

(No Model.)

2 Sheets—Sheet 1.

M. KEENEY.

REGISTERING DEVICE FOR TEXTILE FABRIC MACHINES, &c.

No. 491,564.

Patented Feb. 14, 1893.

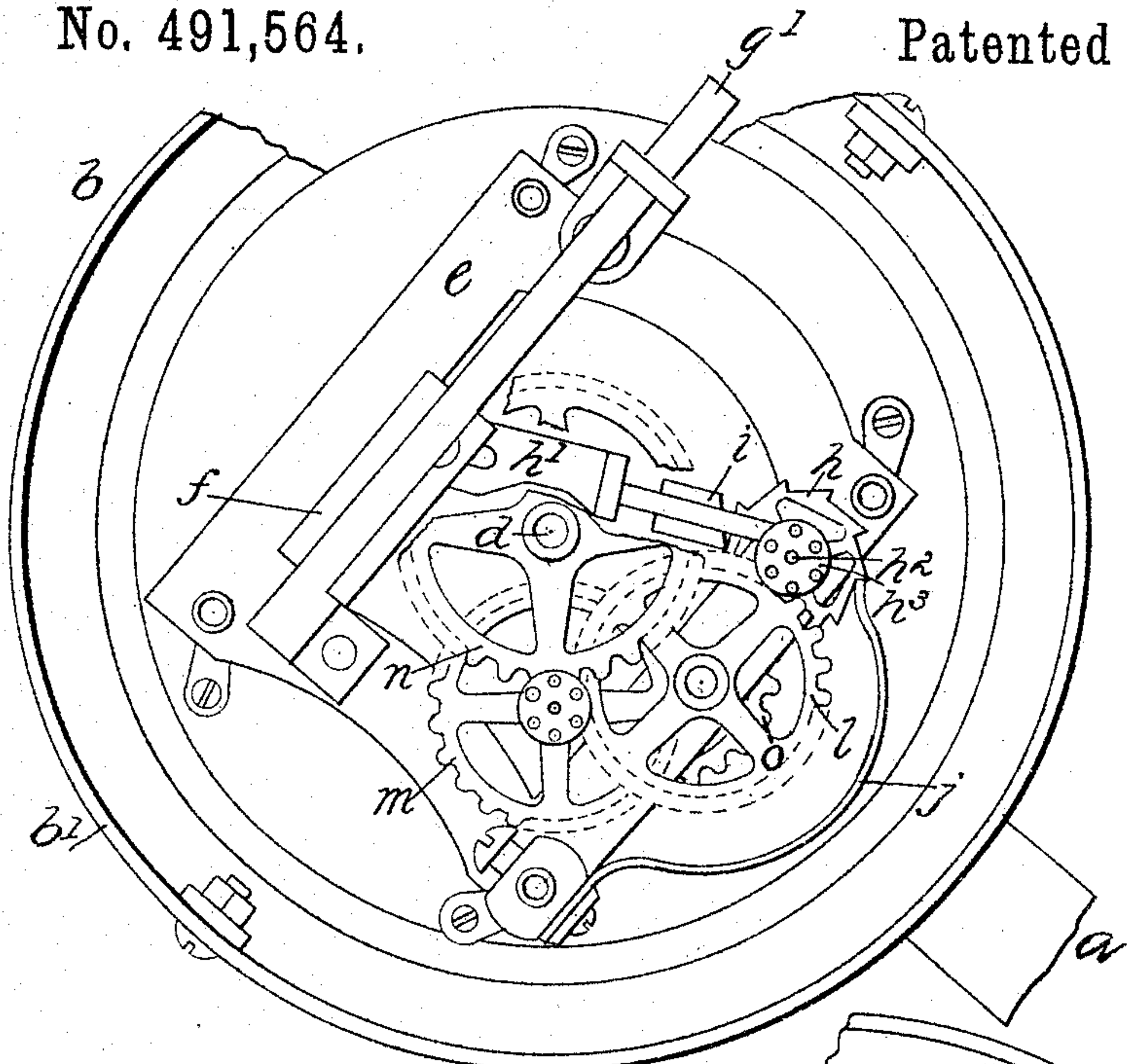


Fig. 1.

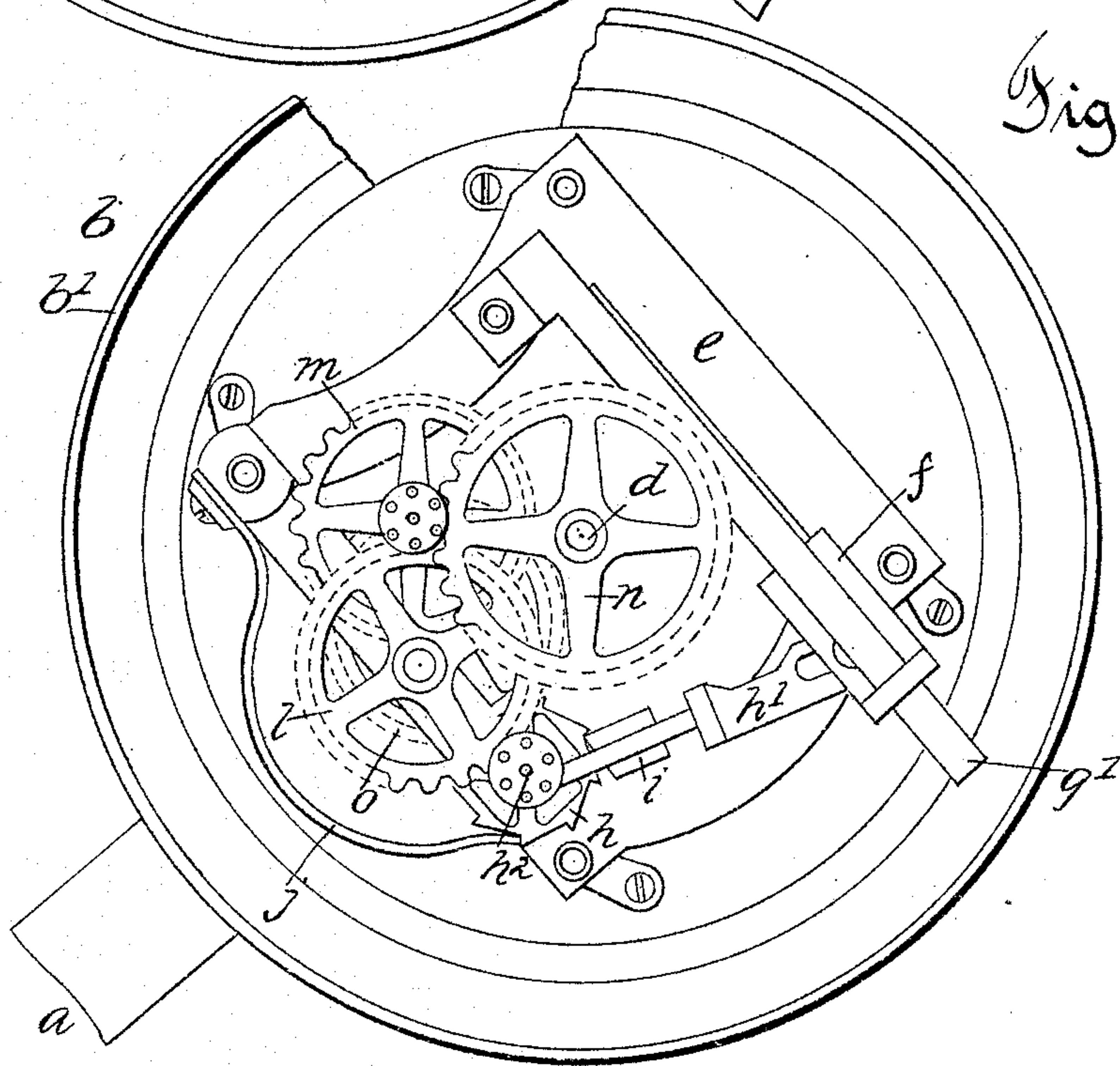


Fig. 2.

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(No Model.)

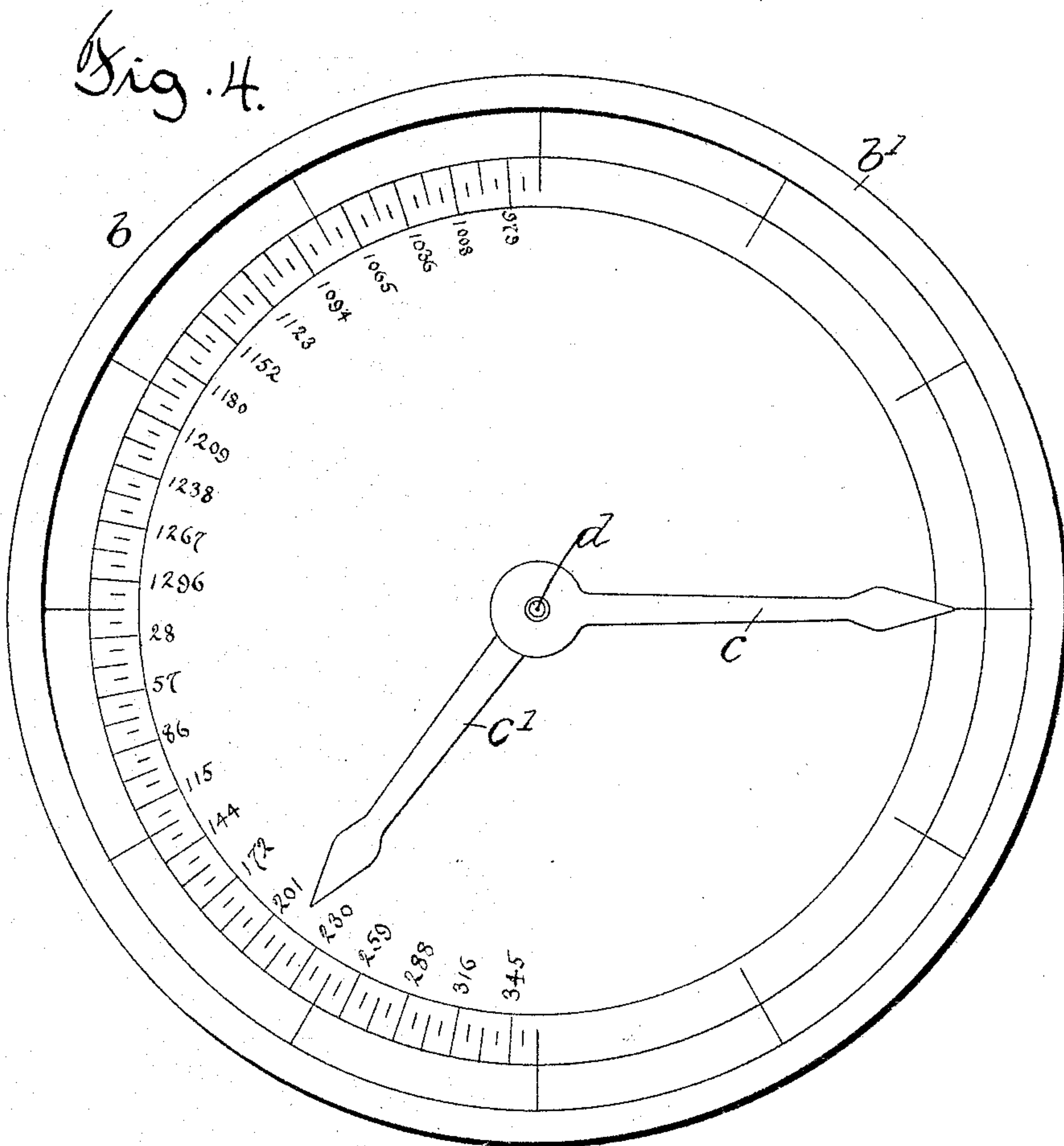
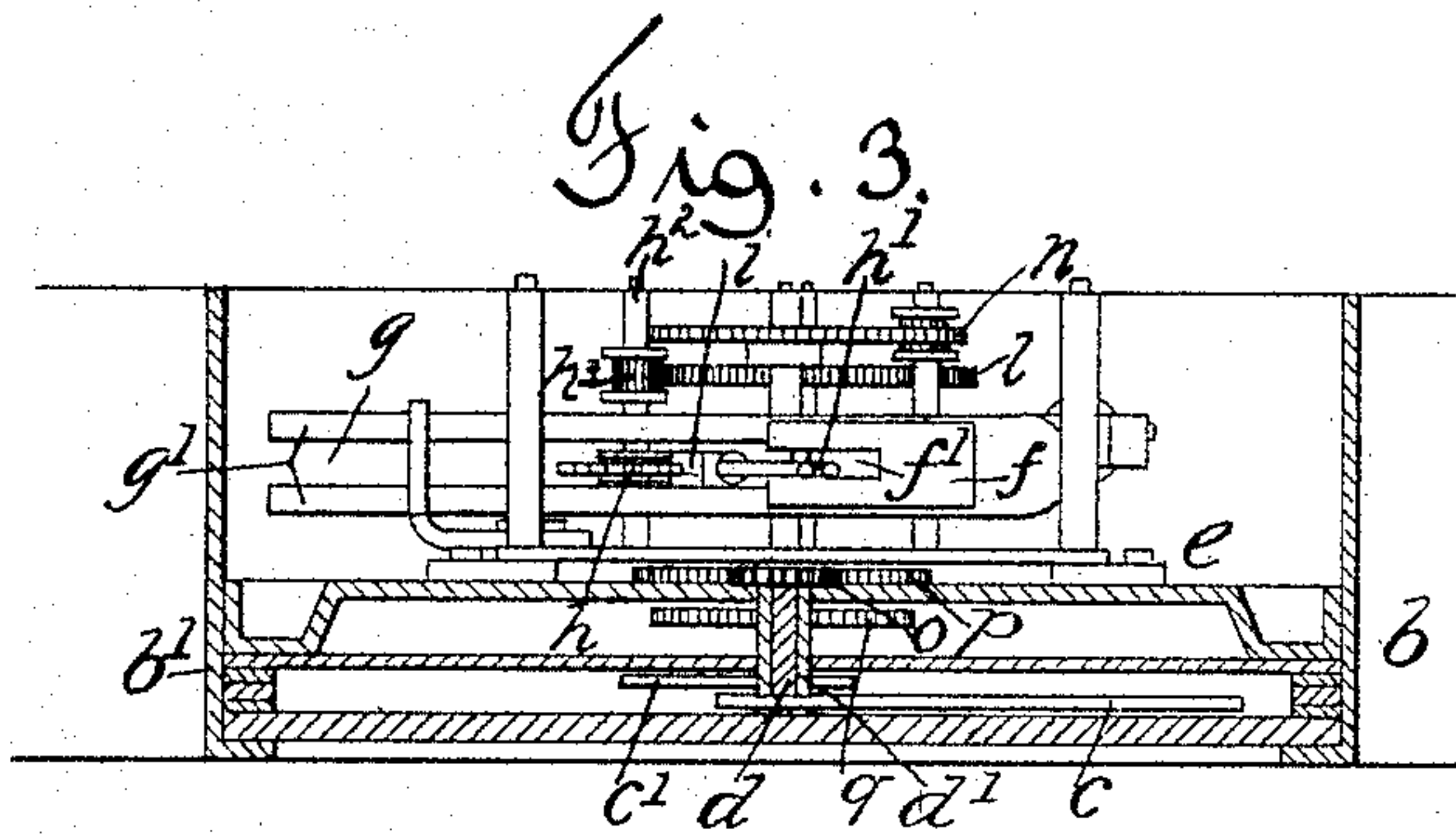
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UNITED STATES PATENT OFFICE.

MAYRO KEENEY, OF SOMERVILLE, CONNECTICUT.

REGISTERING DEVICE FOR TEXTILE-FABRIC MACHINES, &c.

SPECIFICATION forming part of Letters Patent No. 491,564, dated February 14, 1893.

Application filed February 12, 1892. Serial No. 421,356. (No model.)

To all whom it may concern:

Be it known that I, MAYRO KEENEY, of Somerville, in the county of Tolland and State of Connecticut, have invented certain new and useful Improvements in Registering Devices for Textile-Fabric Machines and the Like, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

10 The object of my invention is to provide a device by means of which an accurate register of the quantity of textile fabric woven or knitted or of yarn made on any loom, frame, or other machine may be automatically kept; and to this end my invention consists in the details of the several parts making up the registering mechanism and in their combination as more particularly hereinafter described and pointed out in the claims.

20 Referring to the drawings; Figure 1 is a detail view of the register with parts broken away to show one position of the mechanism. Fig. 2 is a detail view of the register with parts broken away and showing the mechanism in another position. Fig. 3 is a view in vertical section through the device looking from the upper left hand corner of Fig. 1. Fig. 4 is a view of the dial plate.

30 In the accompanying drawings the letter *a* denotes the quadrant on a mule spinner with the register *b* secured to it in such position that the swinging movement of the quadrant through an arc of about one hundred and sixty degrees and on both sides of a vertical line is sufficient to cause the device to register the beats of the quadrant.

40 My register is applicable to any machine in which there is a rocking, swinging, or rotary part having an extent of movement sufficient to practically invert the device in passing from one position to another.

45 The operative parts of the register *b* are inclosed in a case *b'* that is without seam, opening, or moving part that is accessible while the register is in position for use, the amount of work done being registered on the graduated dial plate that is covered by a glass disk. The mechanism comprises an index hand *c* fast to a rotary shaft *d* mounted in 50 a frame *e*, an intermediate train of gears and

a gravity operated slide *f*, and the detent feed mechanism. The slide *f* is supported in a slide-way *g* formed in this case by rods *g'* placed across the frame on the side opposite the detent wheel *h* and so arranged that the slide has a movement on these rods in the plane of the wheel. A detent lever *h'* is pivoted on the detent shaft *h²* and engages the slide *f* by extending through an opening *f'* therein. On the lever *h'* is a pawl *i* formed by a sliding block arranged with a bevel tooth that engages the teeth of the detent wheel *h* when the slide *f* is moving in one direction but which rises over such teeth when moving in the reverse direction, the detent wheel being held against reverse movement. A detent spring *j* is secured to the frame at one end and, engaging the teeth of the detent wheel with a yielding pressure at the other end, forms a species of spring pawl that prevents a return rotary movement of the wheel. The forward rotary movement of the detent wheel is imparted by a lantern-pinion or gear *h³* fast to the shaft of said wheel to an intermeshing cog wheel *l* and from that wheel through the series *m*, and *n* to the shaft *d* to which the index hand *c* is secured. The hand *c'* is pivoted on the sleeve *d'* located on the shaft *d* and movement is imparted to this sleeve *d'* from the shaft *d*, through the cog wheel *o* located on shaft *d* to the cog wheel *p* located on a separate shaft and from a smaller cog located on this latter shaft to the cog *q* located on the sleeve.

85 The operation of the device is as follows;— When the register is in what may be termed its normal position, as shown in Fig. 2 of the drawings, with the slide at one end of its path of movement or at the outer end of the slide-way, the movement of the quadrant to an opposite position as shown in Fig. 1 of the drawings reverses the incline of the slide-way and causes the slide *f* to move along down the same to its opposite position at the inner end of the slideway carrying with it the end of the detent lever *h'*, the pawl on which has engaged a tooth of the detent wheel *h* and causes the latter to be turned through one space of the step-by-step feed movement of the detent wheel. The movement thus imparted to the 100

detent wheel causes a rotary movement to be given to the hand located on the shaft d through the medium of the pinion h^3 to the wheel l and the shaft and pinion appurtenant thereto to the wheel m and its shaft and pinion to the wheel n and thus to the shaft d , and from said shaft through the medium of the gear o to the gear p and shaft and pinion appurtenant thereto and through the gear q movement is imparted to the sleeve d' and to the hand located thereon. The movement of the hands through the medium of the several gears, pinions and shafts is so timed that when one of the hands c has moved a certain distance and registered a certain amount, as by a complete rotation, this movement is indicated on the dial plate by the movement of the opposite hand c' a certain pre-determined distance. A reverse beat of the quadrant or a reversal of the position of the slide so that gravity will tend to cause it to move along the slide way will return it to the first position in readiness to repeat its first movement and cause a feeding movement of the detent wheel as soon as gravity operates to move the slide. By this combination of parts a positive reciprocation of the slide is produced by the successive reversals of the position of the slide supports and this sliding movement is translated into a rotary movement of the index hands.

The register can be attached to any part of a machine having a rotary or swinging movement so as to measure the product of the machine whether it is in yards of thread or yarn, or of yards of cloth spun or woven, and the product of any machine is accurately regis-

tered and can be taken off from time to time and enables an attendant to note at any time.

I claim as my invention:—

1. In a registering device in combination with a swinging or rotary part the registering mechanism comprising a gravity operated slide, a detent wheel having a movement in one direction, a detent lever connecting the detent wheel and the slide, a train of gear wheels, an index hand and an index, all substantially as described.

2. In a registering device in combination with a gravity operated slide, a detent wheel, a detent lever pivoted to the shaft of the detent wheel and supporting a gravity operated pawl and also engaging the slide, a spring pawl operating to hold the detent wheel from movement in a reverse direction, an index hand borne on the shaft of a train of gears intermediate between the said detent wheel and the index shaft, all substantially as described.

3. In a registering device, the combination of a gravity operated slide, a detent lever connecting said slide with a detent wheel, the pawl engaging the teeth of the detent wheel in one direction of the movement of the detent lever only, a detent retaining spring, and an index hand borne on the shaft in operative engagement through a train of gears with the detent wheel, all substantially as described.

MAYRO KEENEY.

Witnesses:

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