Sheet 1. 2 Sheets.

Slaughter & Perry.

Rope Mach.

No. 7,007. Patented Jan. 8, 1850.

Fig: 1

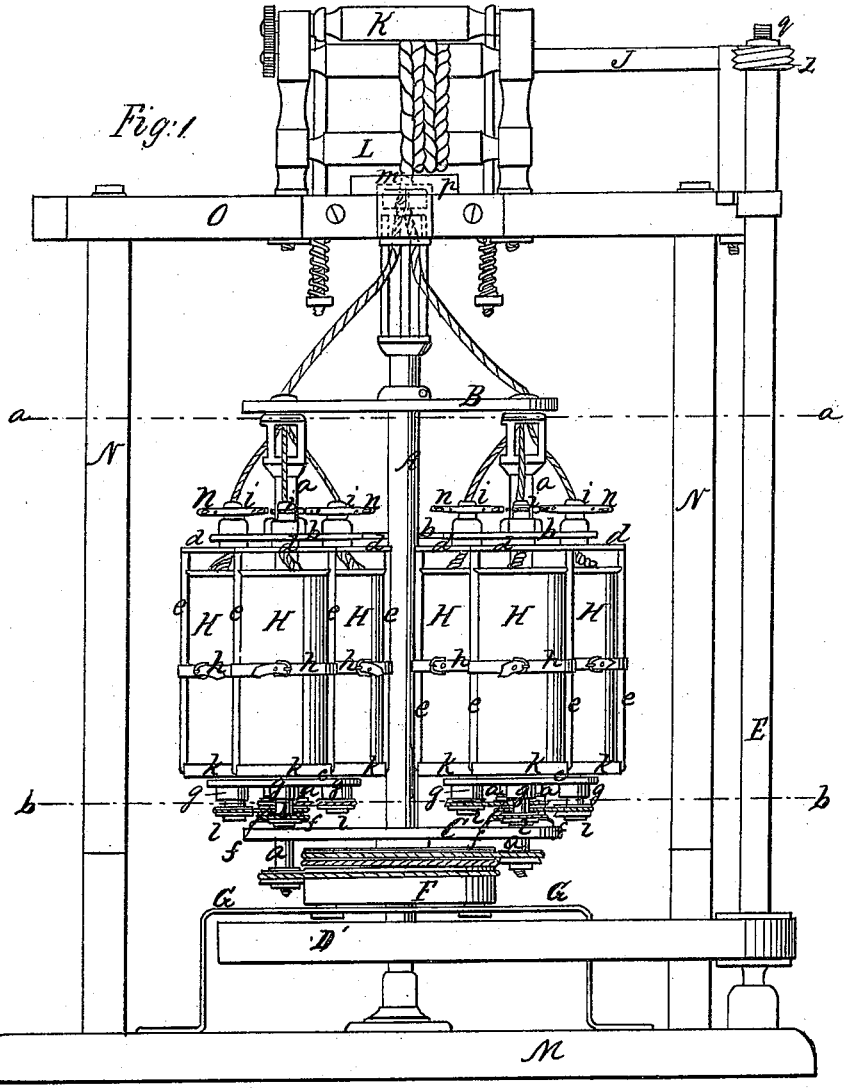

Fig: 4

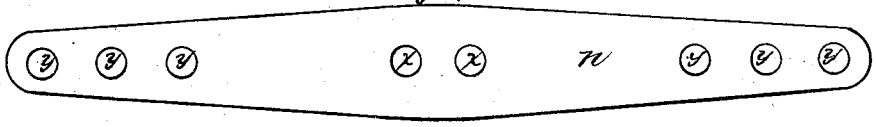

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Fig: 2

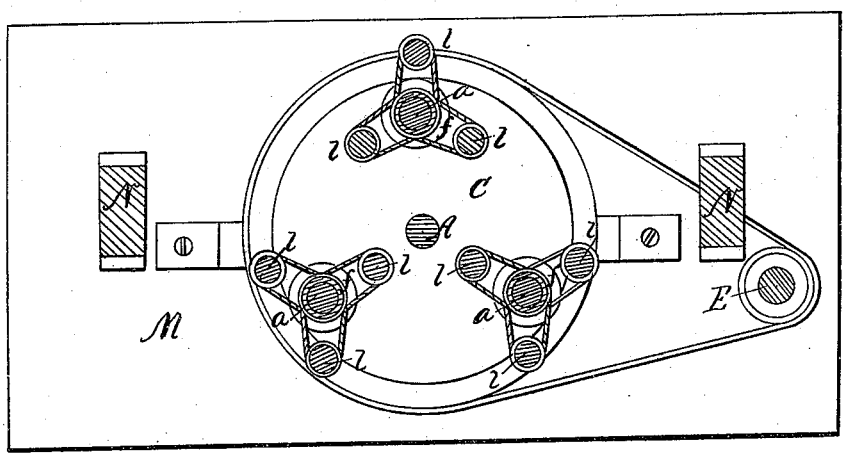


Fig: 3

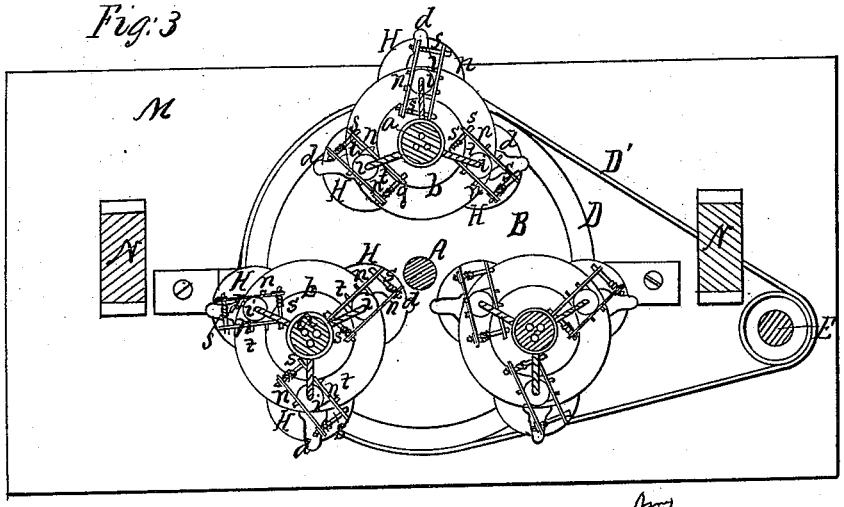
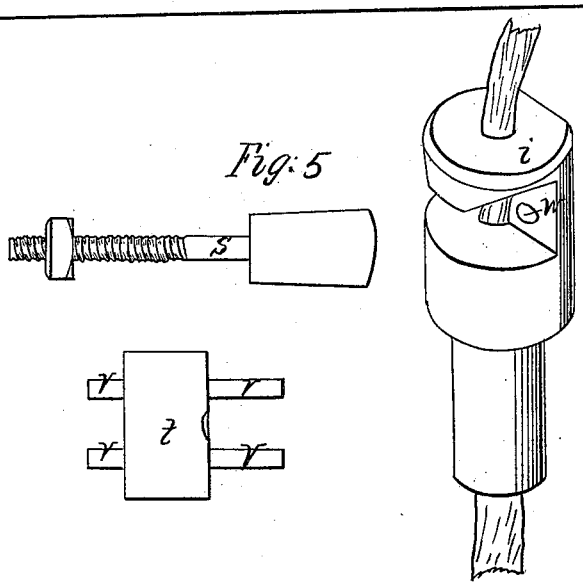


Fig: 5



UNITED STATES PATENT OFFICE.

FRANKLIN SLAUGHTER AND DAVID PERRY, OF FREDERICKSBURG, VIRGINIA.

IMPROVEMENT IN MACHINERY FOR MAKING COTTON CORDAGE.

Specification forming part of Letters Patent No. **7,007**, dated January 8, 1850.

To all whom it may concern:

Be it known that we, FRANKLIN SLAUGHTER and DAVID PERRY, of Fredericksburg, in the county of Spottsylvania and State of Virginia, have invented a new and Improved Machine for Manufacturing Cable Cordage at One Operation Directly from the Sliver; and we do hereby declare the following to be a full and exact description of the improved portions thereof that distinguish it from all other cable-making machines before known, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is a side elevation of our improved cable-making machine; Fig. 2, a horizontal section in the line *b b* of Fig. 1; Fig. 3, a horizontal section in the line *a a* of Fig. 1; and Figs. 4 and 5 are representations of portions of the machine detached.

Similar letters indicate like parts in all the figures.

The base M, the posts N N rising therefrom, and connected together at their upper ends by the cap-beam O, form the supporting-frame for the reception of the movements of our improved cable-making machine.

The central main vertical shaft A and the circular plates B C made fast thereto form the main rotating frame for the support of the three series of smaller rotating frames in which the fliers for the sliver-cans H H H are placed that form the strands of the cable. *a a a* are the shafts of the said smaller rotating frames in which the fliers for the sliver-cans H H H are placed. Circular plates *b c* are made fast to each of the shafts *a a*, which receive the journals of the can-fliers. Each of the fliers is composed of a disk or cup *k* and cross-head *d*, united by two small rods *e e*. The cans H are held within the fliers by straps *h*, as represented in Fig. 1. The upper journals of the fliers are formed by the necks of the nipper-heads *i i*, which descend through the plates *b b* and are made fast in openings in the centers of the cross-heads *d d* that form the tops of the fliers.

The journals of the respective shafts *a a a* above mentioned descend through the lower circular plates C and have pulleys secured at their lower ends, which pulleys are connected by bands to the stationary drum or pulley F. The stationary drum or pulley F is made fast to the metallic bar G, as shown in Fig. 1, the shaft A passing freely through an opening in the center thereof. The lower journals *l l l* of the can-fliers of each series descend through the plates *c c c* (and the tubes *g g g* descending therefrom) and have pulleys at their lower ends, which are banded to grooved thimbles *f f f* rising from and made fast to the upper side of the plate C and surrounding each of the shafts *a a a*. It will therefore be perceived that by means of this manner of combining the respective movements, as above set forth, that when the main shaft A is rotated on its axis a planetary motion will be imparted to each of the shafts *a a a* around the main shaft, and the same motion will thereby be imparted to each of the fliers around the shafts *a a a*, with the addition of an annular motion around the main shaft. With the above-enumerated movements are also combined the drawing-shaft J and rollers K L, as represented in Fig. 1, for drawing out the cable as fast as it is formed, motion being imparted to the shaft J through the medium of the vertical shaft E, which is connected thereto by means of the endless screw Z on the upper end of E, working into a pinion *q* on the end of J and with a pulley on the main shaft A by means of the band D′.

The main shaft A and the series of shafts *a a a* have tubular journals, which are connected to the main portions thereof by three branches, as represented in Fig. 1.

When the machine has been supplied with sliver-cans and put in working order, the movement of the respective parts thereof, as above enumerated, will twist the respective slivers between the nipper-heads *i i* and the hollow journals of the shafts *a a a* and lay them into strands thereat, which strands will be laid together into a cable as they pass through the hollow journals of the main shaft A and the forming-block *m*, placed immediately above it.

We have found by experience that the respective springs that press the nippers *t* against the slivers while they are passing through the nipper-heads *i i i* have to be frequently varied and adjusted, so as to bring them all to the same degree of strength and elasticity of pressure, and in consequence we have been compelled to invent and adopt the

improved form and combination of springs represented in the drawings—to wit, they are composed of pairs of parallel spring-bars *n n*, perforated with series of apertures *x x* and *y y*, and connected together by adjustable screw-bolts *s s*. The two central apertures *x x* in the spring-bars are for the reception of the extremities of the steadying-pins *v v*, that pass through the nippers *t* and project a short distance from their rear edges, which pins pass from the front edges of the nippers through the guiding-apertures *w w* in the nipper-heads *i*, the apertures *y y* being for the reception of the screw-bolts *s s*, that serve to confine the spring-bars to each other and cause them to act upon the nippers *t* with more or less stiffness and power as the position of the screw-bolts is brought nearer to or removed farther from the extremities of the bars and as they are acted upon more or less by the set-screw nuts.

Either one or both the bars *n n* may be made elastic, as may be deemed expedient. In practice we have found that when both bars are elastic their action upon the nippers is perfect. In place of the apertures *y y* in the spring-bars *n n*, slots may be formed in them for the reception of the screw-bolts *s s*. The stiffness of the springs *n n* requires to be varied with the varying changes in the state of the atmosphere. When there is much moisture in the atmosphere, the friction between the slivers and the nippers and nipper-heads is considerably increased, requiring a greater degree of elasticity in the springs, and in a dry state of the atmosphere, the friction between the slivers and the nippers being much diminished, a greater degree of stiffness of the springs is required to prevent the twist imparted to the slivers from passing between the nippers and nipper-heads down into the cans and kinking and ruinously tangling the slivers contained therein.

What we claim as our invention, and desire to secure by Letters Patent, is—

The constructing the nipper-springs of parallel bars *n n*, (one or both of which may be made elastic,) having series of holes (or slots) formed in them for the reception of the connecting and adjusting screw-bolts *s s*, for the purpose of enabling us to cause the several nippers to press with the same amount of power and elasticity upon the slivers during their passage through the nipper-heads, and also to vary the elasticity of the springs as circumstances may require, substantially as herein set forth.

The above specification signed and witnessed this 31st day of August, 1849.

F. SLAUGHTER.
DAVID PERRY.

Witnesses:
Z. C. ROBBINS,
H. W. G. CLEMENTS.