J. C. ARMS.

Improvement in Machines for Beaming Yarn.

No. 131,205. Patented Sep. 10, 1872.

Fig 1.

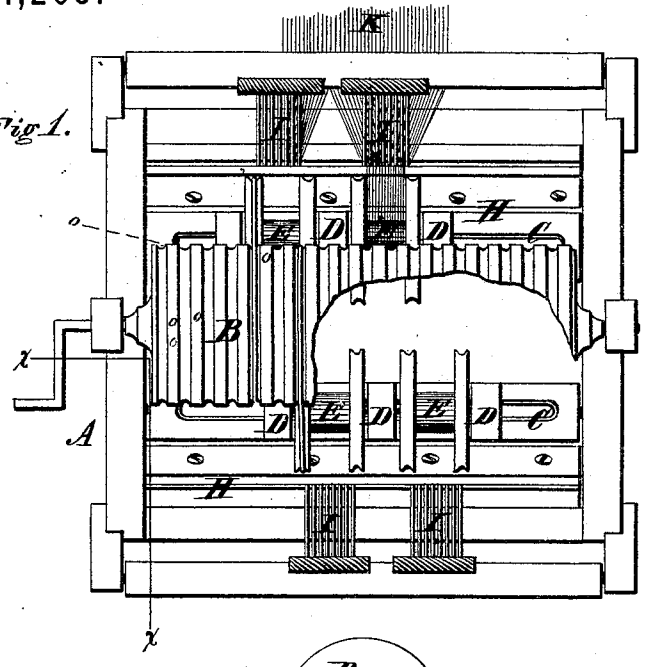
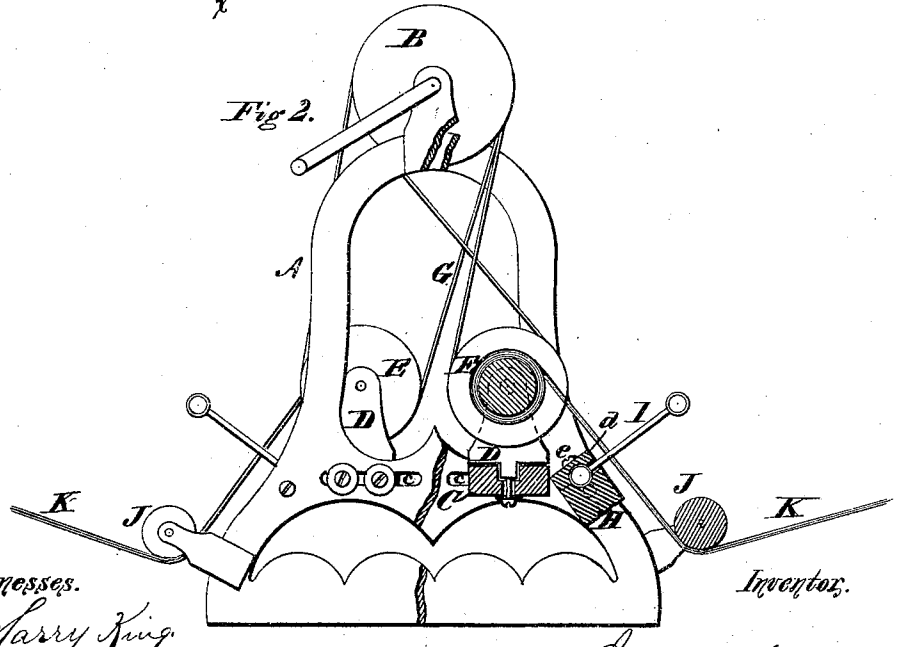


Fig 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES C. ARMS, OF NORTHAMPTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR BEAMING YARN.

Specification forming part of Letters Patent No. **131,205**, dated September 10, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JAMES C. ARMS, of Northampton, in the county of Hampshire and State of Massachusetts, have invented certain Improvements in Machines for Beaming Yarn for Looms, of which the following is a specification, reference being had to the accompanying drawing.

My invention consists in applying, to the ordinary machines used for warping yarn upon the long beams employed in looms for the manufacture of sheetings and similar wide fabrics, certain devices whereby said machines are adapted for filling simultaneously a number of the short beams or spools used in the manufacture of tape and other narrow fabrics.

Figure 1 is a top-plan view of my improved machine, and Fig. 2 an end elevation of the same with portions broken away.

A represents the frame of the machine, provided in its top with a large drum, B, to which the power for driving the machine is applied. Below the drum there are mounted two parallel slotted bars, C, one on each side of the frame, and on each of these bars there are mounted a number of standards or uprights, D, in which the beams or spools E to be filled are mounted, as shown. The standards are held in place by screws *a*, which extend down through the slots in the bars, as shown in Fig. 2, so that after loosening the screws the standards may be adjusted sidewise, so as to receive beams or spools of any desired length. The bars C which support the standards have their ends supported by bolts passing through slots *c* in the frame, so that they may be adjusted sidewise when desired. The beams or spools E have their ends or heads grooved to receive belts G, which are passed from the main drum to each spool, as shown, so that each spool or beam is driven separately and independently of the others. By the outer side of each bar C there is mounted in the frame a rigid bar, H, provided with reeds I, which are arranged in groups or sets corresponding in width and number with the beams or spools. The reeds have their lower ends clamped against the sides of the bars H by means of strips *d*, which are held in place by screws *e*, so that, by loosening the screws, the reeds may be released, so that they may be moved sidewise or removed in order to permit the insertion of others. In order to keep the reeds in line and to prevent them from falling out of place when loosened, their lower ends are secured in a round strip which fits in grooves formed in the faces of the bar and the clamping strip, as shown in Fig. 2. In each side of the frame, outside of the reeds, there is mounted a roller, J, as shown. The machine thus constructed is placed between two sizing or dressing machines, and the yarn K from said machine passed under the respective rolls J, through the reeds I, and onto the beams or spools, as shown. When the drum is set in motion the belts G operate all the beams or spools at the same time, and thus wind the yarn upon them. When the beams are filled the belts are thrown off, the beams removed and others inserted, and the belts again applied. The reeds being properly adjusted, guide the yarn upon the different beams evenly. By adjusting the standards D sidewise the machine may be adapted to receive beams of any desired length. If necessary, any required number of the standards may be removed or additional ones inserted. When beams of a new length are inserted the reeds must, of course, be adjusted or changed to correspond. By moving the bars C sidewise the tension of the belts may be varied as desired. The drum B is provided its entire length with small grooves *o* arranged close together and passing around its outside. These grooves receive the belts G and prevent them from becoming entangled and from chafing against each other as they might otherwise do. Owing to the large number of grooves and their close proximity to each other, each belt is sure to enter one of them, no matter how the standards and beams may happen to be adjusted sidewise. By driving each beam or spool separately an equal tension is insured on all the beams, for if one of them fills faster than the others its belt will slip and give the thread the same tension as the others. By making the standards adjustable sidewise the machine is enabled to fill beams of any length and to fill beams of different lengths at the same time; and, by arranging the two sets of beams in opposite sides of the frame, the machine is enabled to beam the yarn from two sizing or dressing machines at once. By my method of construction I produce a machine by which

the small beams may be filled very rapidly, by which one attendant is enabled to attend to the filling of a number of beams at the same time, and by which beams of any or of various lengths may be filled.

It is obvious that instead of using the long drum a shaft provided with adjustable pulleys may be used, and that, instead of driving the beams by belts, gearing may be used.

Having thus described my invention, what I claim is—

1. The beaming or warping machine, consisting of the drum B, provided with belts G or their equivalents, the adjustable standards D to support the beams or spools, and the reeds I to separate the yarn and guide it upon the different beams, as described.

2. A beaming or warping machine, provided with the adjustable standards D, to support the beams, whereby the machine is adapted to receive beams of different lengths, as set forth.

3. A beaming-machine, provided with two sets of beams in opposite sides of the frame, as set forth, whereby it is enabled to beam the yarn from two sizing-machines at the same time.

4. The combination of the long drum B, belts G, beams E, adjustable standards D, and adjustable reeds I, all arranged to operate, as and for the purpose set forth.

JAMES C. ARMS.

Witnesses:
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