

(No Model.)

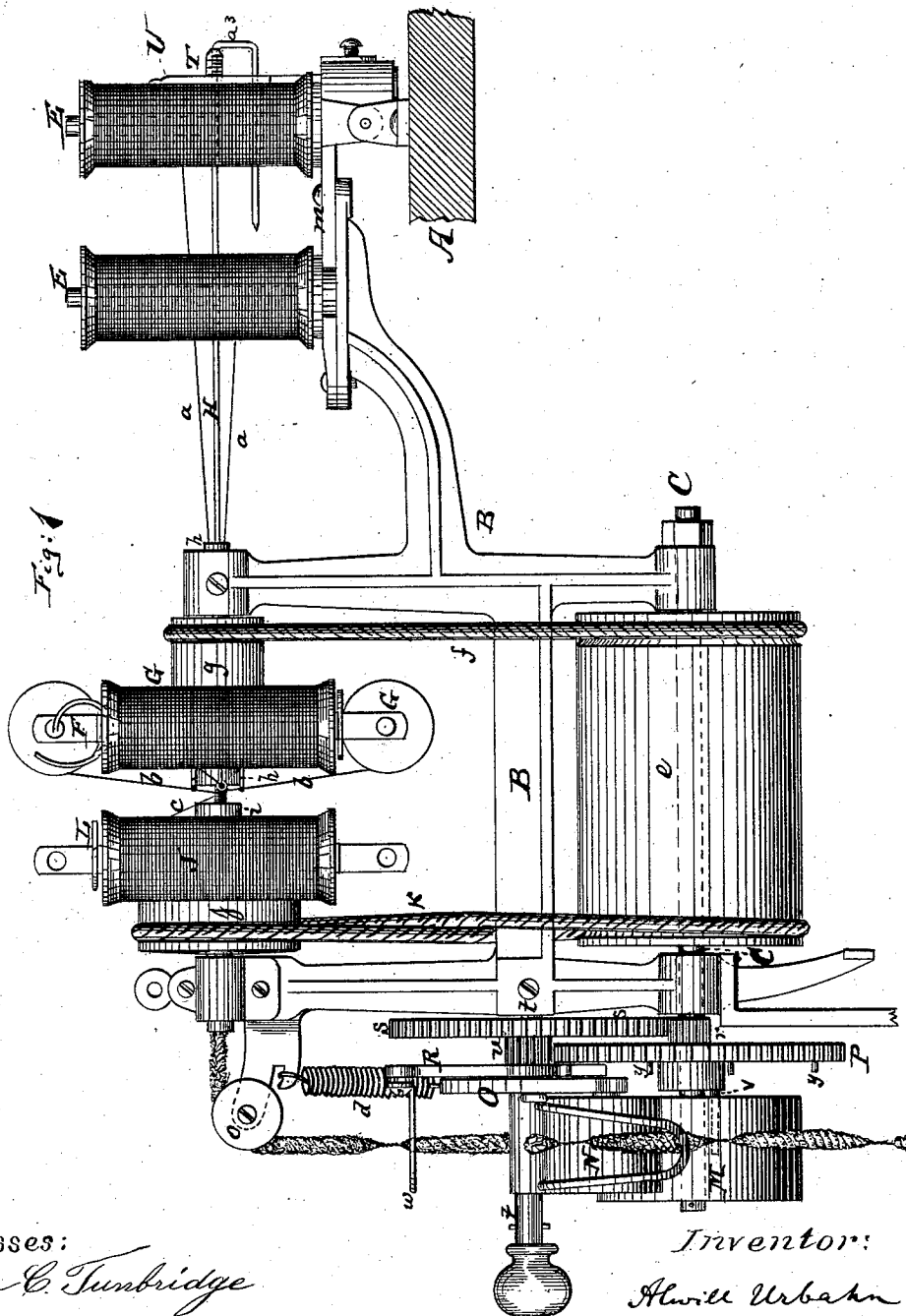
3 Sheets—Sheet 1.

A. URBAHN.

MACHINE FOR MAKING ORNAMENTAL LOOPED CORD.

No. 293,605.

Patented Feb. 12, 1884.



Witnesses:

John C. Tunbridge
John M. Spear

Inventor:

Alvill Urbahn
by his attorneys
Briesen & O'Keefe

(No Model.)

3 Sheets—Sheet 2.

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Fig: 2

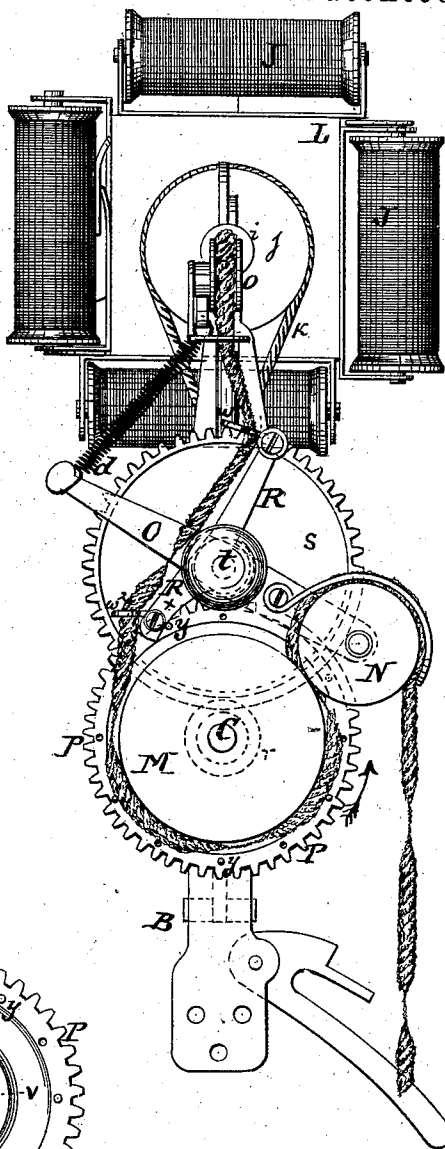


Fig: 3

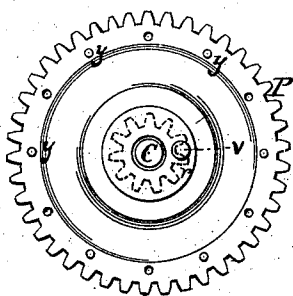


Fig: 4



Witnesses:

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John M. Spurr.

Inventor

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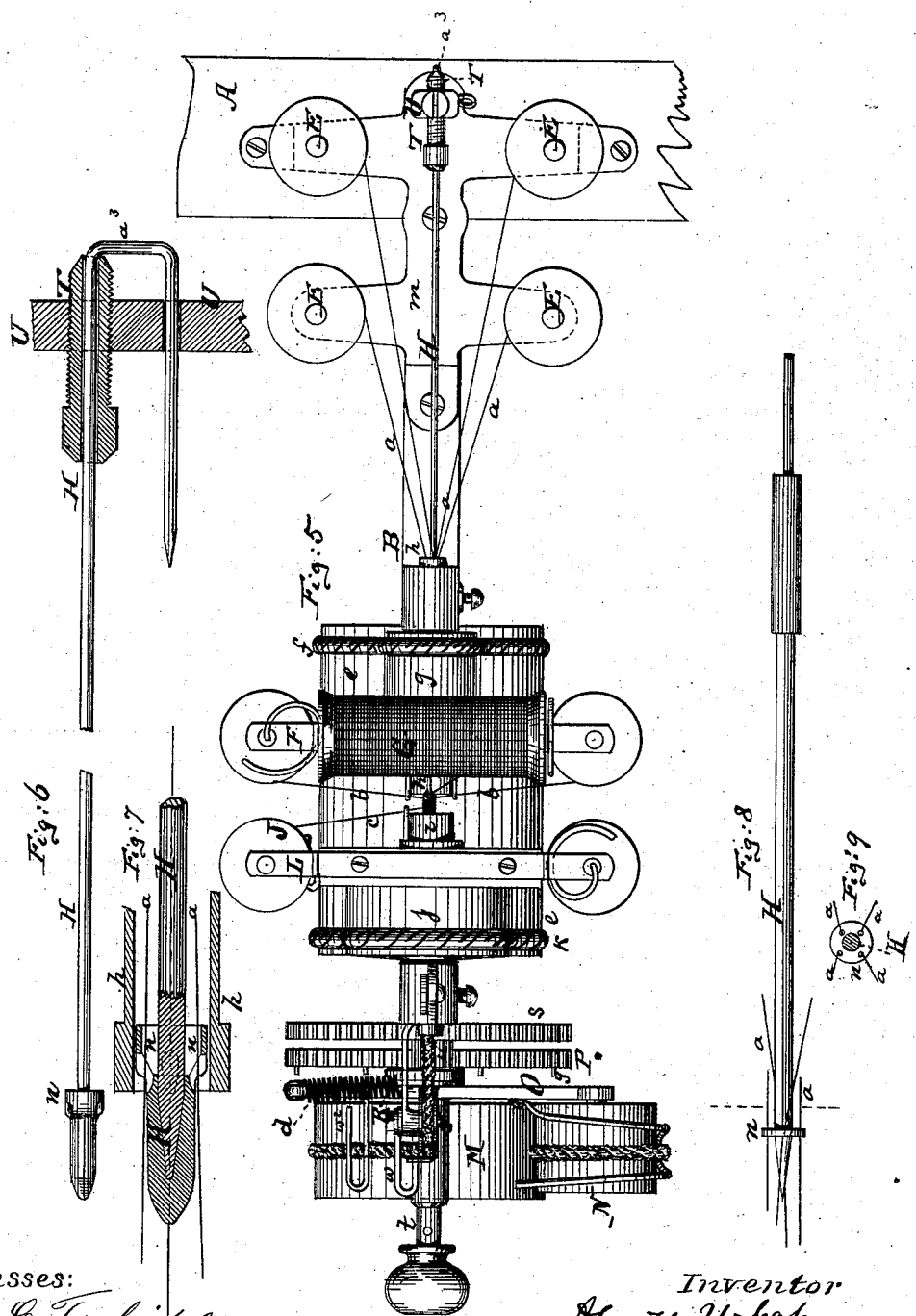
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Briesen & Steele

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UNITED STATES PATENT OFFICE.

ALWILL URBahn, OF PATERSON, NEW JERSEY.

MACHINE FOR MAKING ORNAMENTAL LOOPED CORD.

SPECIFICATION forming part of Letters Patent No. 293,605, dated February 12, 1884.

Application filed April 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALWILL URBahn, of Paterson, in the county of Passaic and State of New Jersey, have invented an Improved Machine for Making Ornamental Looped Cord, of which the following is a specification.

Figure 1 is a side elevation of my new machine for making ornamental looped cord. Fig. 2 is an end elevation of the same. Fig. 3 is a detail face view of the studded wheel used in the machine; Fig. 4, a detail face view of the cord produced on the machine. Fig. 5 is a plan or top view of the machine. Figs. 6, 7, 8, and 9 are detail views, showing parts of the machine, hereinafter more fully referred to.

This invention comprises certain improvements in the machine for making ornamental looped cord which is described in Letters Patent of the United States granted to me October 31, 1882, No. 266,928.

The object of the present invention is, principally, so to improve the machine described in said patent that it will make the ornamental looped cord in alternate thicker and thinner sections of regular and uniform lengths, or of unequal lengths. Another object is to facilitate the introduction of the core-threads into the machine.

The invention consists, first, in providing the aforesaid machine with a drawing or stretching lever, which at proper intervals is, by mechanism connected with the machine, moved to bear against and tighten the cord, thereby producing, for the time being, a portion of the cord of reduced thickness, while, when afterward the strain of the lever upon the cord is removed, the cord will be produced of its normal or greatest thickness.

The invention also consists in forming on the tapering rod which holds the core-threads apart a perforated plate through which said core-threads pass, and which can be taken out of the guide-tube, together with said rod, all as hereinafter more fully described; also, in means of adjusting said rod.

In the accompanying drawings, the letter A represents suitable frame-work, on which the machine is supported. C is the driving-shaft, hung in the frame B of the machine, and car-

rying a driving-pulley, *e*, to which rotary motion is imparted by suitable belt or otherwise. The pulley *e* connects by a belt, *f*, with another pulley, *g*, that revolves around the tube *h*, which is fixed in the frame of the machine. Another tube, *i*, is fixed in the frame of the machine in line with the tube *h*, and both tubes are near to each other, as indicated in Figs. 1 and 5, and as fully described in the aforementioned Letters Patent. Around the tube *i* is placed the revolving pulley *j*, which, by belt *k*, connects with the driving-pulley *e*. Behind the tube *h* is supported on the frame B a platform, *m*, which carries a series of posts or spindles *E*, of which four are shown, and which are receptacles for the spools of the core-threads *a*. These threads *a* are from the said spools carried through the tube *h*, which at or near its inner end is partly closed by a notched or perforated disk, *n*. This disk *n*, as described in the above-mentioned Letters Patent, was securely fixed in the tube *h*, which made it quite difficult to pass the threads *a* through its apertures. According to one part of my present invention, I fasten said disk or plate *n* to the rod *H*, which extends through the tube *h*, and projects beyond the same with its pointed end, so as to constitute a core-thread spreader, as described in the above-mentioned Letters Patent. Figs. 6 and 7 show clearly the rod or wire *H* with its pointed core-spreading end, and provided with the enlargement or perforated disk *n*, which is intimately connected therewith. Figs. 8 and 9 show a different form of perforated disk *n* attached to said wire *H*. Whenever the wire *H* is withdrawn, together with the disk *n*, from the tube *h*, it will be quite easy to thread it—that is to say, to put the threads *a* through the apertures of the disk *n*—and then when the wire *H* is reinserted with the disk *n* in its proper place, the disk *n* will constitute a guide for the threads *a*, the same as though it was rigidly fastened in the tube *h* itself, as described in above-mentioned patent. The rear end of the wire *H* passes through a tubular screw, *T*, which is supported by a post, *U*, that projects from the platform *m*. The end of the screw *T* bears against a bend or shoulder, *a*³, on the rod or wire *H*. When the wire *H* is in the machine, and if it should

be found that the cord comes out too large as to its diameter, it is only necessary to turn the screw T so as to move the wire H farther back and withdraw the thicker part of its tapering end from the convolutions of the enveloping-threads *b* and binding-threads *c*.

The pulley *g* carries a frame, F, in which are hung one, two, or more spools, G, that contain the enveloping-thread *b*, which is wound around the core-threads *a* at or about the place where the same pass over the pointed portion of the rod H. The pulley *j* carries a frame, L, in which are hung spools J, that carry the binding-threads *c*, by which the enveloping-thread *b* is tied to the core-threads, all as described in my above-mentioned Letters Patent. The cord, finally issuing through the tube *i*, passes round the friction-roller *o*, (see Fig. 1,) and thence round the roller or drum M and around the pressing-roller N, the latter being hung in a lever, O, which is connected with a powerful spring, *d*, so as to hold the roller N against the drum M and cause the finished cord to be fed through the machine with the proper speed.

The drum M is loosely hung upon the driving-shaft C of the machine, upon which driving-shaft is also loosely fitted a large toothed wheel, P. The same driving-shaft also carries a toothed pinion, *r*, which is rigidly fixed to said shaft. The pinion *r* meshes into the teeth of a large gear-wheel, *s*, which is hung on a spindle, *t*, and which carries a pinion, *u*, that meshes into said loose wheel P. The loose wheel P, being thus driven at greatly reduced speed, as compared with the speed of the shaft C, has a projecting pin or clutch, *v*, (see Fig. 3,) that engages with the drum M, so that the drum M receives its slow rotation from the wheel P. The cord, as it issues from the tube *i*, and after having passed over the friction-roller *o*, and before it reaches the drum M, passes through a loop, *w*, that is attached to a lever, R, which is loosely fitted upon the spindle *t*, or upon any other suitable pivotal support, and which lever R has a toe or lower projecting portion, *x*, that overlaps the face of the toothed wheel P, and is in the way of one or more pins or studs, *y*, that project at suitable intervals from the face of the wheel P. Now, the wheel P being revolved in the direction of the arrow shown next to it in Fig. 2, will at the proper time bring one of its pins *y* against the toe *x* of the lever R, and will thereby so swing the lever into the position indicated in Fig. 2 as to cause the loop *w* to draw the finished cord aside, and to stretch tightly that portion of the finished cord and of the core-threads *a* that is within the tubes *h* and *i*. While the cord is thus being pulled tightly, the core-threads *a*

will be drawn closer together by the tension produced by said loop *w*, and the enveloping-threads *b* will be wound upon the closer core-threads, and so will the binding-threads *c*, thus producing, while the cord is under the stretching action of the lever R and its loop, a contracted part of the cord. In fact, if the cord were always under the stretching action of the lever R, it would be altogether as contracted as it now appears at certain intervals in Fig. 4. After the pin *y* of the wheel P has left the toe of the lever R, the strain produced by said lever upon the cord is at once terminated, and the fabric comes out again through the tube *i* at the proper maximum thickness, until again the lever is moved by a pin on the wheel P and the cord again stretched, the final effect being that indicated in Fig. 4—namely, a cord having alternate contracted portions 2 and expanded or enlarged portions 3. The lever R, instead of having a loop, *w*, through which the cord passes, may simply have a projecting pin or stud which bears against the cord, stretching it when the lever is in the position shown in Fig. 2. There may also, if desired, be a lower guide-loop, *w'*, on the lower extremity of the lever R, as shown; but this loop I do not deem essential.

Instead of so arranging the machine that the contracted parts of the looped cord appear at regular—*i. e.*, equal—intervals, it may be so arranged by properly setting the pins *y* as to produce the contractions at apparently irregular—*i. e.*, unequal—intervals.

I claim—

1. The combination, with the guide-tube *h*, for the core-threads, of the inner rod or core-pin, H, carrying the perforated enlargement or disk *n*, which can be removed with said rod H, substantially as and for the purpose specified.

2. The combination of the posts E, tubes *h*, core-pin H, and means for revolving spools containing enveloping and binding threads around the core-pin, with the lever R, having guide-loop *w*, wheel P, having projection *y*, rollers M and N, and means, substantially as described, for rotating the wheel P and roller M, all as and for the purpose specified.

3. The wire or rod H, having tapering front end, combined with the adjusting-screw T and post U, and with mechanism, substantially as described, for supplying the core-threads and wrapping the same with enveloping-threads and binding-threads, as set forth.

ALWILL URBahn.

Witnesses:

WILLY G. E. SCHULTZ,
HARRY SMITH.