

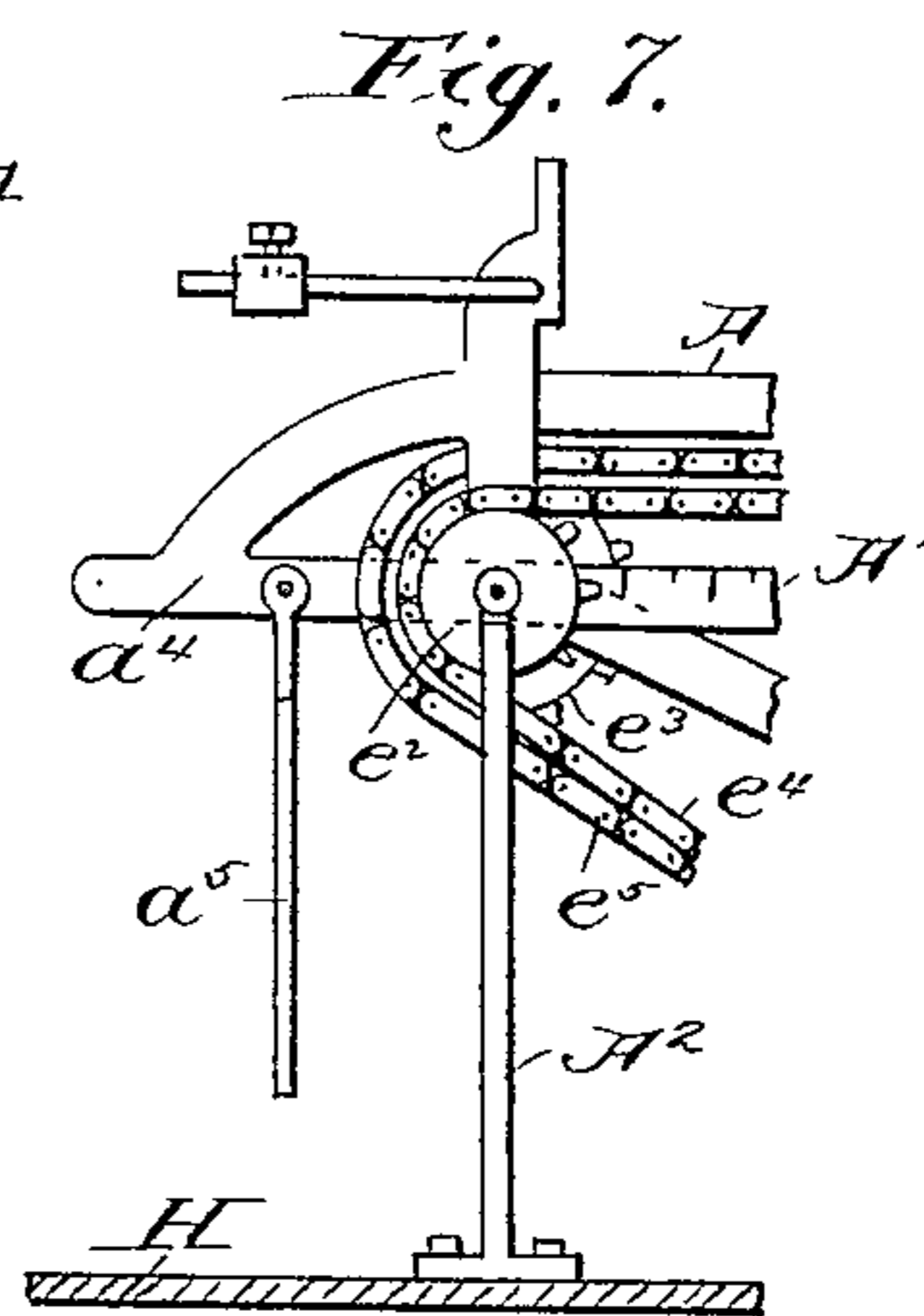
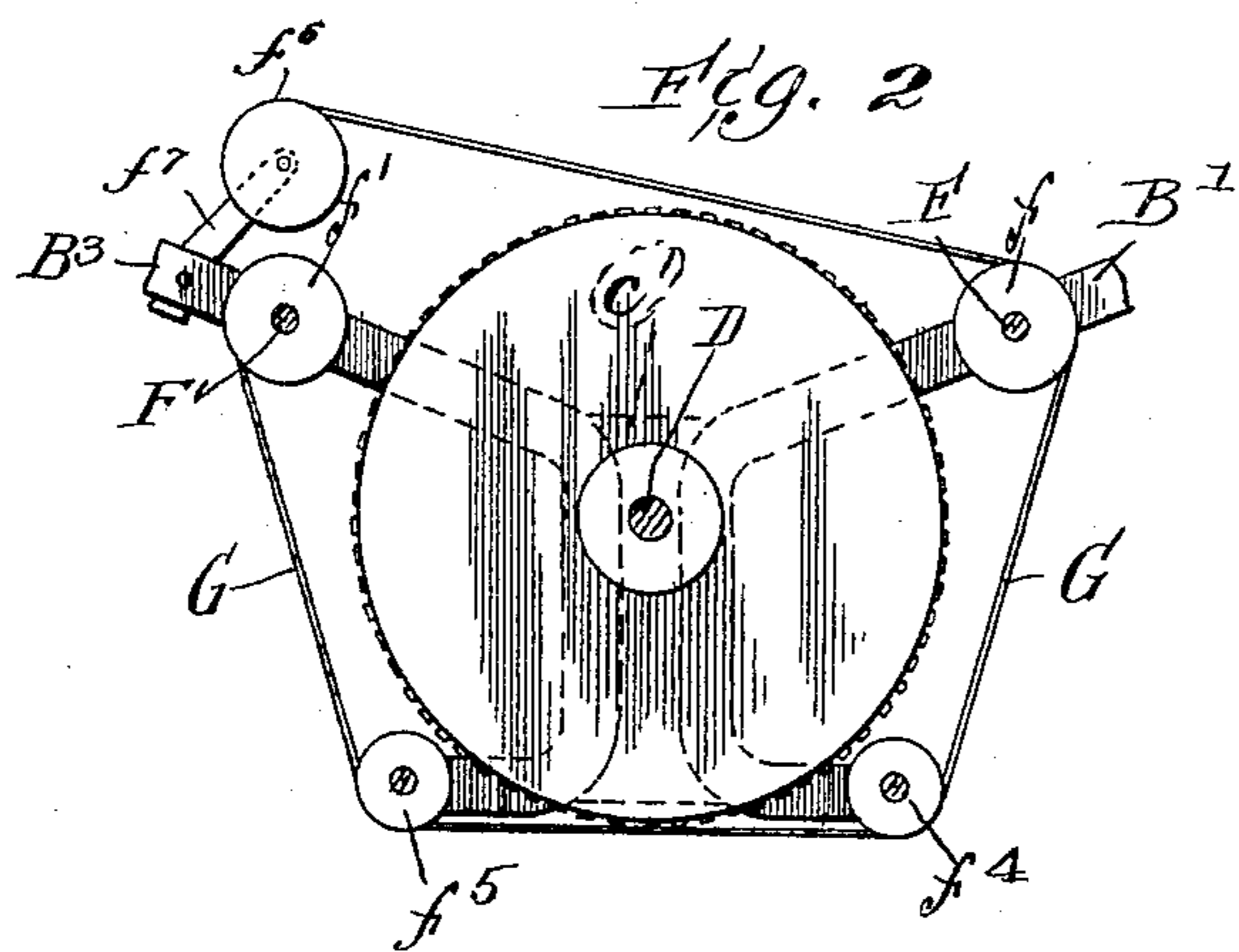
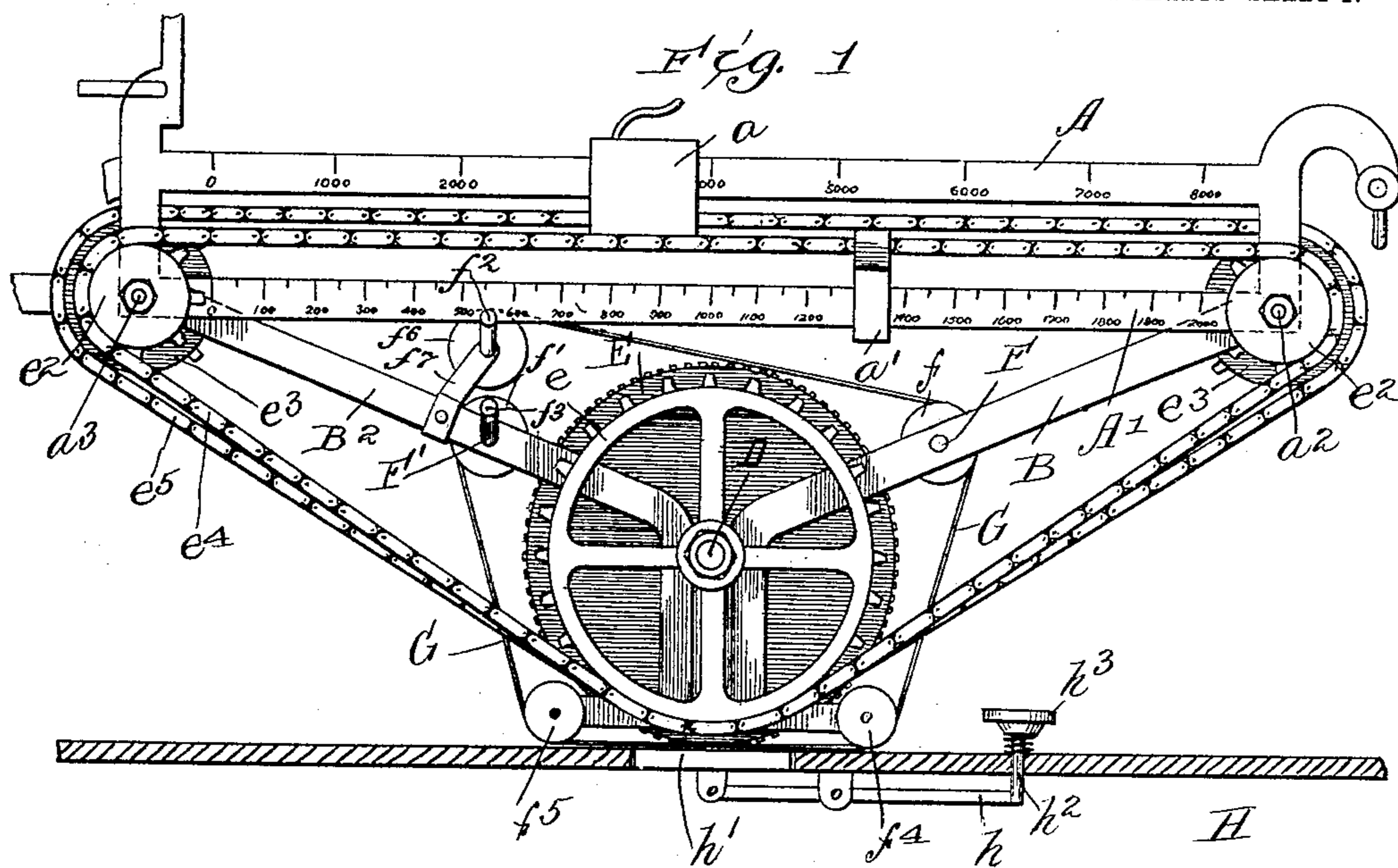
No. 816,749.

PATENTED APR. 3, 1906.

M. SCHMIDT.
SCALE REGISTER.

APPLICATION FILED JUNE 29, 1903.

2 SHEETS—SHEET 1.



Witnesses:

Ernest White
Ray White.

Inventor.

Martin Schmidt.
By Charles H. New, Atty.

UNITED STATES PATENT OFFICE.

MARTIN SCHMIDT, OF SECOR, ILLINOIS.

SCALE-REGISTER.

No. 816,749.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed June 29, 1903. Serial No. 163,504.

To all whom it may concern:

Be it known that I, MARTIN SCHMIDT, a citizen of the United States, and a resident of the village of Secor, county of Woodford, and State of Illinois, have invented certain new and useful Improvements in Scale-Registers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in "scale-registers," and more particularly to a device designed to be used in connection with a beam-scale of the usual type for the purpose or registering automatically the weight of the object weighed.

Heretofore it has frequently been a matter of considerable inconvenience and annoyance at public scales and elsewhere that no accurate register or record of the weight can be usually made except by the operator reading the scale. As a consequence frequent disputes arise as to the actual weight recorded.

The object of this invention is to provide a construction carried on the scale-beam and affording an automatic register of the weight, either with or without any further act of the operator than adjusting the weights on the beam.

The invention embraces many novel features; and it consists in the matters herein-after described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a side elevation, partly in section, of a device embodying my invention. Fig. 2 is a fragmentary vertical section of one of the type-wheels. Fig. 3 is an end elevation of a device embodying my invention. Fig. 4 is an enlarged central transverse section of the same. Fig. 5 is a side elevation of one of the type-wheels. Fig. 6 is a similar elevation of the other type-wheel. Fig. 7 is a fragmentary view illustrating a method of mounting the scale-beams.

In said drawings the device is shown in connection with the ordinary double scale-beam in common use, (indicated by A and A', respectively,) one of which is appropriated to the weight in thousands of pounds and the other of which is divided to indicate hundreds of pounds and fractions thereof and which may be mounted in any preferred

manner, as upon the standard A². Said beam, as shown, is provided with a rearwardly-extending bracket *a*⁴, affording a connection for the rod *a*⁵, which connects with the levers (not shown) beneath the platform H. Weights *a* and *a'* of the usual form are slidably secured upon the respective scale-beams, as shown in Fig. 1. Journaled at each end of the lower beam A' are the shafts *a*² and *a*³, from which depend the bracket-hangers B B' B² B³, which, as shown, are constructed of comparatively light strap-iron or other suitable material and extend obliquely inwardly to a point below the middle of the beams, and the inner ends of said bracket-arms are bent downwardly, and corresponding ends on the same side the beam are rigidly secured together by means of plates *c c'*, and the journal D extends there-through and has a bearing in each plate and acts to secure said oppositely-disposed pairs of bracket-arms in unvaried relation with each other. Secured on said shaft D are the sleeves *d d'*, which respectively extend from the end of the shaft inwardly to the middle thereof, and rigidly secured on each of said sleeves are the type-wheels E and E', having a diameter sufficient to extend below the bracket-arms, as shown in Fig. 4, and provided on their peripheries, respectively, with numbers in raised type corresponding with the numbers on the respective scale-beams, and usually reading from "0" to "1000" by tens, and from "0" to "8000" or more by hundreds, respectively. On the outer ends of said sleeves *d d'* are the sprocket-wheels *e* and *e'*, and on the shafts *a*² and *a*³ are also secured sprocket-wheels, (indicated, respectively, by *e*² and *e*³, and positioned in alinement with the sprocket-wheels *e e'*, as shown in Figs. 1, 3, and 4.) Trained around said sprocket-wheels *e*² and *e*³ are the sprocket-chains *e*⁴ and *e*⁵, connected at their ends with the respective weights *a* and *a'*, so that movement of either of said weights necessarily moves the attached sprocket-chain therewith, causing a partial rotation of the sprocket-wheel *e* or *e'* and the type-wheels connected therewith, the extent of said movement of course depending upon the distance the weight is moved. The type-wheels E and E' are each adjusted so that the character on the periphery of the wheel at its lower point corresponds with the number indicated on the corresponding scale-beam at the point where the weight *a* or *a'* is positioned.

A bracket f^7 extends upwardly and inwardly from the bracket-hangers $B^2 B^3$ and has journaled thereon a ribbon-spool f^6 , on which is secured in the usual manner one end of the type-ribbon G and which is provided with a crank f^2 . Journaled transversely between the hangers $B B'$ and $B^2 B^3$ are the shafts $F F'$, of which the shaft F' is provided with a crank f^3 at its outer end and has secured thereon between the bracket-hangers B^2 and B^3 a ribbon-spool f' , on which is secured the other end of the type-ribbon G. A spool f is journaled on the shaft F , and below said spools f and f' are journaled the spools $f^4 f^5$, the lowest point of the periphery of which is in alinement with the lowest point of the periphery of the type-wheels, so that the type-ribbon extending from the spool f^6 around the spools $f f^4 f^5$ to the spool f' is drawn and held with considerable tension across the face of the type on the periphery of the wheel to afford a perfect impression.

Supported in any desired manner, but preferably on the frame of the scale below the type-wheels and in position so that the type-wheels when the weight is balanced and the scale-beams are in a horizontal position will rest lightly thereon, is the table or shelf H. Pivoted below said table H is the bar or lever h , provided with a strike-plate h' , which normally is held flush with the upper surface of the table and directly beneath the type-wheels. A pin h^2 at the other end of said lever extends through the table and is provided at its upper end with a key or button h^3 , and a spring engages beneath said key or button h^3 and acts to support the same and to hold the striking-plate h' in operative position.

The operation is as follows: When the weights $a a'$ are moved inwardly to balance the scale, the type-wheels are revolved by the chains $e^4 e^5$ correspondingly or to a position to indicate the weight at the innermost position. If the weight a is now moved along the scale-beam A, the type-wheel E' is revolved, thereby bringing the numeral lowermost corresponding with the numeral on the beam at the position of the weight. In the same manner the weight a' when moved along the beam A' causes a corresponding movement in the type-wheel E, so that wherever the said weights are located on the respective beams the corresponding type-wheels are adjusted with the number indicating the weight on said beam directly above the strike-plate on the table H. On the table or ledge above the strike-plate and below the ribbon G and type-wheels a sheet of paper for the weigh-bill or, if preferred, a number of sheets of paper with carbon-paper interposed between the same is laid, and when the scale is balanced at the correct weight it is held in position by the hand or by any well-

known locking means, and the key h^3 is struck, driving the strike-plate upwardly against the ribbon and type-wheels, thereby producing an impression or as many impressions as desired.

Obviously the characters may be arranged in any desired manner on the type-wheels, and any desired number of type-wheels may be used, and many details of construction may be varied without departing from the principles of the invention.

I claim as my invention—

1. The combination with a scale-beam of a weight slidably supported thereon, bracket-hangers carried on the ends of said beam, wheels journaled in said hangers centrally of the beam, raised type on the periphery thereof, a type-ribbon carried on said hangers, means for operating said wheels simultaneously with the weights and a manually-operated key pivotally supported beneath said ribbon.

2. In a device of the class described, a plurality of scale-beams, a weight slidably supported on each, an inwardly-directed bracket-arm engaged at each end of said beams, a type-wheel journaled therein and having on its periphery raised numbers corresponding with the numbers on the beam, a type-ribbon supported in operative relation with the type-wheels, a flexible connection between the type-wheels and the slidable weight whereby movement of the weight acts to correspondingly rotate the type-wheels, a key acting to support a record-blank and adapted to be operated manually to drive the blank against the type-ribbon and type.

3. The combination with a scale-beam comprising a plurality of graduated parallel bars, of a plurality of hangers extending inwardly from the ends thereof, a type-wheel for each bar independently journaled therein, raised type on the periphery of each corresponding with the graduations on the bar, a weight slidably secured on each bar, a sprocket-chain connected with each weight and also with the corresponding type-wheel and acting to partially rotate the same by the movement of the weight and manually-operated means acting to print the record.

4. The combination with a scale-beam comprising a plurality of parallel graduated bars, of a frame supported at the ends of said scale-beam, a type-wheel for each bar, independently journaled in said frame, raised type on its periphery corresponding with the graduations of the bar, a sprocket-wheel connected with each type-wheel, corresponding sprocket-wheels at the end of the scale-beam, a sliding weight on each scale-bar and sprocket-chains connected at their ends on said weights and extending around said sprocket-wheels, ribbon-spools also carried on said frame and a type-ribbon secured thereon and extending beneath the periphery

of the type-wheels, a manually-operated key acting to support paper in operative relation with and force the same against said ribbon and type when the weight is determined.

5 5. The combination with a scale-beam, of brackets on the ends thereof extending downwardly and inwardly, registering means journaled at the lower ends of said brackets, sprocket-wheels journaled at the ends of said
10 beam, a sprocket-wheel carried on said registering means, a sprocket-chain on said wheels, a weight slidably engaged on said beam and connected with said chain and a manually-operated key adapted to cooperate with said
15 registering means to record the amount weighed.

6. The combination with a plurality of scale-beams, of bracket-hangers on the ends

thereof extending downwardly and inwardly, a transverse shaft at the lower ends thereof, 20 a sleeve rotatively engaged on each end of said shaft, a type-wheel on each sleeve, a sprocket-wheel adjacent each type-wheel, sprocket-wheels journaled at the ends of said beams, sprocket-chains trained over said 25 wheels, weights slidably engaged on said beams and connected with said chains, a type-ribbon carried on said hangers and a key adapted to contact with said ribbon.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses. 30

MARTIN SCHMIDT.

Witnesses:

C. H. DAVIS,
WM. MAHLSTEIN.