C. H. CLARK.

Cloth Measurer.

No. 105,905. Patented Aug. 2, 1870.

fig 1.

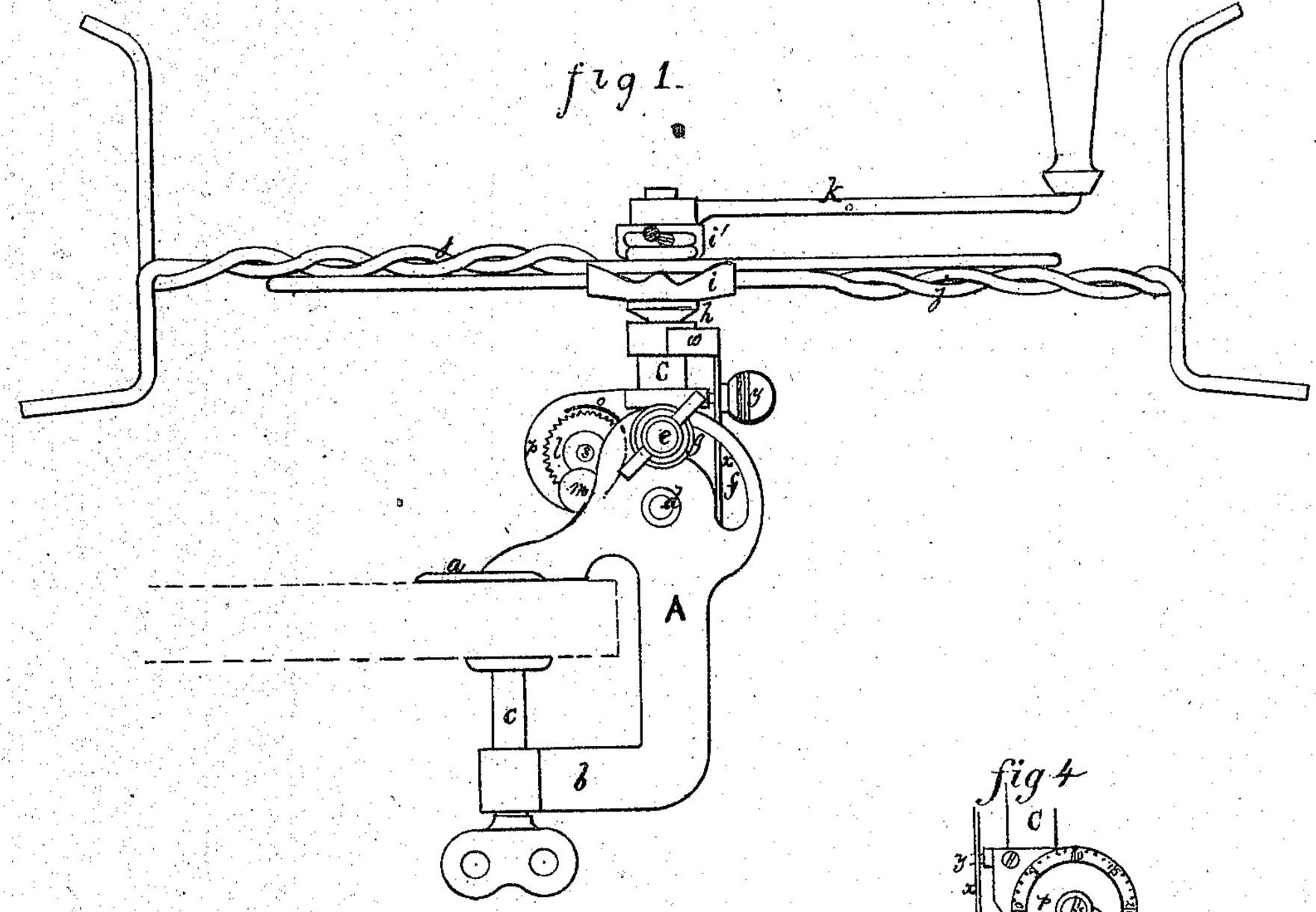


fig 4

fig 2.

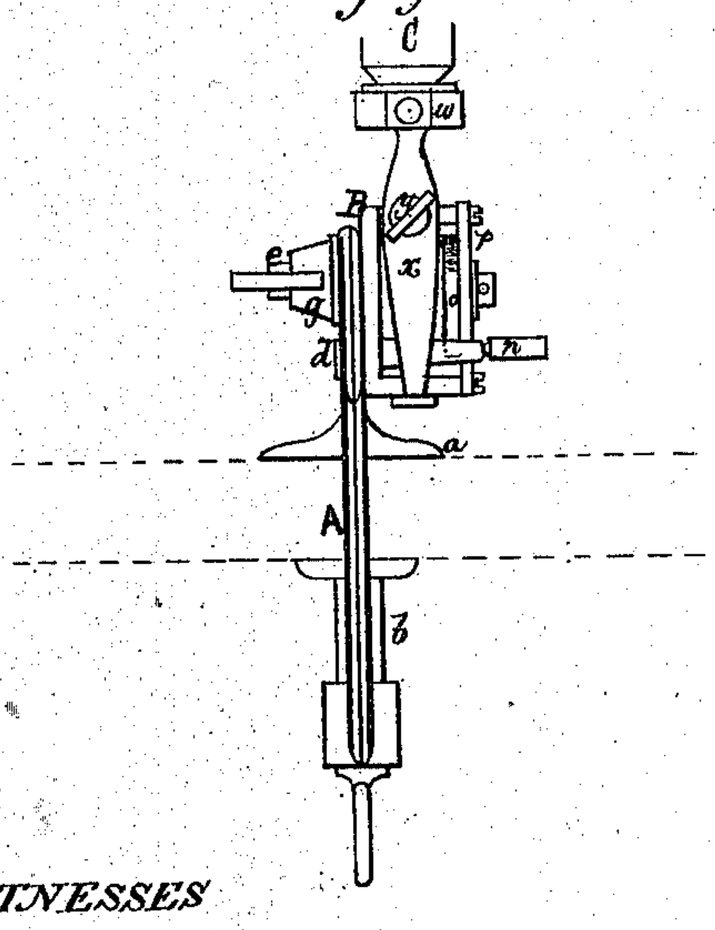


fig 3

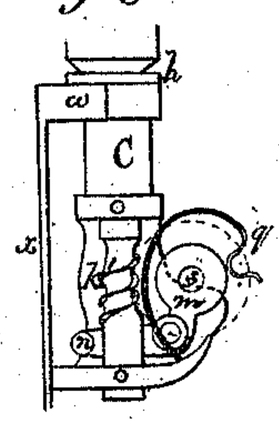


fig 5

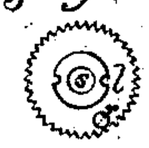
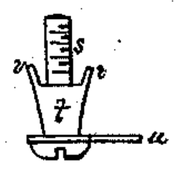


fig 6



WITNESSES

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CHARLES H. CLARK, OF PITTSFIELD, MAINE.

Letters Patent No. 105,905, *dated August* 2, 1870.

IMPROVEMENT IN COMBINED SWIFT AND REEL.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, CHARLES H. CLARK, of Pittsfield, in the county of Somerset and State of Maine, have invented certain new and useful Improvements in Swifts and Reels; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable those skilled in the art to which my invention appertains to fully understand and to make and use the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 is a side elevation of the improved swift and reel.

Figure 2 is a rear end view, the arms of the reel being removed.

Figures 3, 4, 5, and 6 are detail views of the registering mechanism and parts relating thereto.

The invention consists in the construction, arrangement, and combination of parts as hereinafter described and claimed.

Similar letters of reference indicate like parts in the several figures.

A represents a standard cast with a flat plate, *a*, and a projecting arm, *b*, through which latter passes a clamping-screw, *c*.

B is a box, cast with a stud, *d*, which enters an opening in the standard, and with a threaded projection, *e*, which passes through a curved slot, *f*, in the standard, and is provided with a washer and thumb-nut, *g*, on its outer end.

C is a shaft, journaled in bearings in the upper and lower parts of box B.

The upper part of this shaft is threaded, and at the lower termination of the screw or thread is cast a collar, *h*.

On this collar rests a plate, *i*, having a central opening for the passage of the screw or shaft, and made with side flanges and projections on the upper surface.

Above the plate *i* is a similar casting, *i'*, inverted, and between these plates are clamped the extensible arms *j j*, by means of the crank *k*, screwed on the upper part of shaft C.

The arms *j* are made of thick wire, twisted about half the length of the arm, the outer end being bent, as shown, while the inner portion is open and forms a slot for adjustment.

By this construction the arm is strengthened and prevented from bending laterally, thus rendering the reel always accurate as a measure.

On the lower part of the shaft C is formed a worm, *k'*, which engages with a gear-wheel, *l*.

This wheel revolves on a short screw projecting from a lever, *m n*, pivoted within the box.

By raising the end *n* of the lever, the wheel *l* is carried out of engagement with the worm.

o, figs. 1 and 2, represents a curved guard, secured to the inner face of the dial *p*, and partially surrounding the periphery of the toothed wheel *l*.

q is a spring, bent into the form shown, and secured, at one end, to the bottom plate of the box.

The wheel *l* is provided with a projecting pin, *r*, fig. 5, which, as the wheel revolves, traverses the inner surface of the spring *q*.

The dial *p* is secured to the box, as shown, and it is graduated as represented in fig. 4.

In its center is an opening through which passes a screw, *s*, carrying a short hollow stem, *t*, having secured to it the pointer *u*.

The screw *s* forms the axis of the wheel *l*, and has its bearings in the end of lever *m n*.

The stem *t* has projections, *v v*, which enter small openings in the face of wheel *l*, (see figs. 5 and 6,) so that the movement of the wheel *l* is imparted to the pointer.

To keep the arms from running too easily, and thus prevent the falling and tangling of the yarn, I provide a semicircular collar, *w*, which fits around the collar cast on shaft C, and is kept in contact therewith by a flat spring, *x*, to which it is secured.

The lower end of the spring fits into a dovetailed recess in the bottom plate of box B, and its pressure is regulated as desired, by means of a set-screw, *y*, passing through the spring and entering the upper plate of the box.

By means of the slot in the standard the arms can be adjusted so as to rotate either in a vertical or a horizontal plane, or at any intermediate angle.

The arms being rotated by means of the crank-handle, the pointer will indicate upon the dial as far as "40."

When this point is reached, the projecting pin on the wheel *l* passes from under the bent portion of the spring *q*, causing a snapping sound.

By raising the end *n* of the lever, to which the toothed wheel is applied when the reel is transformed to a swift, the registering mechanism is rendered inoperative.

Having thus described my invention,

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

1. The elbow-lever *m n*, carrying the toothed wheel *l*, in combination with the worm *k'* on the shaft C, as and for the purpose described.

2. The tubular stem *t*, carrying the pointer *u*, in combination with the screw *s*, the wheel *l*, and the dial-plate *p*, as herein described and shown.

3. The combination of the extensible arms *j*, shaft C, crank *k*, friction-spring *x w*, registering mechanism, and lever *m n*, all mounted upon the slotted standard A, and constructed, arranged, and operating substantially as herein described.

In testimony that I claim the above I have hereunto subscribed my name in presence of two witnesses.

CHARLES H. CLARK.

Witnesses:

R. M. MANSUR,

H. B. LILLEY.