

J. Danby.
Weaving Cord Covering.
Nº 53,372. *Patented Mar. 20, 1866.*

FIG. 1.

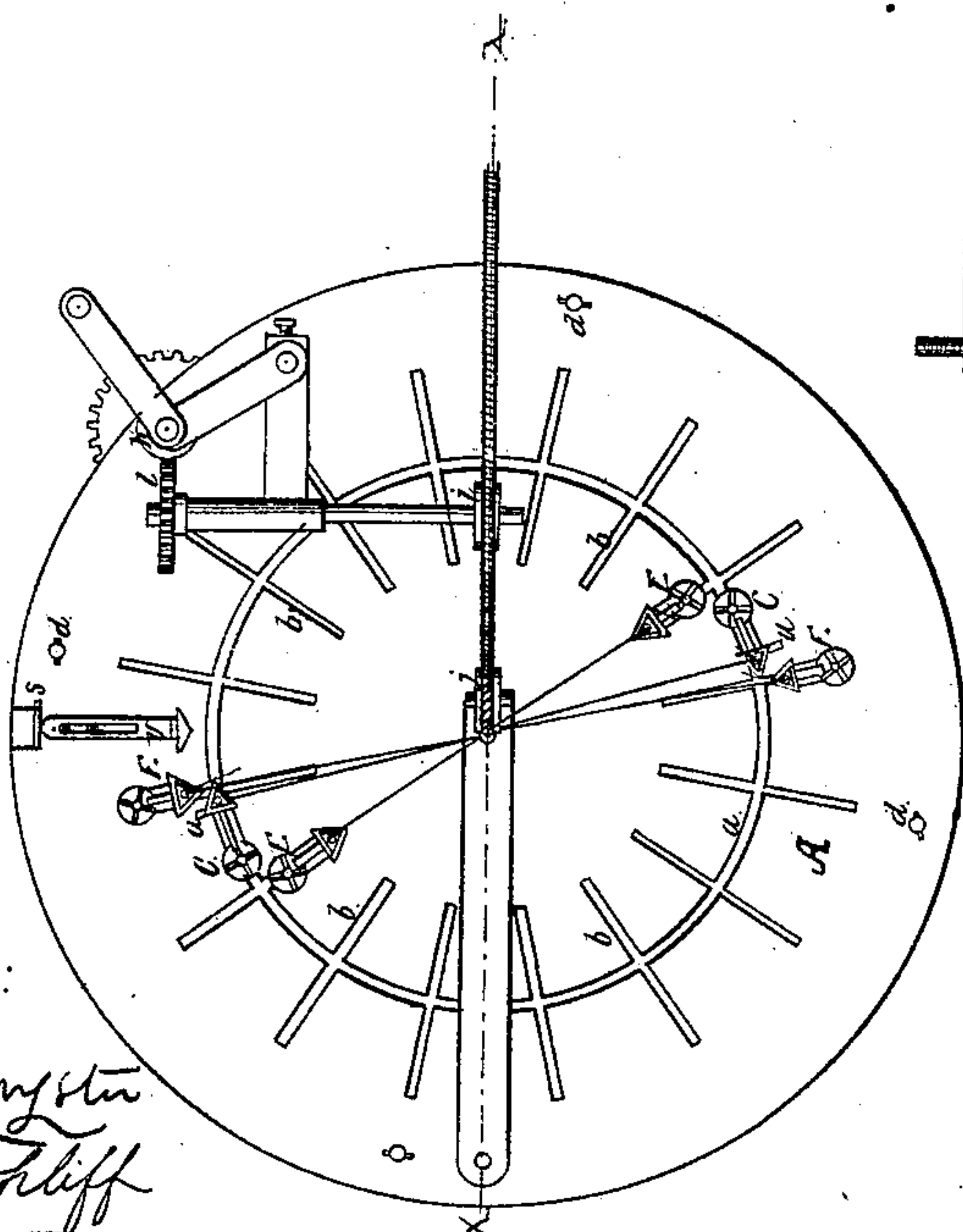


FIG. 2.

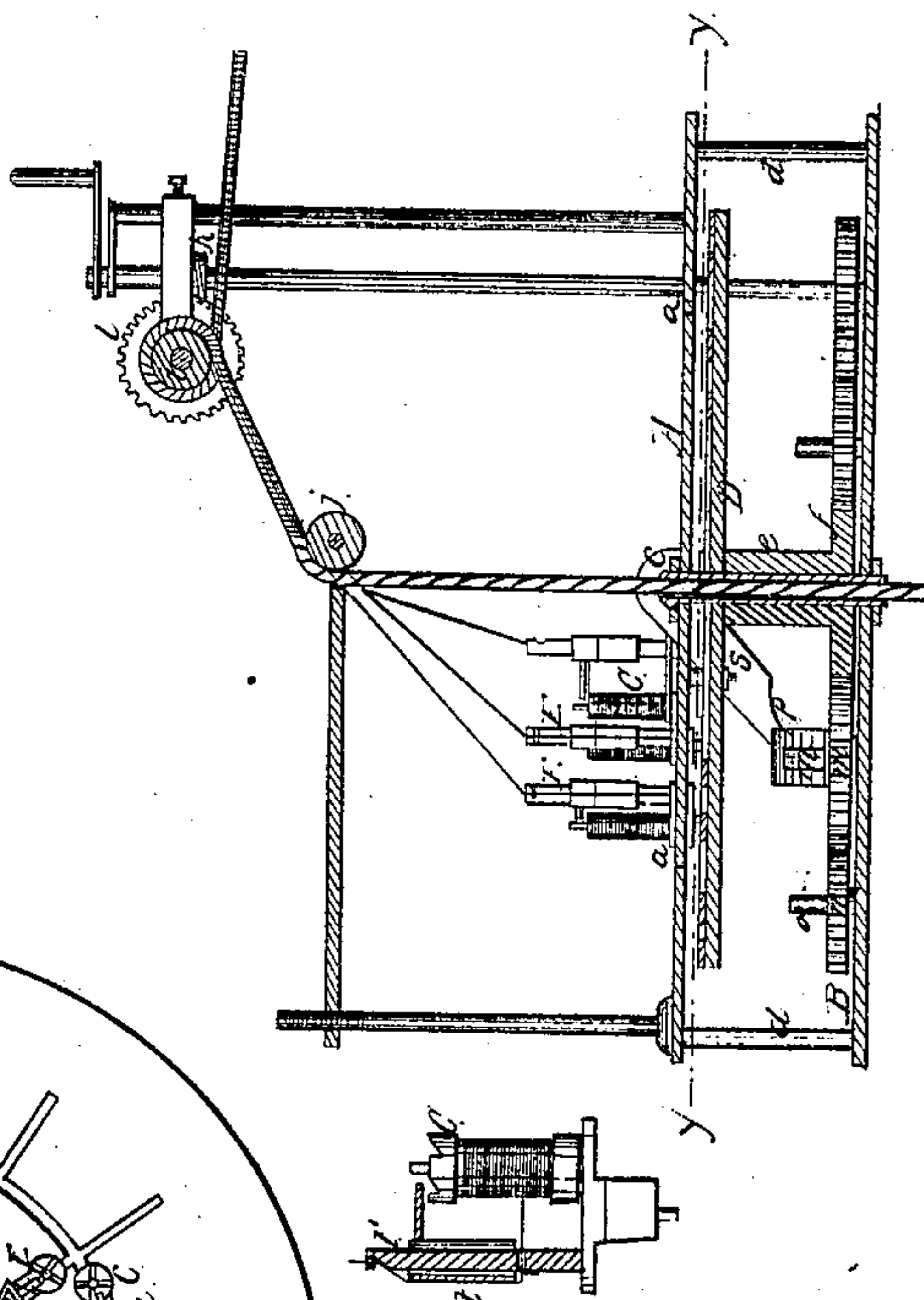


FIG. 4.

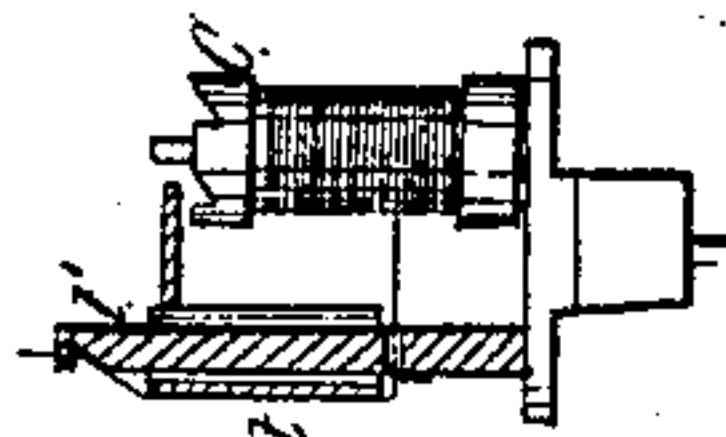


FIG. 3.

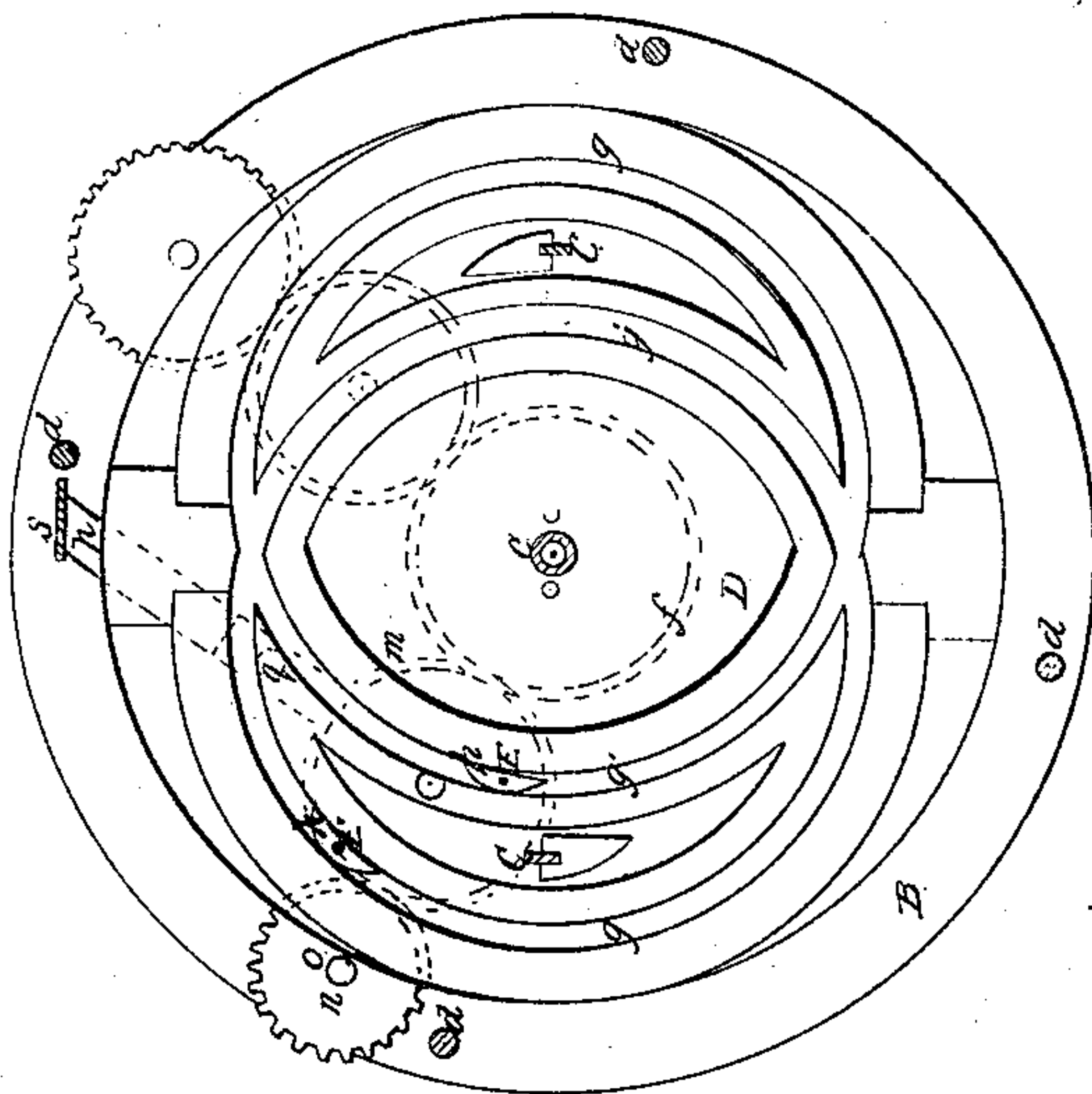


FIG. 5.

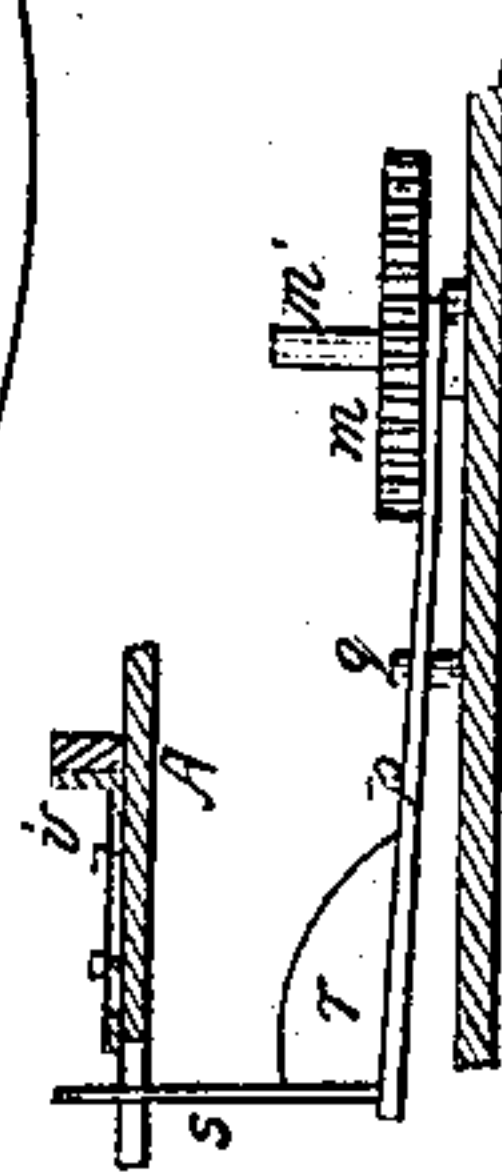


FIG. 6.



Witnesses:

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IMPROVEMENT IN MACHINES FOR WEAVING A COVERING FOR CORDS.

Specification forming part of Letters Patent No. 53,372, dated March 20, 1866.

To all whom it may concern:

Be it known that I, JOHN DANBY, of No. 208 West Thirty-Seventh street, in the city, county, and State of New York, have invented a new and Improved Machine for Covering Cords by Weaving; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or top view of this invention. Fig. 2 is a vertical central section of the same, taken in the plane indicated by the line *x x*, Fig. 1. Fig. 3 is a horizontal section of the same, the line *y y*, Fig. 2, indicating the plane of section. Fig. 4 is a sectional side elevation of one of the traveling jacks in a larger scale than the previous figure. Fig. 5 is a detached sectional view of the stop-motion. Fig. 6 is an elevation of a cord plaited on this machine in an enlarged scale.

Similar letters of reference indicate like parts.

The object of this invention is to cover cords by a process similar to the weaving process. The warp-threads are taken from a series of spools attached to jacks, to which a reciprocating motion is imparted so as to produce the shed. The weft thread or threads are taken from one or more spools secured to a jack or jacks traveling in a circular track between the warp-threads and around the cord to be covered, in such a manner that a fabric is formed around said cord similar in its texture to the fabric woven on an ordinary loom. Each of the jacks traveling in the circular track is provided with a slide, which is suspended from the thread on said jack, and if the thread breaks or gives out the slide drops, and, by coming in contact with a weighted lever, throws the machine out of gear and causes its motion to stop automatically.

A represents a plate of sheet metal, or any other suitable material, perforated with a circular slot, *a*, and with a series of radial slots, *b*, as clearly shown in Fig. 1. The central portion of the plate A, which is separated from the rim by the circular slot, is held in place by the stationary tubular stud *c*, which rises

from the bed-plate B, and a series of posts, *d*, supports the rim.

The circular slot *a* forms a track for the jacks C, which carry the weft-threads, and these jacks are secured to a disk, D, which is rigidly secured to the hub *e* of a cog-wheel, *f*, that rotates on the central stud, *c*. The upper surface of said disk is provided with a series of cam-grooves, *g g'*, which are so arranged that by their action a reciprocating motion is imparted to the jacks E, which carry the warp-threads. Said guides are guided in the radial slots *b*, and each of them is inserted into a crescent-shaped shoe, *h*, which fits into the cam-grooves *g g'*, as clearly shown in Fig. 3. If a rotary motion is imparted to the disk, the peculiar form of the shoes causes them to change from said cam-grooves *g* to the inner grooves, *g'*, and vice versa, and a reciprocating motion is thereby imparted to each jack, which, being confined in its radial slot, is prevented from assuming a rotary motion.

The cam-grooves *g g'* are so shaped that by each pair of warp-jacks a shed is produced, through which one of the weft-jacks passes, and a covering for the cord is produced similar in its texture to that of ordinary woven fabrics.

The cord to be covered passes up through the hollow central stud, as clearly shown in Fig. 2 of the drawings, and after having been covered it passes off over a guide-pulley, *j*, and friction-pulley *i*, to which a slow rotary motion is imparted by an endless screw, *k*, and worm-wheel *l*, or in any other suitable manner.

The revolving disk D receives its motion by a gear-wheel, *m*, which revolves freely on a stud, *m'*, rising from the bed-plate B, and to which motion is imparted by a gear-wheel, *n*, mounted on the driving-shaft *o*.

The intermediate gear-wheel, *m*, rests upon a lever, *p*, which has its fulcrum on a stud, *q*, and which is loaded with a weight, *r*, that is so balanced that when it is allowed to follow its gravity the wheel *m* is raised and thrown out of gear with the driving-shaft *o*. A handle, *s*, extending up from the lever *p*, serves to raise the weighted end of the lever, and as long as said lever is held up the wheel *m* is permitted to drop in gear with the driving-

wheel *n* and central gear, *f*, and motion is imparted to the disk D. A notch in the edge of the handle *s* can be made to catch over the edge of a recess cut in the circumference of the plate A, and by these means the weighted end of the lever is held up.

In order to stop the motion of the machine automatically if one of the weft-threads breaks or gives out, each of the weft-jacks is provided with a sleeve, *t*, which is fitted on a stud, *t'*, rising from the bed-plate of the jack. (See Fig. 4.) The thread passing from the bobbin is drawn through under the slide and up through an eye in the upper end of said stud and thence to the cord to be covered or plaited. If the thread breaks or gives out, the sleeve drops down and a pin, *u*, projecting from its side, strikes the triangular head of the slide *v*, arranged on the plate A opposite the handle *s* of the lever. By the action of this pin on the head of the slide the handle *s* is disengaged from the edge of the recess in the plate A, the

weighted end of the lever *p* drops down, and the machine stops.

By the application of said automatic stop-motion the operation of this machine requires little attention, and the work produced presents a uniform and even surface without imperfect spots.

I claim as new and desire to secure by Letters Patent—

1. The crescent-shaped shoes E E, employed in combination with the two pairs of cam-grooves *g g'*, arranged at corresponding distances on opposite sides of the center *c*, for forming the sheds, in the manner described.

2. The radial slide *v*, formed with a triangular or oblique head, in combination with the pin *u*, sleeve *t*, handle *s*, weighted lever *p*, and loose pinion *m*, all constructed and arranged to operate as and for the purpose specified.

Witnesses:

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