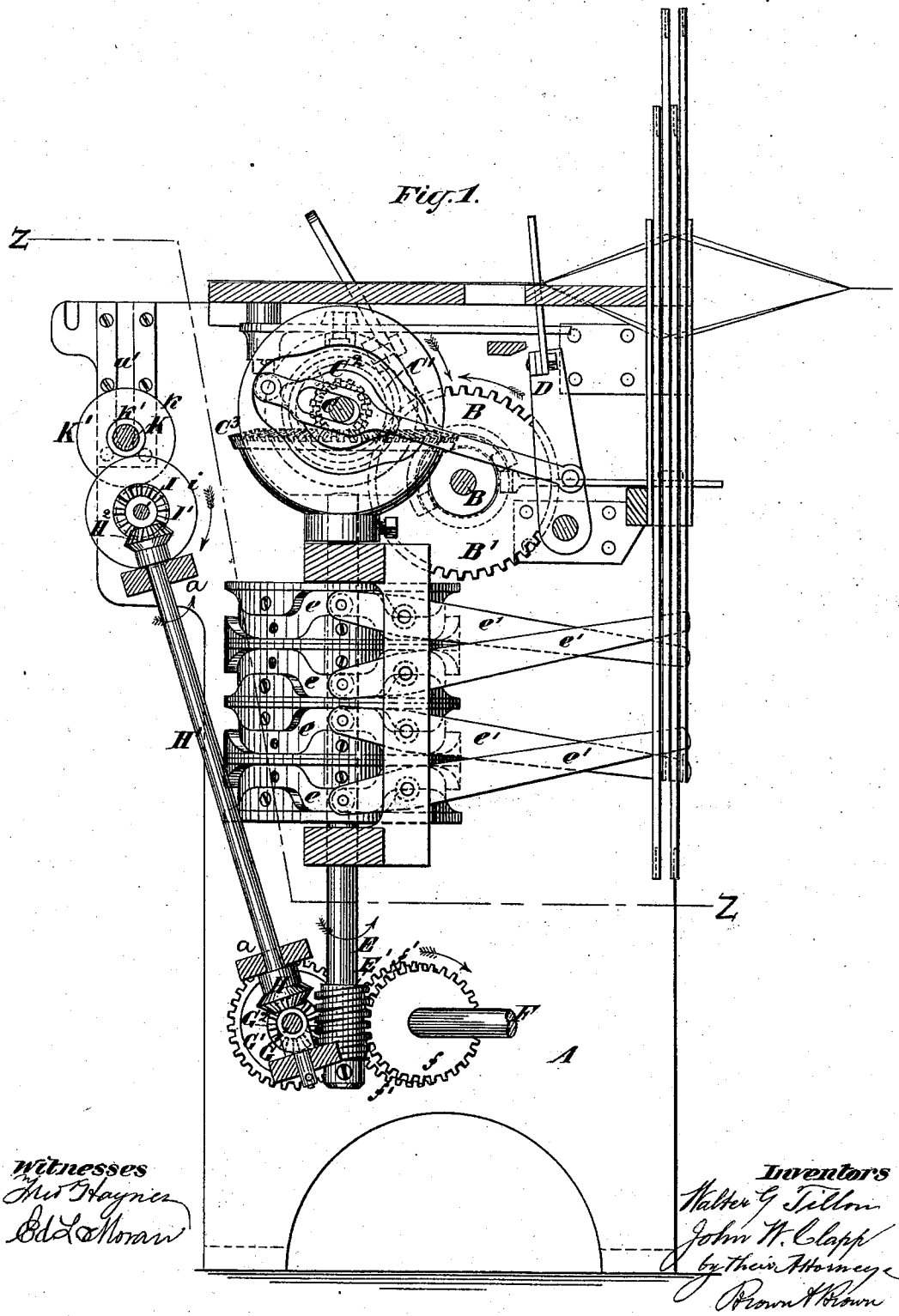
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W. G. TILLOU & J. W. CLAPP.

TAKE-UP MOTION FOR LOOMS.

No. 290,287. Patented Dec. 18, 1883.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

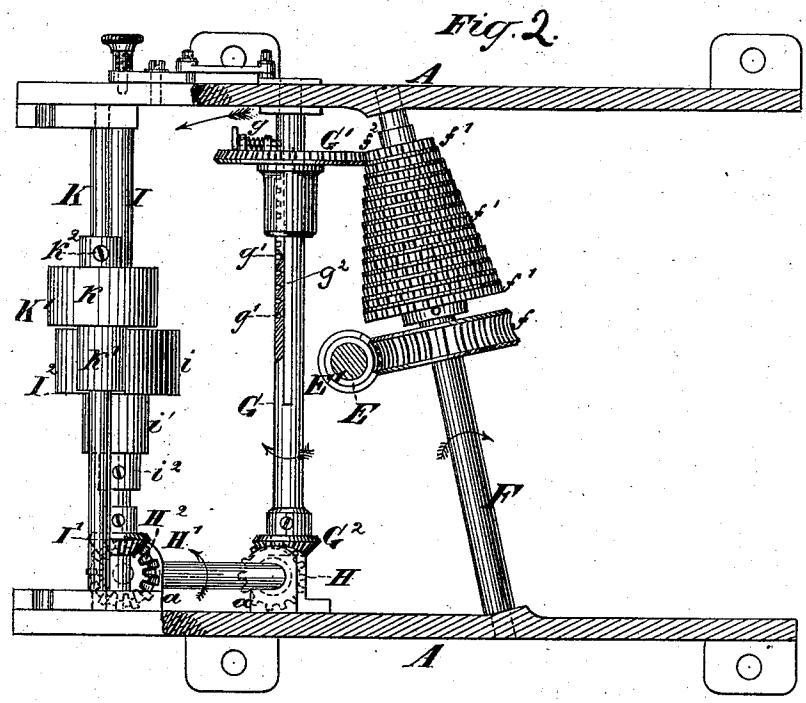
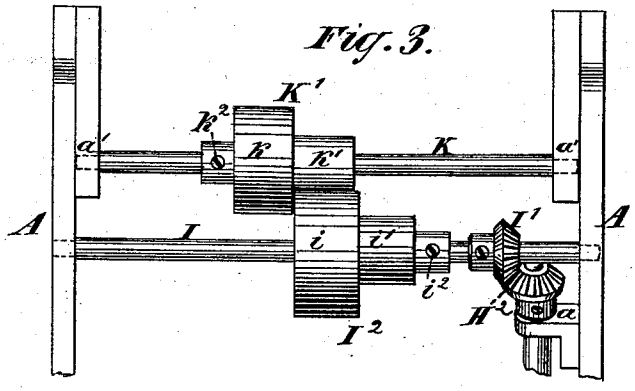
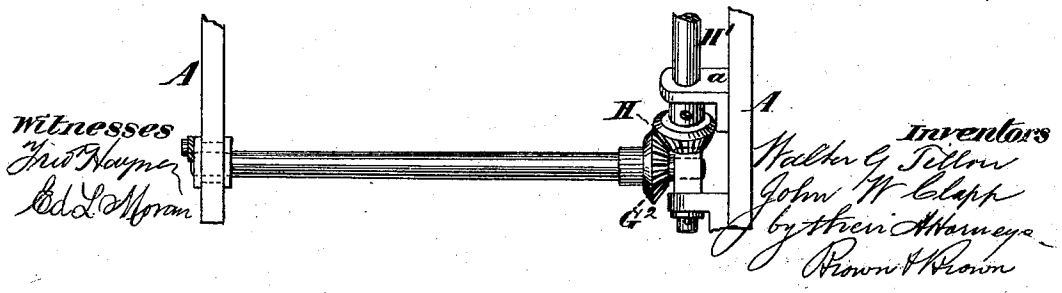


Fig. 3.





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UNITED STATES PATENT OFFICE.

WALTER G. TILLOU AND JOHN W. CLAPP, OF NEW HAVEN, CONNECTICUT, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO CHARLES I. KANE AND ROBERT E. LESTER, BOTH OF NEW YORK, N. Y.

TAKE-UP MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 290,287, dated December 18, 1883.

Application filed October 25, 1882. (No model.)

To all whom it may concern:

Be it known that we, WALTER G. TILLOU and JOHN W. CLAPP, citizens of the United States, both residing in the city and county of New Haven, in the State of Connecticut, have invented certain new and useful Improvements in the Take-Up Motion of Looms, of which the following is a specification.

Our invention consists of improvements in what is commonly called in the trade the "take-up" motion of looms for weaving, and it is more especially designed for use with small looms, in which single webs of ribbon or other narrow goods are woven. It may, however, be readily applied to other descriptions of looms.

Our invention consists in the combination, with a cloth or take-up roll and a friction roll or driver on which the cloth or take-up roll rests, and by which it is rotated, the said rolls having portions of different diameters, which may be used at will for the purpose of varying the speed of the cloth or take-up roll, of mechanism hereinafter described, and referred to in the claim, for driving the aforesaid friction roll or driver, and which is capable of adjustment to vary the speed of the friction roll or driver, and through it to vary the speed of the cloth or take-up roll. By this means a great saving of time and trouble is effected to weavers and manufacturers by enabling them to vary the speed of the take-up without removing any of the parts of the loom.

The accompanying drawings form part of this specification, and illustrate what we consider the best means of carrying out our invention.

Figure 1 is a vertical section of so much of a loom with our improvements applied thereto as will illustrate the invention. Fig. 2 is a partial horizontal sectional view on line Z Z of Fig. 1, and Fig. 3 is a front view of part of the framing of the loom, with the cloth or take-up roll and parts immediately connected therewith.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A represents the main framing, and B the main or driving shaft of the loom, which receives motion from a driving-pulley. (Not shown.) Motion is communicated from the shaft B, by means of gear-wheels B′ and C′, to a shaft, C, upon which is mounted the mechanism for operating the lay D and the shuttle-motion. Upon the shaft C is also mounted a bevel-pinion, C^2, which gears into a large bevel-pinion, C^3, affixed on the end of an upright shaft, E, upon which are supported the harness-cams *e*, for operating the harness-treadles *e′*. The harness and shuttle mechanism, however, form no part of the present invention, and are simply shown in the drawings for the purpose of illustrating the mode in which motion may be obtained to the take-up mechanism, as hereinafter explained.

The said harness mechanism forms the subject of our application for Letters Patent filed October 9, 1882, and of which the serial number is 73,828, and the said shuttle mechanism forms the subject of our application for Letters Patent filed June 8, 1881, and of which the serial number is 35,208.

Upon the lower end of the shaft E is affixed a screw, E′, which gears into a worm-wheel, *f*, mounted on an angular shaft, F, working in bearings carried by the main framing A.

Upon the shaft F are mounted a series of gears, *f′*, arranged in the form of a cone, each of which is capable of being engaged with the teeth of an adjustable gear-wheel, G′, which is capable of sliding freely to and fro on the shaft G, when desired, for the purpose of engaging with a different gear, *f′*, of the series forming the cone. The angle of the shaft F is such that the faces of the teeth of the several wheels *f′* from the gearing-point f^2 are disposed in a line parallel with the axis of the shaft G, thereby enabling the wheel G′ to be freely slid, when desired, from one to another of the series of wheels *f′*, whenever it is desirable to change the velocity of the take-up mechanism. The wheel G′ is held in any desired position on the shaft G by means of a sliding spring-catch, *g*, the point of which engages with one or other of a series of notches, *g′*, formed in the

periphery of the shaft G. The wheel G′ is prevented from turning on the shaft G by means of a feather, g^2, formed on the said shaft.

Upon the end of the shaft G is mounted a bevel-wheel, G^2, which engages with a bevel-wheel, H, affixed on the lower end of an inclined shaft, H′, revolving in bearings *a a*, carried by the framing A, and having on its upper end a bevel-wheel, H^2, which gears into a bevel-wheel, I′, affixed on a shaft, I, supported in bearings in the framing A, and upon which is mounted the friction roller or driver I^2, by means of which motion is communicated to the take-up roll K′, which is mounted on a shaft, K, supported in slotted bearings *a′ a′*, affixed on the framing A, in such manner as to allow of the ready accumulation of the fabric on the take-up roll K′, and the consequent increase of diameter of the roll of web or material so accumulated. The friction-roll I^2 at *i* and *i′* and the take-up roll K′ at *k* and *k′* are formed of different diameters, either portion of either roll being capable of being brought into position for use, as desired. The roll I^2, by means of a binding-screw, i^2, and the roll K′, by means of a binding-screw, k^2, are held in their proper positions on their respective shafts I and K. The part *i* of the roll I^2 is shown in position to cause the web or fabric being woven to be taken up onto the part *k′* of the roller K′. It will, however, be readily seen that by simply loosening the screws i^2 and k^2 the parts *i* and *k* or *i′* and *k* may be readily brought into position to act in a similar manner. By thus shifting the relation of the parts of the rolls I^2 and K′ a further variation and adjustment of the take-up of fabric is obtained.

Although we have shown our invention applied to a narrow-ware loom it will readily be seen that the invention may with equal facility be adapted to other kinds or descriptions of looms. In place of the spring-catch *g* any other suitable device or a screw may be employed, so long as it is capable of ready operation or removal to allow of the sliding to and fro of the pinion G′, when desired, and its easy re-engagement with its shaft G.

In place of shifting the wheel G, in some cases we can shift the cone or series of pinions *f′*.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

The combination, with the rolls I^2 and K′ of a take-up mechanism having interchangeable gearing-surfaces, as described, of an adjustable pinion, G′, and its shaft G, means for transmitting motion from said shaft to the roll I^2, a cone or series of wheels, *f′*, gearing with the pinion G′, and means for supporting and driving said cone or series of wheels, all substantially as and for the purpose described.

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