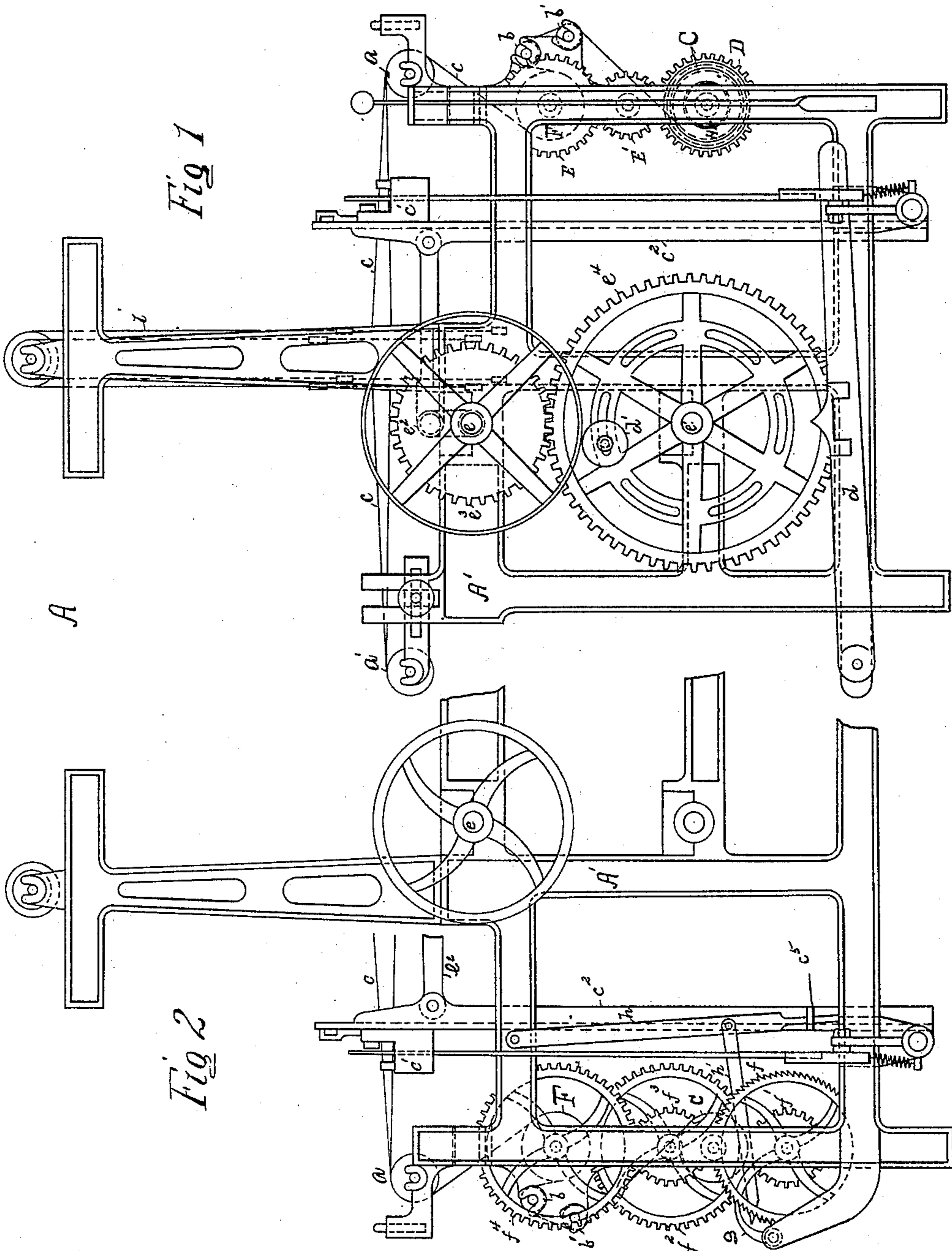


2 Sheets—Sheet 1.

TAKE-UP MECHANISM FOR LOOMS.

Patented Oct. 30, 1888.



Witnesses.

Alfred B. Watson.
George H. Allee.

Inventor

John Nightingale
Joseph Nightingale
for John Nightingale

(No Model.)

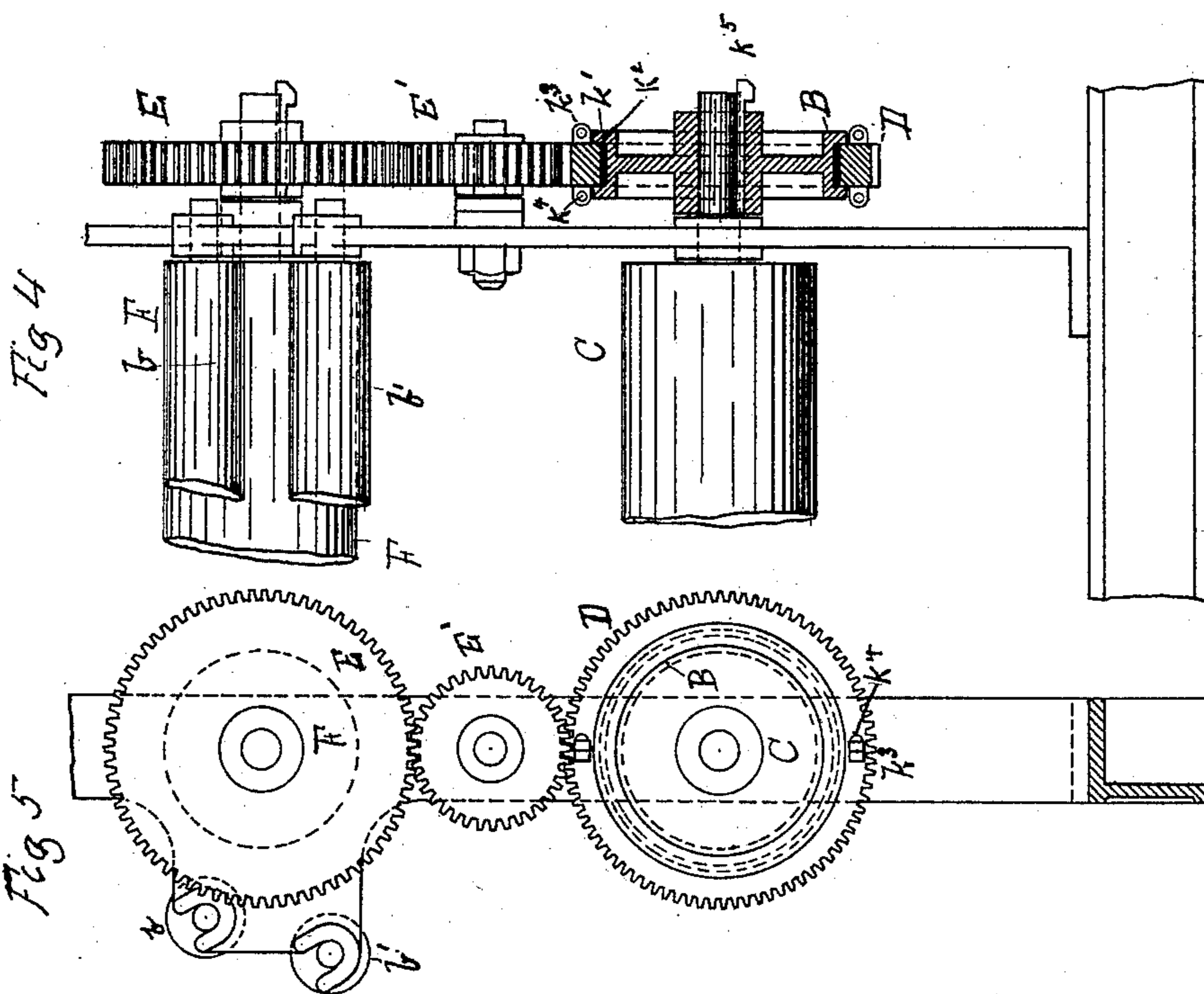
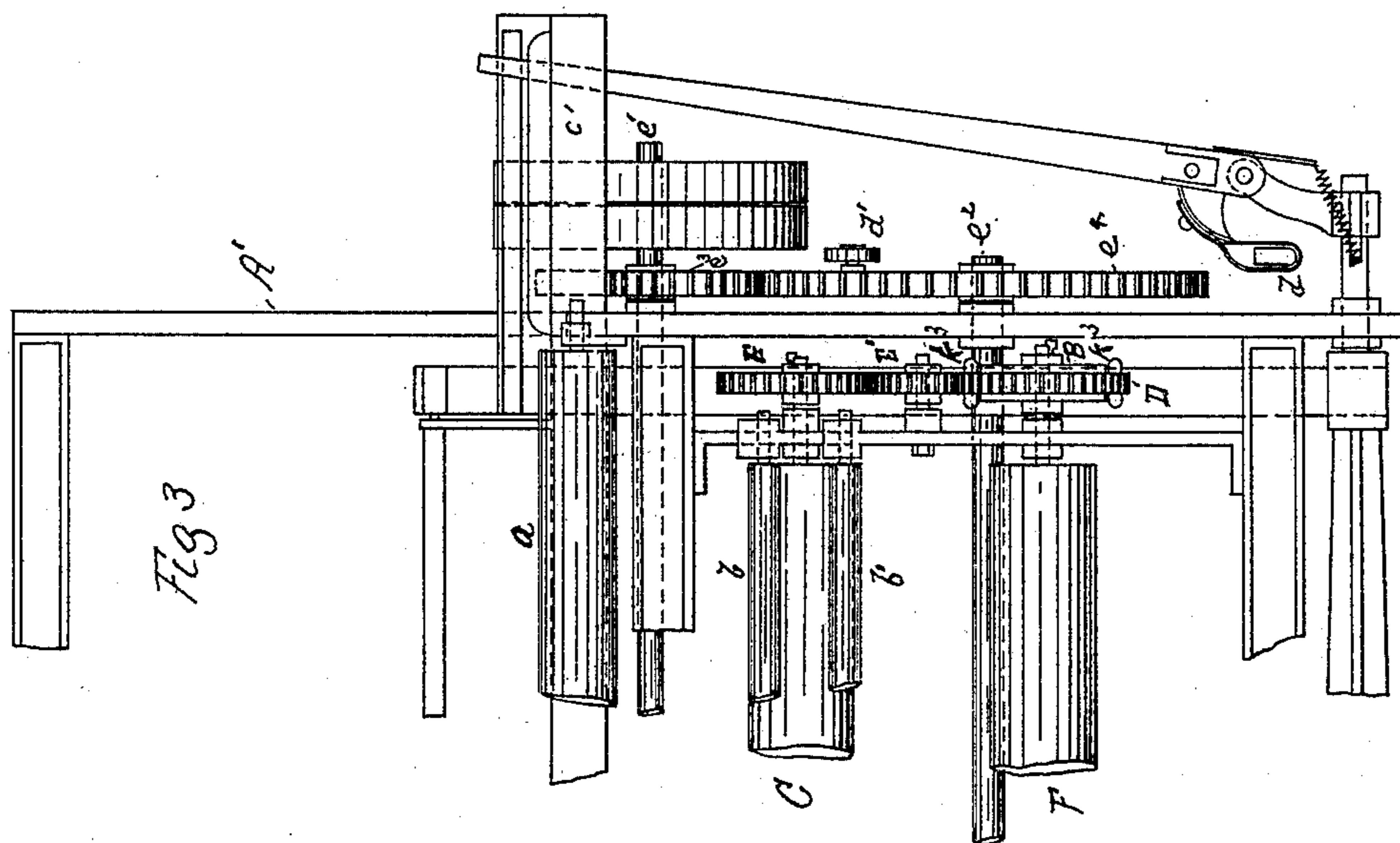
2 Sheets—Sheet 2.

JOHN NIGHTINGALE & JOSEPH NIGHTINGALE.

TAKE-UP MECHANISM FOR LOOMS.

No. 391,812.

Patented Oct. 30, 1888.



Witnesses.

Alfred B. Watson.

Ford L. Warner

Inventors.

John Nightingale.

Joseph Nightingale,
by John Inglis, atty.

UNITED STATES PATENT OFFICE.

JOHN NIGHTINGALE AND JOSEPH NIGHTINGALE, OF PATERSON, NEW JERSEY.

TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 391,812, dated October 30, 1888.

Application filed July 11, 1887. Serial No. 243,988. (No model.) Patented in England July 18, 1887, No. 10,044.

To all whom it may concern:

Be it known that we, JOHN NIGHTINGALE and JOSEPH NIGHTINGALE, citizens of the United States, residing at Paterson, Passaic county, State of New Jersey, have invented a new and useful Improvement in Take-Up Mechanism for Looms, (for which we obtained Letters Patent in Great Britain, No. 10,044, bearing date July 18, 1887,) of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The object of our present invention is to cause the cloth-beam in looms to take up and wind the woven fabric on the same at an even rate of speed throughout.

We attain the object sought by devices that are illustrated in the accompanying drawings, and which will be hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 shows in elevation one side of an ordinary loom with our invention attached. Fig. 2 shows in elevation a portion of the opposite side of the loom with our invention attached, a portion of the supporting-frame, warp-beam, &c., being removed in such figure. Fig. 3 is a part front elevation of the same with our invention attached, portions of the frame, rollers, shafts, rods, &c., being removed in such figure. Fig. 4 is a detail front view partly in section, and Fig. 5 is a detail side view. In Figs. 3, 4, and 5 the parts which in Fig. 1 are shown at the left-hand side of the loom-frame are shown applied to the right-hand side.

A represents a loom of ordinary construction, in the frame A' of which loom is journaled the usual driving-shaft, e , which shaft connects with the lay c' c^2 by crank-arms e^2 , and vibrates the lay and lever h therewith. The lever h , which is pivoted at the top to the loom-frame, is arranged in a guide, c^5 , at the bottom of the lay-sword and actuates the ratchet-wheel by a hooked arm, h' , that engages the teeth of said wheel and imparts thereto an intermittent movement.

The ratchet-wheel f is arranged on a stud fastened in the loom-frame, and the pinion f' , connected therewith, engages with a gear-wheel, f^2 , and actuates said wheel and its pin-

ion f^2 , both of which are journaled on a stud fixed in the frame A'. Pinion f^3 gears with and turns a gear-wheel, f^4 , fixed on the shaft of the draft-roller F, the ends of which roller are journaled in frame A'. Said roller has fixed on it a gear-wheel, E, that meshes with a gear, E', journaled on a stud fastened in the frame A', and wheel E' gears with and rotates continuously a toothed wheel, D, hereinafter more particularly referred to. The loom, which is constructed as is usual, need not, it is thought, be further described herein.

In bearings arranged in frame A' we journal a cloth-beam, C, on one end of the shaft of which beam we arrange and fasten by a key, K⁵, (see Fig. 4,) a ring or flange, B, provided with a circumferential groove, K', in which groove we arrange and fix a leather friction-band, K². We also arrange in the groove K', and in frictional contact therein with band K², a toothed wheel, D, which wheel is made in two separate parts and the parts fastened together in the groove K' by bolts K⁴ arranged in lugs K³, with which each one of the parts of the wheel is provided. The wheel D, which is in continuous rotation, turns the cloth-beam C by the friction it creates in its contact with the band K² in the groove K' of the flange B, and winds the woven fabric on the cloth-beam as the same is delivered from the draft-roller F. As the draft-roller draws the warps from off the roller a' through the loom and the fabric over the roller a , and the operation of weaving is continued, and the tension on the cloth is increased by the continuous enlargement of the beam by the winding of the cloth thereon, such increase of the tension on the cloth by the enlargement of the beam will cause the wheel D to slip on the band K², and thus permit the cloth-beam C to decrease its speed according to its growth in size, and to take up and wind the cloth on the beam at an even rate of speed throughout. Pawl g prevents reverse rotation of the ratchet-wheel.

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

1. The toothed wheel D, made in two parts, each having lugs K³ and bolts K⁴, combined

with flange B, provided with groove K', and band K², the cloth-beam, key K⁵, and means for operating wheel D, substantially as described.

2. The combination, with flange B, having
5 a groove, the band K², wheel D, having lugs K³ and bolts K⁴, and the cloth-beam C, of the roller F, and gears thereon, gear E', the ratchet-wheel, the pinion thereon, the gear f² and its

pinion, pawl g, the lay, lever h, and arm h', substantially as described.

JOHN NIGHTINGALE.
JOSEPH NIGHTINGALE.

Witnesses:

GEORGE W. ALLEN,
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