2 Sheets—Sheet 1.

L. J. KNOWLES.

SHEDDING MECHANISMS FOR LOOMS.

No. 182,678. Patented Sept. 26, 1876.

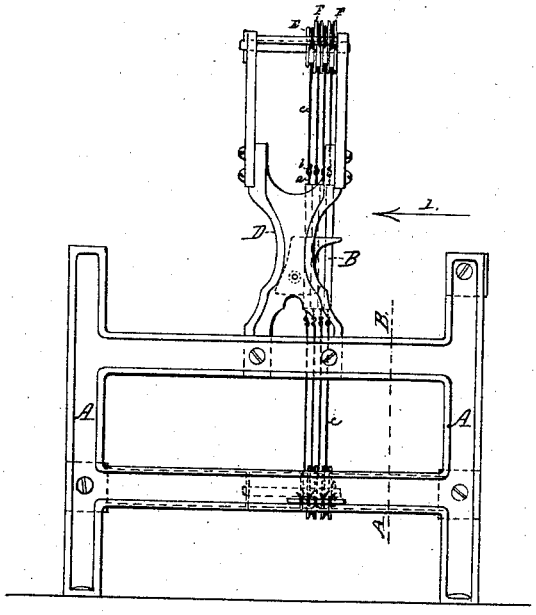

Fig. 1

WITNESSES;

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INVENTOR;

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2 Sheets—Sheet 2.

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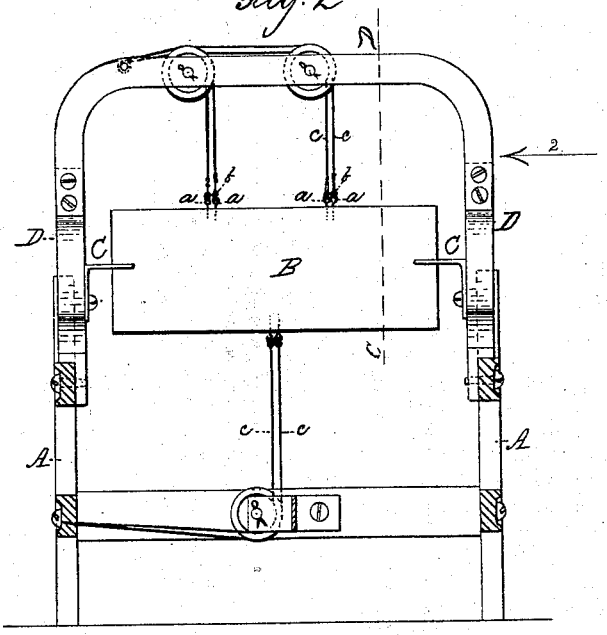
Fig. 2



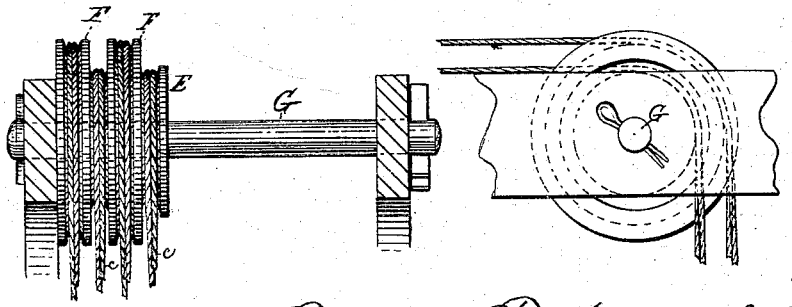


Fig. 3.

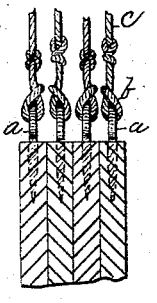


Fig. 5.

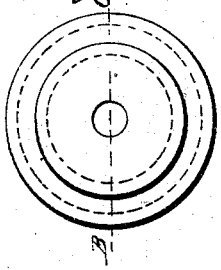


Fig. 6.

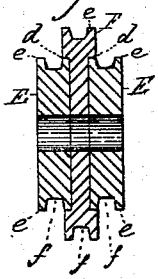
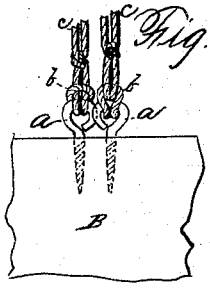


Fig. 4.



WITNESSES;

E. E. Moore

Thos. H. Dodge

INVENTOR;

Lucius J. Knowles

UNITED STATES PATENT OFFICE.

LUCIUS J. KNOWLES, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN SHEDDING MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **182,678**, dated September 26, 1876; application filed July 12, 1876.

To all whom it may concern:

Be it known that I, LUCIUS J. KNOWLES, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Shedding Mechanisms for Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents an end view of so much of a loom as is necessary to illustrate my present invention. Fig. 2 represents a section on line A B, Fig. 1. Fig. 3 represents, upon an enlarged scale, certain portions of a loom, on line C D, Fig. 2. Fig. 4 represents, upon an enlarged scale, a side view of a section of the harness-frames, as will be hereafter explained. Fig. 5 represents, upon an enlarged scale, a side view of my improved harness-sheaves or pulleys; and Fig. 6 represents a section on line B C, Fig. 5.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents the loom-frame, which may be made in the ordinary way. B represents the harnesses, working in suitable end guides C, attached to the elevated part D of the loom-frame. *a* are the screw staples or eyes, which are screwed into the harness-frames to receive the loops *b* of the harness-frame cords *c*. These screw-staples are not arranged in line with each other, but every other one is set forward or back, so as to make them alternate, as fully indicated in Figs. 2 and 4, whereby the loops *b* of the cords *c* are not liable to chafe or rub against each other; and this is quite an important and valuable feature, in a practical point of view, since the harnesses run more even and the harness-cords *c* last very much longer, and require very much less repair, than when the loop-staples *a* are secured to their harness-frames in the usual and ordinary manner, so as to stand on a line with each other. This alternating of the harness-cord staples necessitates the combination, in the loom, of cord-supporting sheaves or rolls of different sizes, to cause the cords to run perpendicularly from their respective harnesses.

To obtain the advantages of grooved or flanged sheaves or pulleys, for the purpose of sustaining and guiding the harness-cords *c* in their proper and relative positions, as above stated, while at the same time utilizing the space as much as possible, I make and combine the sheaves or pulleys as represented at E and F in the drawings, from which it will be seen that I make the sheaves or pulleys of different sizes, and groove or recess out the sides of the largest pulleys, as shown at *d d*, to receive the flanges *e* of the pulleys E. This arrangement renders the sheave or pulley mechanism very compact, while at the same time the harness-cords *c* are supported in grooves *f*, whereby the sides of the cords are protected from being chafed by the adjacent pulleys, and at the same time the pulleys E are caused to run truly and more uniformly than if the pulleys were arranged upon their supporting-shaft G side by side, without the steadying effect produced by the flanges *e* resting and turning in the recesses *d* of the larger pulleys F.

Having described my improvement in looms, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the grooved and recessed harness sheave or pulley F, of the flanged sheaves or pulleys E, fitting into the recesses of the sheave or pulley F, substantially as and for the purposes set forth.

2. The combination, in a loom with harness-frames having their cord-holding staples or eyes *a* arranged out of line with each other, of harness-supporting sheaves or rolls of different sizes, substantially as and for the purposes set forth.

LUCIUS J. KNOWLES.

Witnesses:
EDWIN E. MOORE,
THOS. H. DODGE.