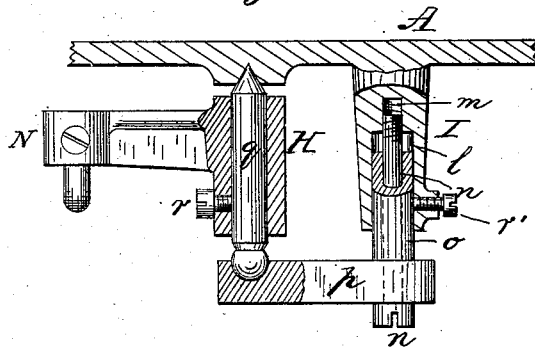


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS B. ROBERTS, OF PITTSBURG, PA., ASSIGNOR OF TWO-THIRDS TO
DAVID HUTCHISON AND JOSEPH M. MOFFATT, OF SAME PLACE.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,240, dated June 27, 1882.

Application filed January 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. ROBERTS, of
Pittsburg, in the county of Allegheny and
State of Pennsylvania, have invented certain
5 new and useful Improvements in Sewing-Ma-
chines; and I do hereby declare that the fol-
lowing is a full, clear, and exact description of
the invention, which will enable others skilled
in the art to which it appertains to make and
10 use the same, reference being had to the ac-
companying drawings, which form a part of
this specification, and in which—

Figure 1 is a rear elevation of a sewing-ma-
chine, illustrating my improvements. Fig. 2
15 is a view of the bottom, showing the improve-
ments in parts located under the platform.
Fig. 3 is a top view detached of the main shaft
with my adjustable eccentric, the eccentric-le-
ver being in section. Fig. 4 is a transverse
20 section of part of the bed or platform, showing
my devices for taking up the wear on the jour-
nal of the shuttle-lever.

This invention relates to the construction and
combination of parts of sewing-machines of
25 that class in which the shuttle is driven by an
oscillating lever driven by a lever connected
to an eccentric on the main shaft, and the feed
is accomplished by the double action of a re-
ciprocating pitman driven by the shuttle-lever
30 and a pitman driven by the main shaft, and
acting upon a feed-lever to give the rising and
falling movement of the feed-plate.

The invention comprises a means of com-
pensating for the wear of the main eccentric
35 and its lever, a means of compensating for the
wear on the journal of the shuttle-lever, and
a means of regulating the feed while accom-
plishing the rising and falling movement posi-
tively, and thereby dispensing with knockers
40 and "noiseless" stops and cushions.

The invention consists in the construction
and combination of parts substantially as here-
inafter fully described and claimed.

In the drawings, I show a sewing-machine
45 having the platform A, post B, arm C, head
D, and shaft E, all of the usual construction
in this class of machines.

On shaft E, I set the two-part eccentric, as
follows: Part *a* has the beveled face *b* and
50 collar *c*, through which the set-screw *d* binds

it to the shaft E. Part *a* (having integral
therewith the pitman-eccentric *a''*) has the
collar *c'*, and set-screw *d'*, for attachment to
the shaft E, and the part *a'* has the beveled
face *b'* on the side next the part *a*. The part
55 *a'* has at a suitable location a stud or boss, *e*,
which fits accurately in a hole drilled in the
part *a* at a corresponding point.

F is the eccentric-lever, whose upper end is
formed as a fork, *ff*, the two prongs being
60 parallel on their inner faces and V-shaped in
cross-section, (see Fig. 3,) so as to fit in the
angular recess formed by the faces *b b'* of the
eccentrics *a a'* on the main shaft. When the
surfaces *b b' ff* become worn and loose from
65 use the set-screws *d d'* are loosened and the
two parts *a a'* drawn together by turning the
bolt *g*, which bears against the outer face of
the eccentric *a* and screws into the stud *e* of
eccentric *a'*, until the wear is all taken up, af-
70 ter which the set-screws *d d'* are tightened; or
the compensation may be given by loosening
only the one set-screw *d* and drawing *a* to-
ward *a'* by the bolt *g*. Where the pitman G
is held on its eccentric *a''* by a screw, *h*, the
75 latter mode of adjusting is necessary.

The eccentric-lever F is journaled on the
cupped screws *i i'*, which receive the pointed
ends of the journal *j*, which is adjustably held
in the lever F by the set-screw *k*, as shown. 80

The lever F is by the revolution of shaft E
caused to oscillate, and gives motion at its foot
to the forked shuttle-lever H, which, being
journaled, oscillates to throw the shuttle in the
cradle. The constant operation of lever H 85
produces wear on its journal, for which I com-
pensate in the following manner:

I form on the bed or platform A the depend-
ent boss I at a point to the rear of the jour-
nal of lever H. The boss I has a socket, *l*, 90
bored vertically in it, and a threaded opening,
m, above it, in which screws a long screw, *n*,
which passes through the stud *o* of an L-shaped
arm or bearing, *p*, and holds it firmly up.

Lever H is bored vertically to receive the 95
pin *q*, whose upper end is pointed and jour-
nals in a recess in bed A, and whose lower
end is rounded and rests in the cupped arm *p*.

Pin *q* is adjustable in the lever H by set-screw
r passing through lever H. When the bear- 100

ings of pin *q* wear out the set-screw *r* is loosened, pin *q* pushed up sufficiently, screw *r* tightened again, and then screw *n* is tightened, thus forcing the stud *o* of arm *p* upwardly into socket 5 *l* until all is steady and true again, when screw *r'* is tightened against stud *o*.

The feed is regulated as follows: The feed-bar *s* is hung at one end on a cross-pin in bearing *t*, and is given the proper up-and-down 10 movement in the usual manner by the reciprocation of a bent pitman, *M*, which passes through a hole in the feed-bar *s* and receives motion from the crank *N* on the shuttle-lever *H*, as shown. The back-and-forth movement 15 of the feed-bar *s* is given by the elbow-crank *P*, through one arm, *v*, of which passes the pitman *M*, the other arm, *w*, being connected to a lever operated by the pitman *G*, and the crank *P* itself being journaled on the bearing *Q* on the bed *A*. Arm *w* of crank *P* is usually oscillated by a lever whose other end is attached to the pitman *G*, such lever being pivoted at an intermediate fixed point, and the amount of 20 oscillation has been governed by allowing the foot of pitman *G* to have more or less lost motion before striking up the lever, thereby producing an intermittent back-and-forth movement of the feed and requiring cushions and 25 bumpers to subdue the noise. I connect this lever *R* at one end to the pitman *G*, and at the other to the arm *w* of crank *P*, by ball-joints *x x*, and provide a movable intermediate fulcrum whose position determines the amount of movement imparted to the feed-bar *s*. The 35 lever *R* is round and straight, and passes freely but closely through a sleeve, *y*, whose outer surface is rounded off, as shown. Sleeve *y* is held in the bracket *z* by the two pointed pivot-screws, *g'*, passing into bracket *z* laterally and 40 horizontally. Bracket *z* slides accurately on the horizontal rod *S*, which is supported by the lugs *T T'*, as shown. Bracket *z* is attached

to the horizontal bar *U*, which passes through a guiding-slot in lug *T*, and beyond that is attached to the sliding head *V*, which is clamped 45 by the thumb-screw *W*, which moves in the long slot *h'*. By this construction the pivotal point of lever *R* may be readily changed, and as its position makes the movement of the feed-bar *s* long or short, it follows that the feed 50 may be regulated with very great accuracy. By loosening the screw *W* the bar *U* may be easily moved in either direction, carrying with it the bracket *z* and its attached pivoted sleeve *y*, which slides upon the lever *R*, as stated. 55

I claim as my invention—

1. The combination of the two-part eccentric *a a'*, having bevels *b b'* adjustable with relation to each other, with the forked lever *F*, having the inner faces of forks *f f'* beveled, as described. 60
2. The combination of the eccentric *a*, having bevel *b*, sleeve *c*, and a suitable opening or socket, with eccentric *a'*, having bevel *b'*, sleeve *c'*, and stud *e*, bolt *g*, shaft *E*, and set-screws *d d'*, substantially as described. 65
3. The combination of lever *F*, pointed pin *j*, set-screw *k*, cupped screws *i i'*, and post *B*, substantially as described.
4. The combination of bed *A*, having boss *I*, arm *p*, having stud *o* and cupped top, screw 70 *n*, and set-screw *r'*, with lever *H*, having pin *q*, and set-screw *r*, substantially as described.
5. The combination of lever *R*, sleeve *y*, bracket *z*, pivot-screws *g'*, rod *S*, lugs *T T'*, bar *U*, head *V*, screw *W*, and slot *h'* in bed *A*, 75 substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS B. ROBERTS.

Witnesses:

T. J. MCTIGHE,
T. J. PATTERSON,