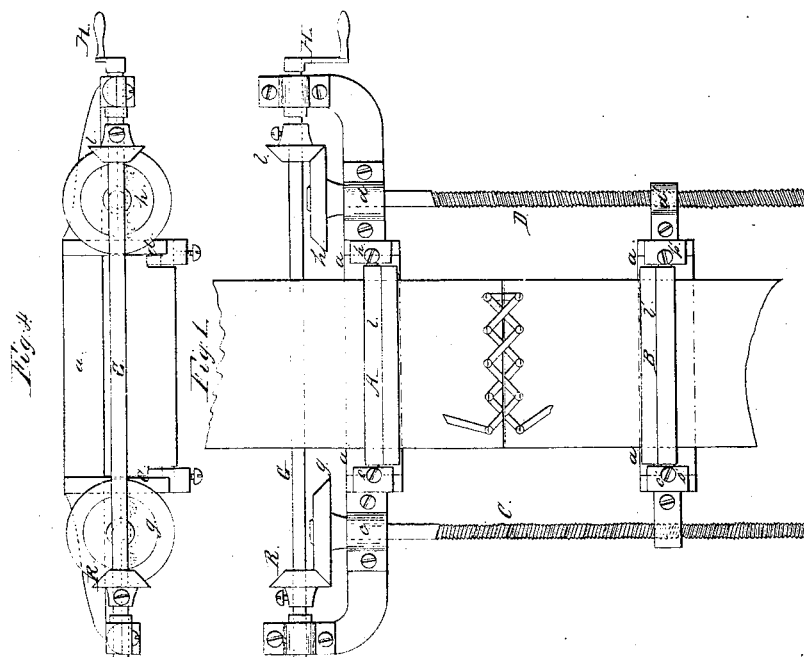
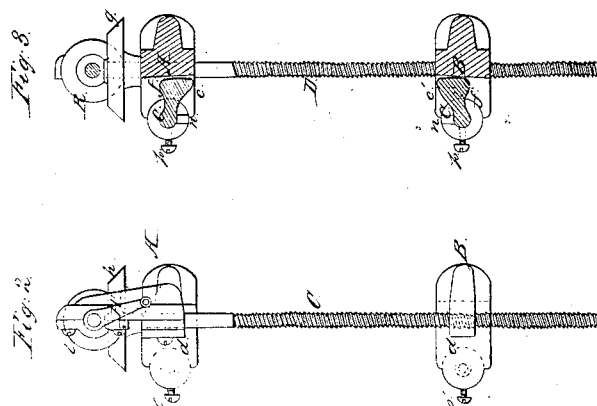


E. F. MILLER & B. GARDNER.
MACHINE FOR DRAWING BELTS TOGETHER.

No. 50,609.

Patented Oct. 24, 1865.



Witnesses:

John W. Morris,
B. D. Stevens.

Inventors,
Edwin C. Miller,
Bela Gardner,
by their attorney,
J. B. Gardner

UNITED STATES PATENT OFFICE.

EDWIN F. MILLER, OF WILLIAMSBURG, AND BELA GARDNER, OF NORTH-AMPTON, MASSACHUSETTS.

MACHINE FOR DRAWING BELTS TOGETHER.

Specification forming part of Letters Patent No. 50,609, dated October 24, 1865.

To all whom it may concern:

Be it known that we, EDWIN F. MILLER, of Williamsburg, and BELA GARDNER, of Northampton, Hampshire county, Commonwealth of Massachusetts, have invented a new and Improved Machine for Drawing Together Belts for Lacing; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon.

In the drawings, Figure 1 is a plan view of our invention. Fig. 2 is a side view; Fig. 3, a longitudinal section, and Fig. 4 an end view.

Our invention consists in arranging two clamps of peculiar construction so as to clasp the two ends of a belt, and connecting them by means of screws driven from a counter-shaft having a crank attached by means of two pairs of bevel-gears, so that when the crank is turned the ends of the belt may be drawn together, as we will hereinafter more fully describe.

I will now describe the construction of our invention.

It consists of two clamps, A B, the construction of which is similar, and a description of A, which we will now give, will apply to both. It consists of a bed-piece, *a*, having on each side the upright pieces *c d*. Those uprights form bearings for the shaft *e*, on which is the projection *f*. This clamp is attached to one end of the belt to be drawn together, and a similar one, B, attached to the other end. These are connected by the screws C D at the sides. These screws pass through nuts in the part A, and have bevel-gears *g h* on the other end. These gears *g h* work into similar gears, *k l*, on the center shaft, G. This shaft G has a crank, H, attached, by which it is turned by the hand.

We will now describe the operation of this invention.

The clamps A and B are placed over the two ends of the belt, as shown in the drawings, and the shafts *e e'* turned so that the projections *f f'* press upon the belt. The crank H, being now turned, acts upon the bevel-gears in such a manner as to draw the two clamps A B together by means of the screws C D. As the belts are drawn together the force exerted upon them causes the projections on

the shaft *e* to be drawn in, thus clamping it more tightly as the force is increased. In order to assist this clamping, and also to bring the line of draft nearer the center of the shafts *e e'*, the upper surface of the bed-pieces *a a'* are made beveling, as shown in the drawings.

In order that the shafts *e e'* may be readily and quickly removed, we cut the slots *n n'* in the upright pieces *c d c' d'*, forming the bearings; and, also, to adjust the clamp to any inequality on the surface of the belt, we place these screws *o p* and *o' p'* in such a manner as admit of one end of the clamp being used lower than the other; and, also, it is sometimes necessary to draw one side of the belt more than the other. In order to accomplish this, we make the gears *k l* adjustable on the shaft G, so that one of them may be loosened so as to turn thereon while the other remains fast, so that when the crank is turned one side only of the belt is drawn up.

Another advantage arising from using the screws *o p o' p'* is that if one side of the belt is drawn up too much, by releasing one of the screws it may be allowed to slip back to any position desired.

Now, having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The clamp A or B, when constructed in the manner and for the purpose herein set forth.

2. In combination with said clamp the screws *o p* or *o' p'*, for the purpose and in the manner described.

3. The combination of the clamps A B, screws C D, bevel-gears *g h k l*, and shaft P, when arranged and operating substantially in the manner and for the purpose herein described.

4. Forming the grooves or flutes *r r* or their equivalents on the projections *f f'*, and corresponding flutes or grooves *s s* on the bed-pieces *a a'*, in the manner and for the purpose described.

EDWIN F. MILLER.
BELA GARDNER.

Witnesses:

J. B. GARDINER,
W. D. STEVENS.