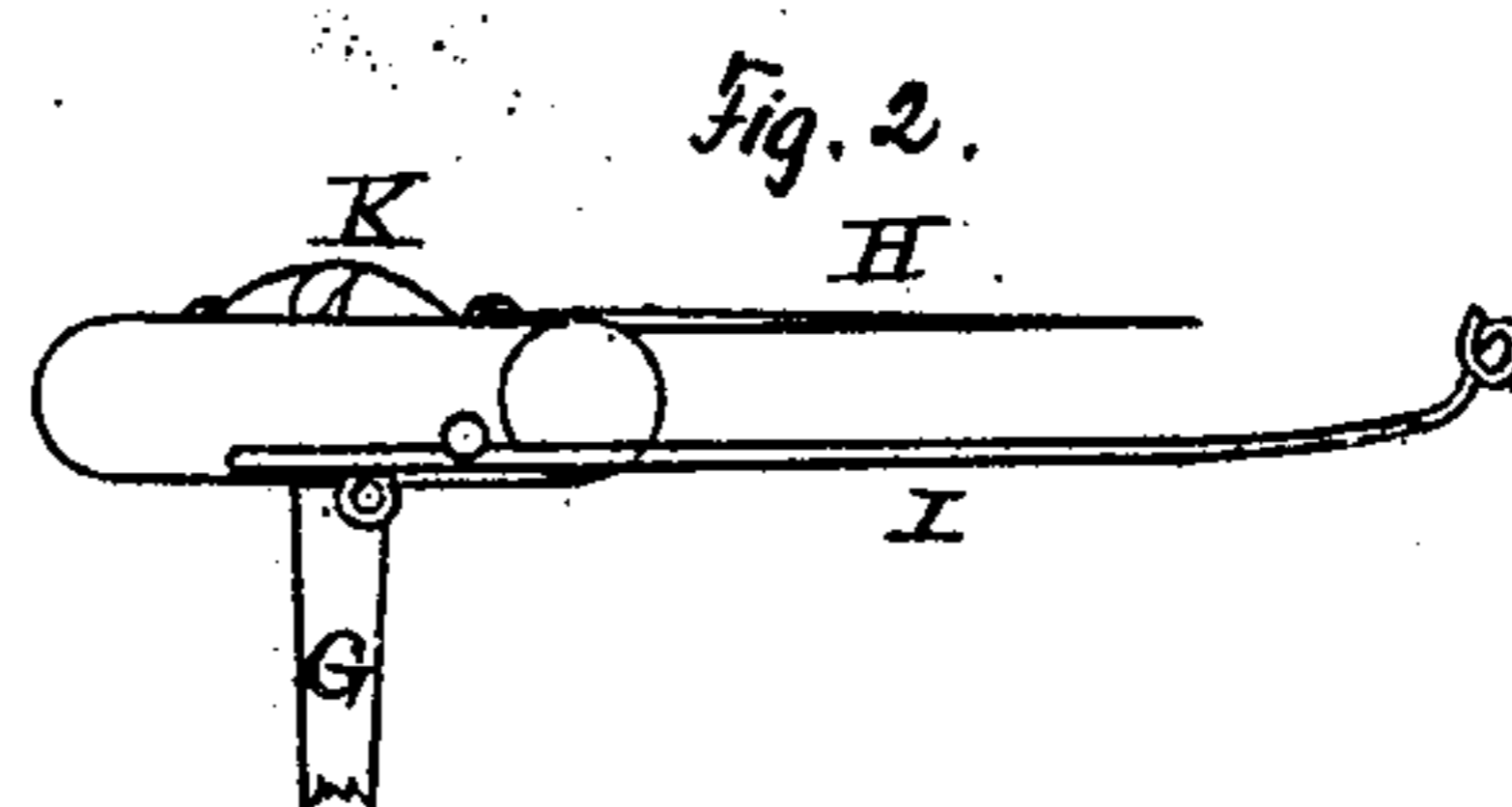
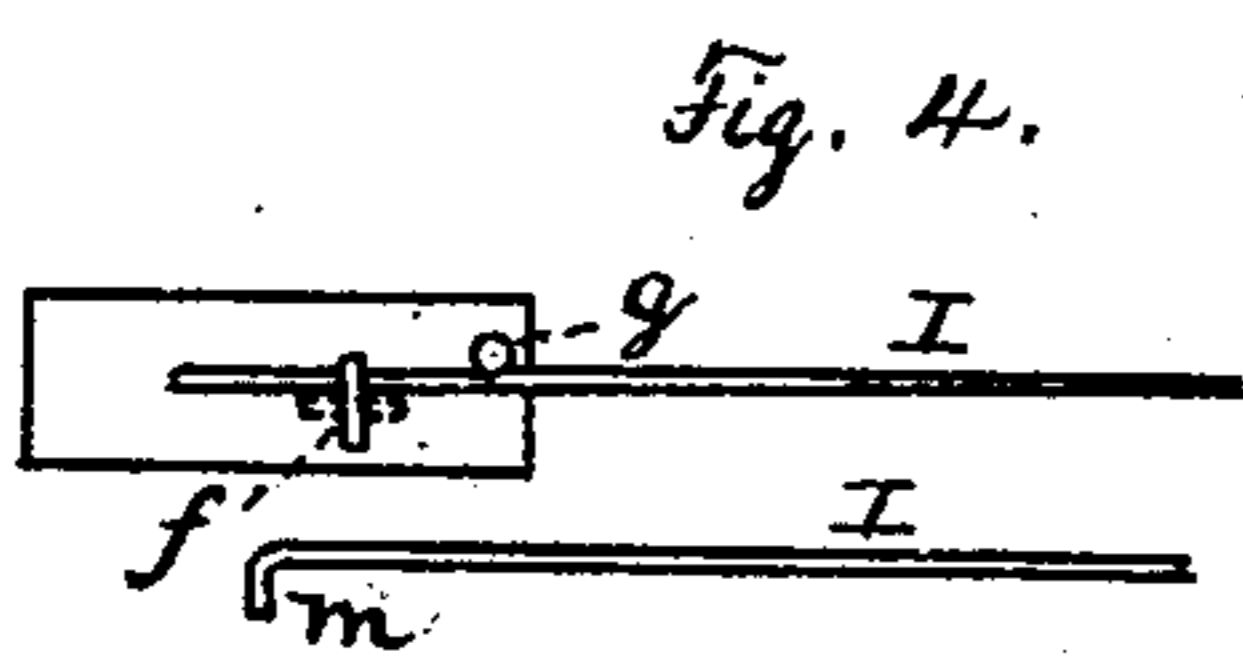
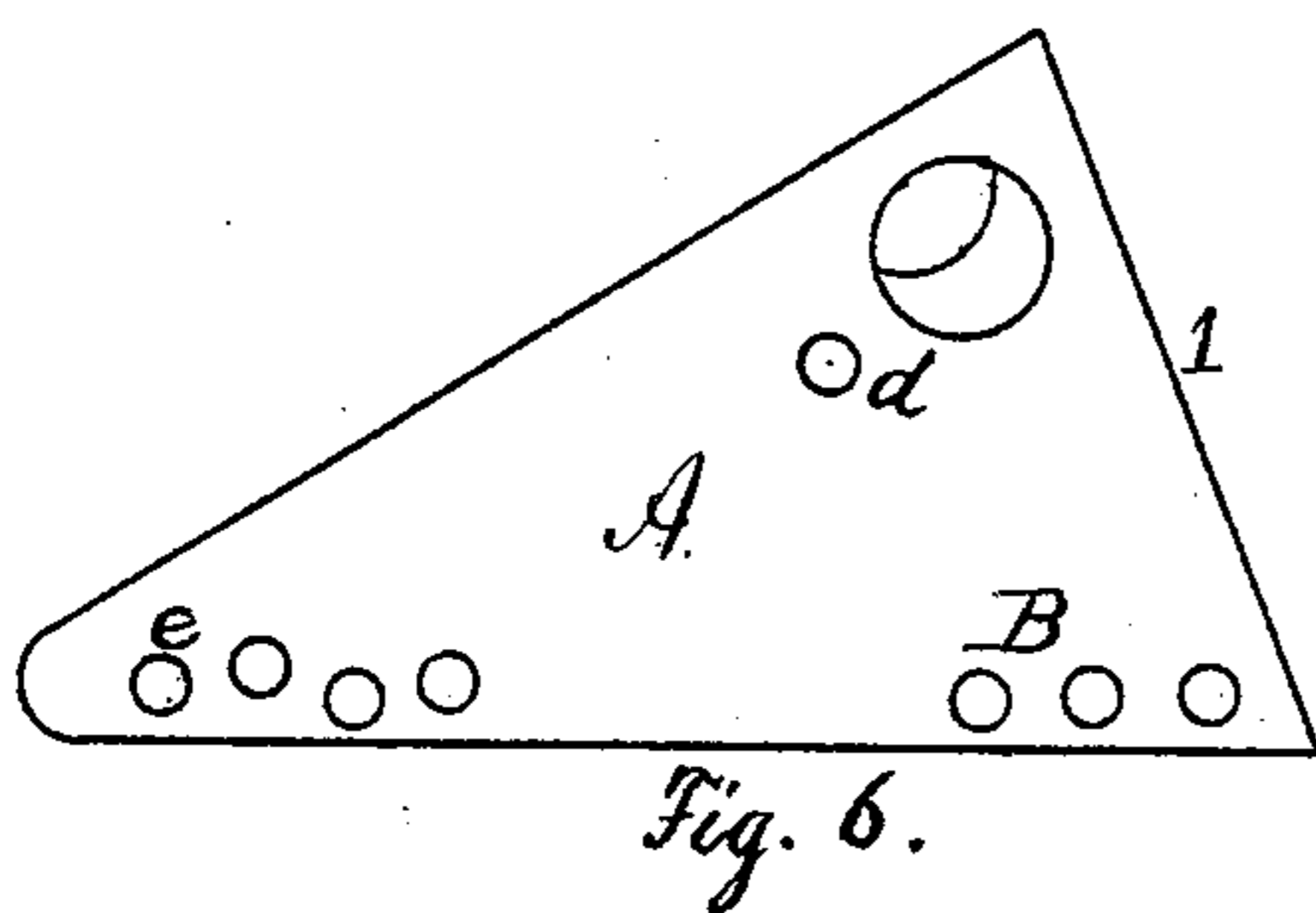
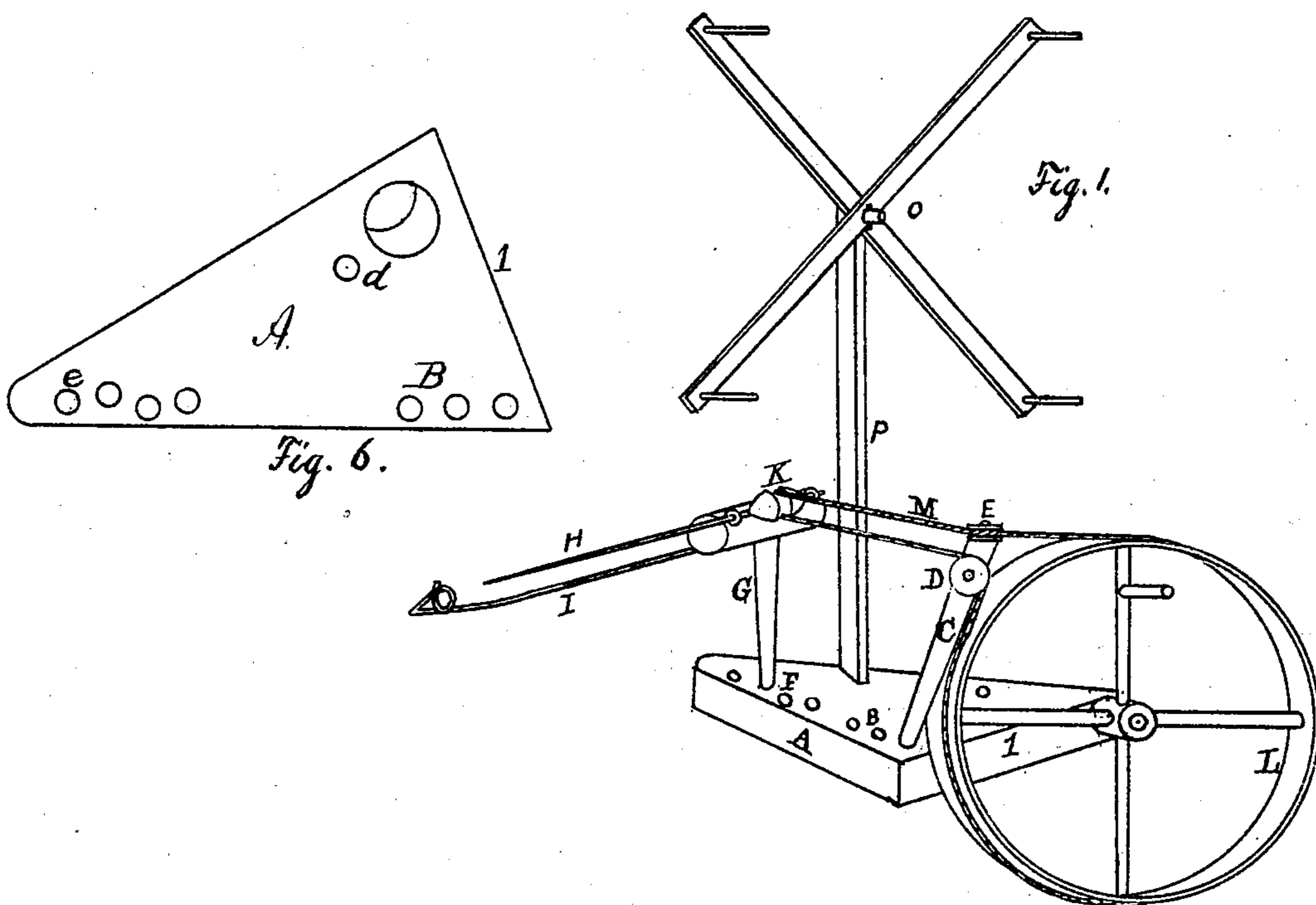


GEORGE H. HATHORN.

Improvement in Spinning Machines.

No. 121,517.

Patented Dec. 5, 1871.



Witness

John J. Rickard
John Williams

Inventor

Geo. H. Hathorn

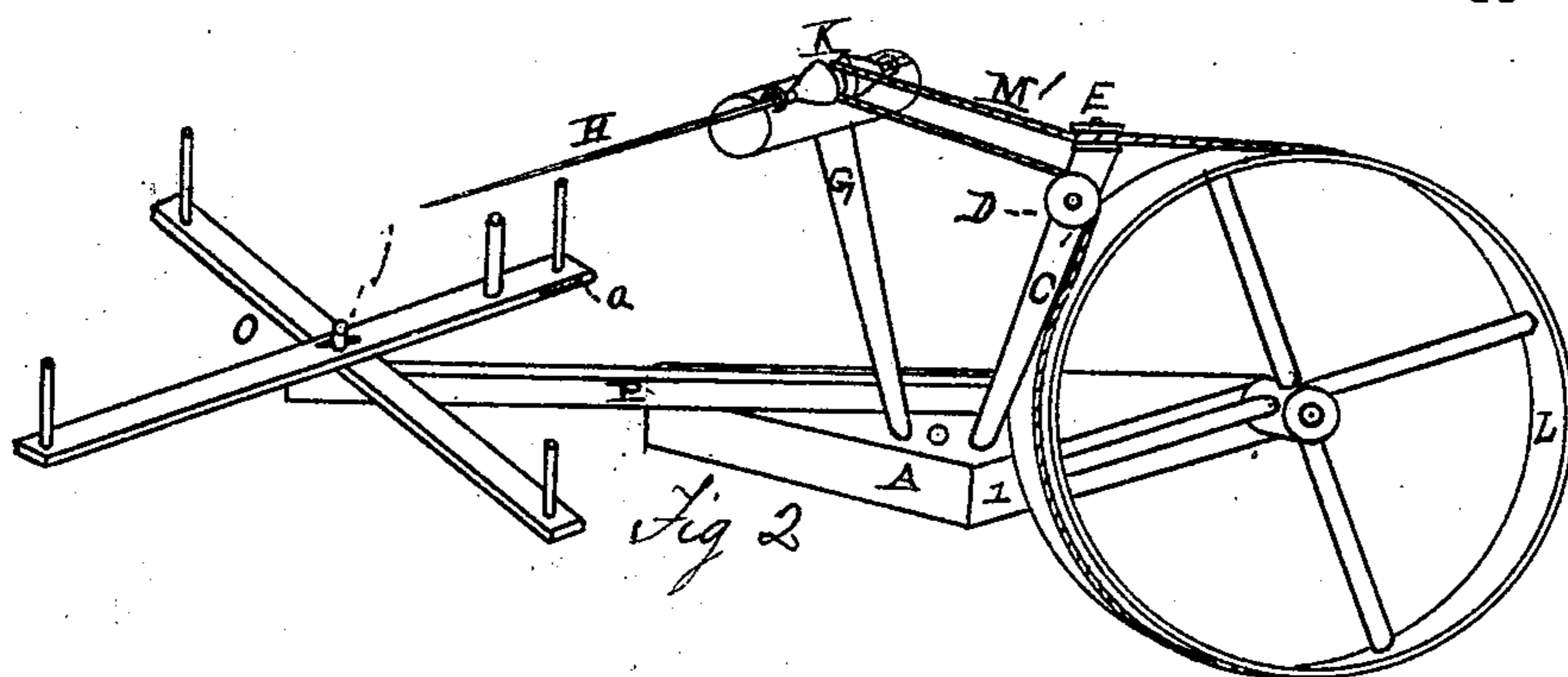
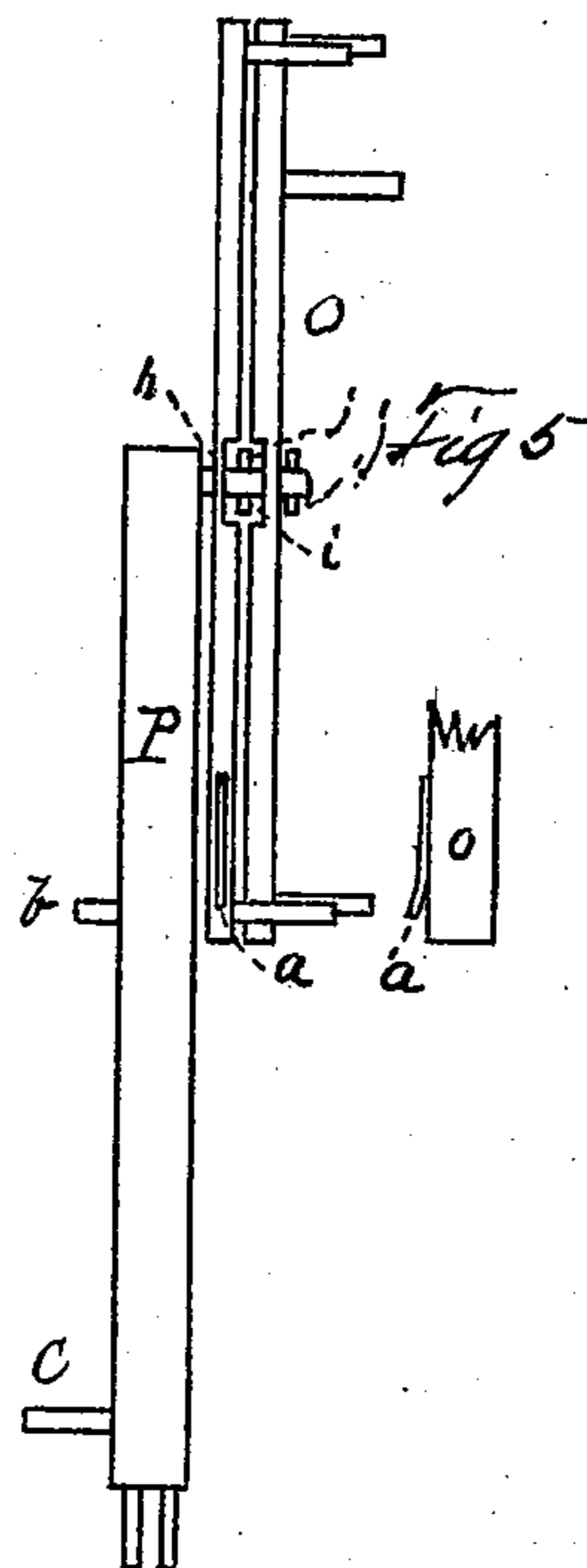
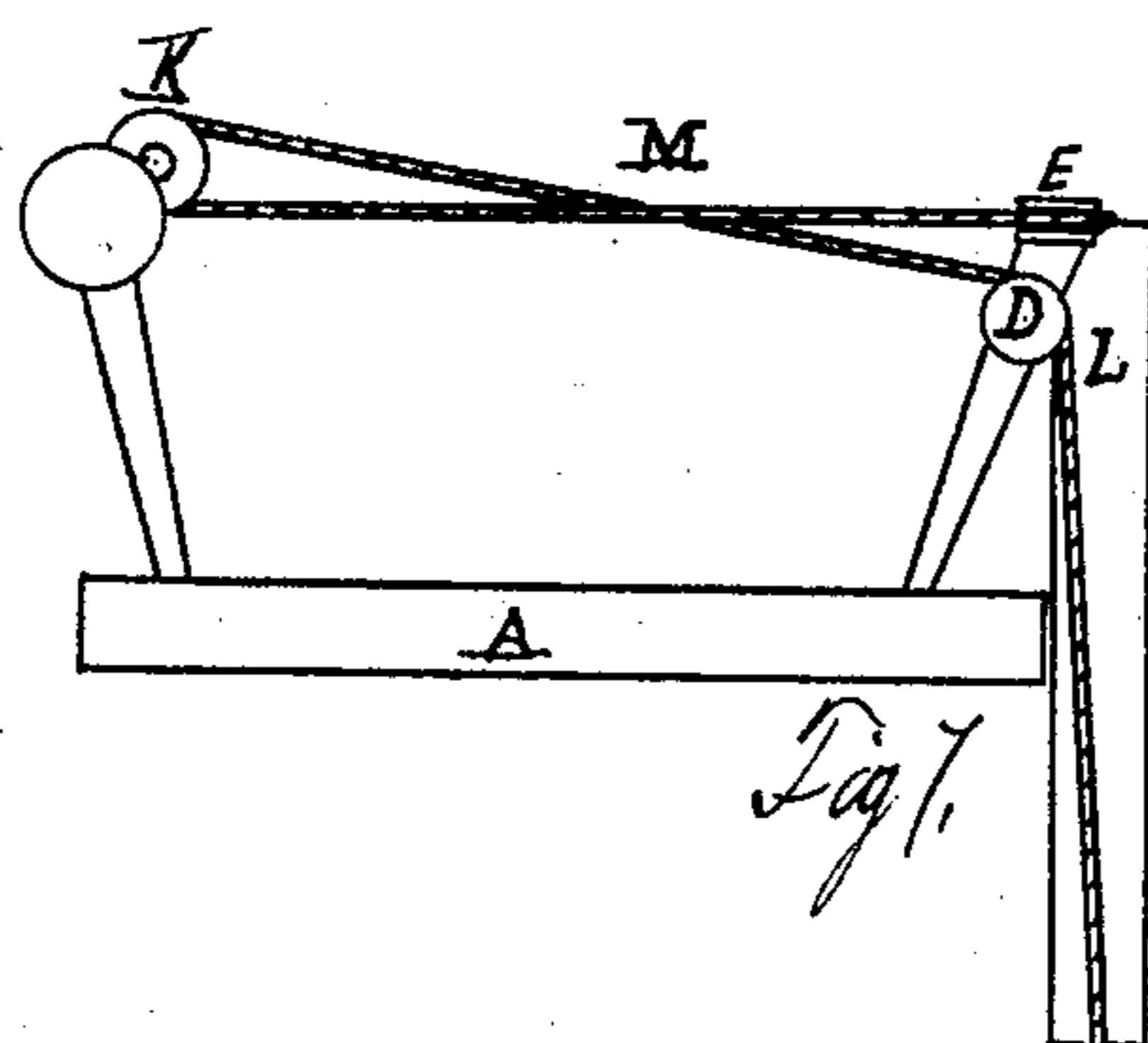
For Wm Franklin Scamsey Atty

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UNITED STATES PATENT OFFICE.

GEORGE H. HATHORN, OF BANGOR, MAINE.

IMPROVEMENT IN SPINNING-MACHINES.

Specification forming part of Letters Patent No. 121,517, dated December 5, 1871.

To all whom it may concern:

Be it known that I, GEORGE H. HATHORN, of Bangor, in the county of Penobscot and State of Maine, have invented a new and useful Improved Hand-Spinner; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 shows my invention in perspective; Fig. 2, a detail of the guide-wire; Fig. 3, a view of my invention as arranged for quilling; Fig. 4, a view of the device for seaming the guide-wire to the head. Fig. 5 shows the folding-swifts with the spring-holder for the jaw and the pins for holding the swifts in a horizontal position; Fig. 6, a plan view of the bed-piece; Fig. 7, the arrangement for twisting the same.

Same letters show like parts.

The purpose of my invention is the production of a simple, cheap, and easily-operated hand-spinner, which can be readily adapted to the kindred operations of quilling and reeling. It consists in part of a peculiar arrangement of the driving-wheel and band, enabling them to be operated more conveniently; and in certain improvements in other parts of the machine, as will be hereinafter specified.

Referring to the drawing, A shows the triangular bed-piece, to which the operating parts are attached, and which may be clamped to a table or bench. At the side 1 is situated the drive-wheel L, (see Fig. 1,) revolving in a plane nearly at right angles to the plane in which the spindle H revolves. This enables the operator to sit facing the wheel while spinning, and to give motion to the said wheel by the movement of the frame with but little motion of the shoulder. Revolution is given to the spindle H by means of a belt, M, passing over a loose vertical pulley, D, and around one side of a loose horizontal pulley, E. These pulleys are placed upon a standard, C, inserted in the bed-piece, and inclined (see Fig. 3) so as to bring its top over the center of the rim of the driving-wheel L. Upon its top, which is equal in height to the top of the wheel L, is the horizontal pulley E, and at one side is the vertical pulley D, at such a distance below the pulley E as to allow those parts of the belt M passing from said pulleys to the

pulley K on the spindle to be parallel to each other. This lessens the friction and enables the belt to bear against a larger portion of the surface of the pulley K, when said pulley is brought near the drive-wheel, as it is in quilling.

The operation of the machine in spinning is as usual, save that the operator gives motion to the wheel more conveniently, as before stated.

In the operation of reeling, the end of the yarn is run through the loop in the end of the guide-wire I, upon the head. This gives the thread the proper direction, allowing it to come off without snarling. It is then led to the reel upon the upright standard P, and its end is fastened to said reel by being slipped under the spring-holder *a*, (Fig. 5.) The reel O is then turned by the handle, and the yarn wound thereon.

In quilling, the standard P is taken down and placed in a horizontal position. It is secured by means of pins upon its back at *b c*, (Fig. 5,) and holes *d e* in the bed-piece A, in which said pins are put. This position gives additional steadiness to the movements of the reel while quilling. The standard G is then moved to the hole B in bed-piece, and a shorter belt or cord, M', placed on the pulley. The guide I is also removed from the head, as it would interfere with the operation; and the thread being brought from the reel to the quills or spool upon the spindle, motion is communicated by the wheel Z, and the thread is drawn from the reel. As intimated, the guide I is removable. Its end is bent at *m*, and inserted in the head by means of a screw-button, *f*, acting as a cam. It is held against and under the head of a retaining-pin, *g*, which keeps it in place. When desired, by a simple motion of the button *f* it can be quickly removed. (See Fig. 4.) The swifts O are made to fold up when not in use, and are held when open by dovetails *h i*, and a pin, *j*. This is of great convenience in packing for transportation.

When the yarn has been spun and it becomes desirable to twist two threads together, as is sometimes the case, the band M may be crossed, as shown in Fig. 7. By this means the spindle receives a reverse motion without turning the wheel backward. The pulley E is set over a sufficient distance from the edge of the standard C to prevent the crossed parts of the belt M from chafing each other, thus keeping them from wear. This arrangement of the belt M is rendered possible

by reason of the pulley E being horizontal and the pulley D vertical, and the same result would not be attainable were they both on the same shaft or parallel.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the wheel L revolving in a plane at right angles, or nearly so, to the plane of revolution of the spindle, inclined standard C, horizontal pulley E on the top, and vertical

pulley D on the side of the same, band M passing over and around said wheel and pulleys, as described, to the pulley K, wire guide I, screw-button *f*, and retaining-pin *g*, as herein set forth and specified, for the purposes described.

GEORGE H. HATHORN.

Witnesses:

WILLIAM FRANKLIN SEAVEY,
JOHN Y. RICKER.

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