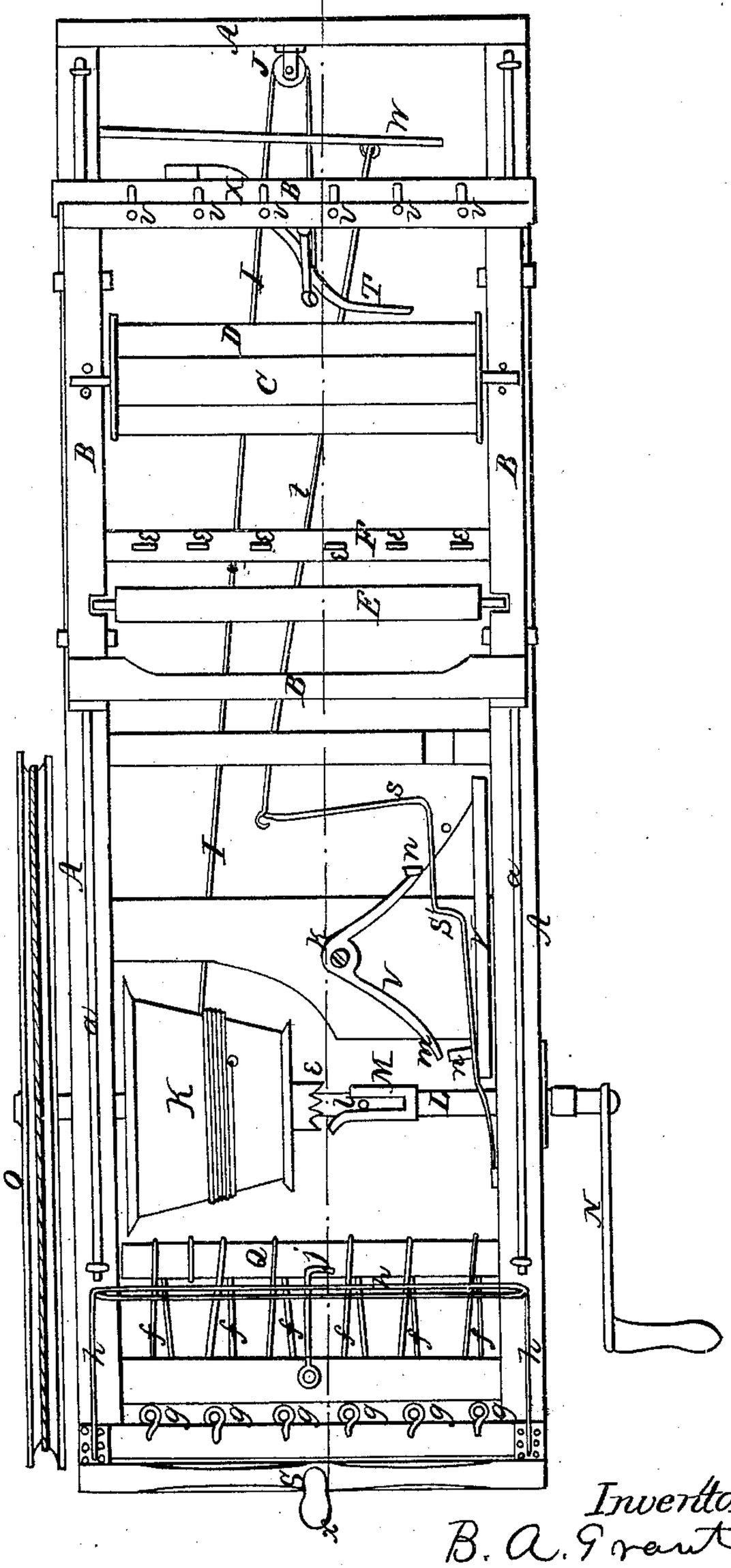
Sheet 1. 2 Sheets.

B. A. Grant

Spinning Mach.

No. 58,023. Patented Sep. 11, 1866.

Fig: 1.



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Sheet 2. 2 Sheets.

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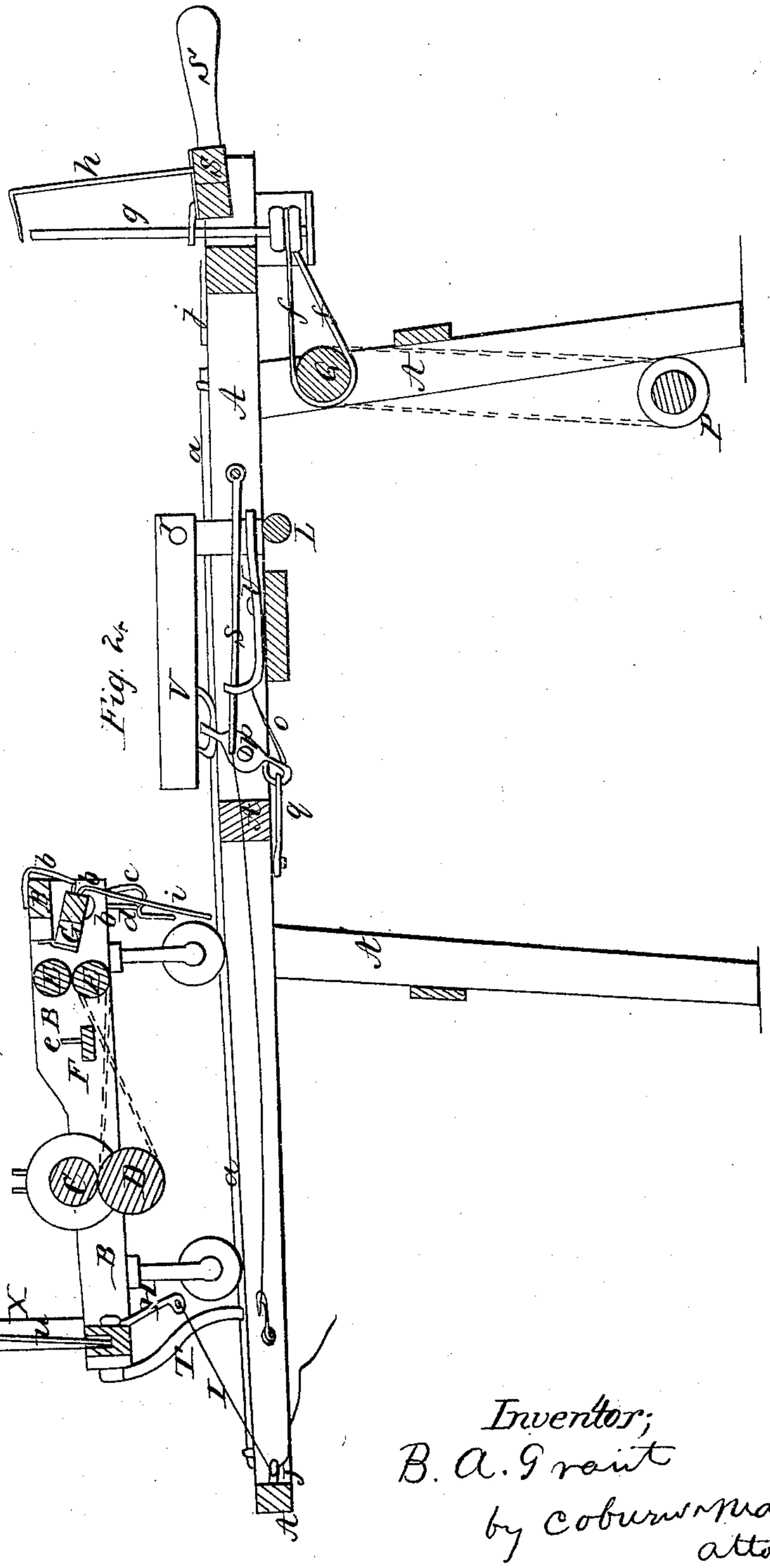

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UNITED STATES PATENT OFFICE.

B. A. GRANT, OF MOUNT PLEASANT, IOWA, ASSIGNOR TO HIMSELF AND J. B. COATES, OF SAME PLACE.

IMPROVEMENT IN HAND SPINNING-MACHINES.

Specification forming part of Letters Patent No. **58,023,** dated September 11, 1866.

To all whom it may concern:

Be it known that I, B. A. GRANT, of Mount Pleasant, in the county of Henry and State of Iowa, have invented a new and useful Improvement in Hand Spinning-Machines; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My invention relates to that class of spinners in which the rolls are wound upon a suitable roller, and the carriage upon which said roller is placed has a reciprocating motion from and toward the stationary spindles of the machine for the purpose of drawing out the threads, and, after being twisted sufficiently, allowing the same to be wound upon the spindles, as desired.

To enable those skilled in the art to construct and use my invention, I will proceed to describe its construction and operation with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a plan or top view of my invention; and Fig. 2, a longitudinal vertical section, the line of section being shown at *x* in Fig. 1.

Similar letters of reference in the different figures denote the same parts of my invention.

A represents a rectangular frame of suitable dimensions, standing upon suitable legs or supports, as shown, the longitudinal parts of said frame having a track, (marked *a*,) upon which the car or carriage B moves forward and back, as hereinafter specified, the wheels of said car being properly grooved to keep the car upon the track.

Upon the car B is arranged the roller C, upon which the rolls are wound after being properly spliced in any suitable manner, the said roller resting upon a pressure-roller, D, operating as hereinafter described.

The rolls extend forward through suitable loops or holders (marked *e*) upon the cross-bar F between the rollers E E, and then between the front cross-bar of the car-frame and the movable jaw G, whence they go to be attached to a series of spindles, (marked *g*,) arranged, as shown, at one end of the machine.

L represents a shaft supported upon the frame, which is revolved by a crank, N, as shown, which, by means of the drum or wheel O with its belt, the shafts P Q with their belt, and the bands or cords *f*, as shown, revolves the said spindles *g*.

K represents a drum revolving freely upon said shaft L, and has attached thereto a cord, I, which, passing around a pulley, J, at the rear of the machine, is attached to the rear end of the car B at the arm H, as shown, so that the revolution of said drum K will draw said car back from the spindles to the opposite or rear end of the machine, as hereinafter set forth.

As the car advances toward the spindles, as hereinafter described, an arm, *i*, which is rigidly attached to the jaw G, strikes upon a projection, *j*, and forces said jaw open, as shown in Fig. 2, while a catch, *c*, catches upon a pin, *d*, upon the frame B, and holds said jaw open until released, as hereinafter set forth. Furthermore, as said car approaches the spindles the arm T, attached thereto, strikes upon the arm *n* of the U-lever, pivoted to the frame at *k*, moving it forward until it catches upon the projection *s'* upon the spring *s* when the car has reached the limit of its forward movement. As the said arm *n* is moved forward, as aforesaid, it also, by means of the connection *o*, draws forward the lower end of the lever *p*, fulcrumed at its center, or thereabout, thus raising up the arm V, attached thereto, which arm is pivoted at *r* to an upright piece attached to the frame A, to a horizontal position just as the roller D reaches that point, which then rests upon said arm and rolls upon the same, unwinding from the roller C enough of the rolls to form the next thread, and the feed-rollers E, revolved by the belt from said roller D, draw the rolls through to the jaws G. At the same time the arm *m* of the lever U forces the clutch M up against the drum K, throwing said drum into gear with the shaft. The former threads, having been wound upon the spindles, being properly arranged thereupon by means of the branch S *h*, as shown, the revolution of the shaft L and drum K winds up the cord I, and thus moves the car back to draw the next thread. Just as all the length of the rolls previously uncoiled from the roller C, as aforesaid, has been drawn out through or between said

jaws the catch *c* strikes against a pin at *r*, and is released from the pin *d*, when an elastic strap or spring, *b*, connecting the jaw G and front bar of the carriage B, immediately closes upon the rolls, holding them firmly, so that the further backward movement draws out, while the revolving spindles *g* twist the several threads, as desired. By adjusting the position of the pin *r* the time of raising the arm V is changed, and threads of different degrees of fineness or coarseness are produced. When the carriage reaches the limit of its backward movement the said arm T strikes upon the arm W, and, by means of the connection *t*, draws back the catch *s'* and releases the arm *n* of the lever U, when the spring *q* draws it back and releases the clutch M, so that the winding up of the threads upon the spindles will draw the car forward, as before.

The threads are wound upon removable bobbins arranged upon the spindles, which bobbins may be removed and placed upon the spindles or rods *v*, which are arranged upon the car B in suitable supports X, so that the threads (two or more) may be twisted together when desired, the car in such case remaining stationary.

Having described the construction and operation of my invention, I will now proceed to specify what I claim and desire to secure by Letters Patent:

1. The combination of the arm T upon the car with the U-lever *n m* and the spring-catch *s'*, or its equivalent, arranged and operating as and for the purposes described.

2. In combination with the U-lever *n m*, the employment of the lever *p* and arm V, arranged and operating as and for the purposes set forth.

3. The combination of the jaw G, spring *b*, arm *i*, and catch *c d*, or its equivalent, arranged and operating as and for the purposes shown and described.

4. In combination with said jaw G, spring *b*, and catch *c d*, the arrangement of the pin *r*, or its equivalent, as and for the purposes specified.

5. The arrangement of the spring *s*, cord *t*, and arm W with the arm T of the car B, operating as and for the purposes set forth.

B. A. GRANT.

Witnesses:

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W. D. LEEDHAM.