

E. BRYON.
MUSIC LEAF TURNER.
APPLICATION FILED FEB. 20, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

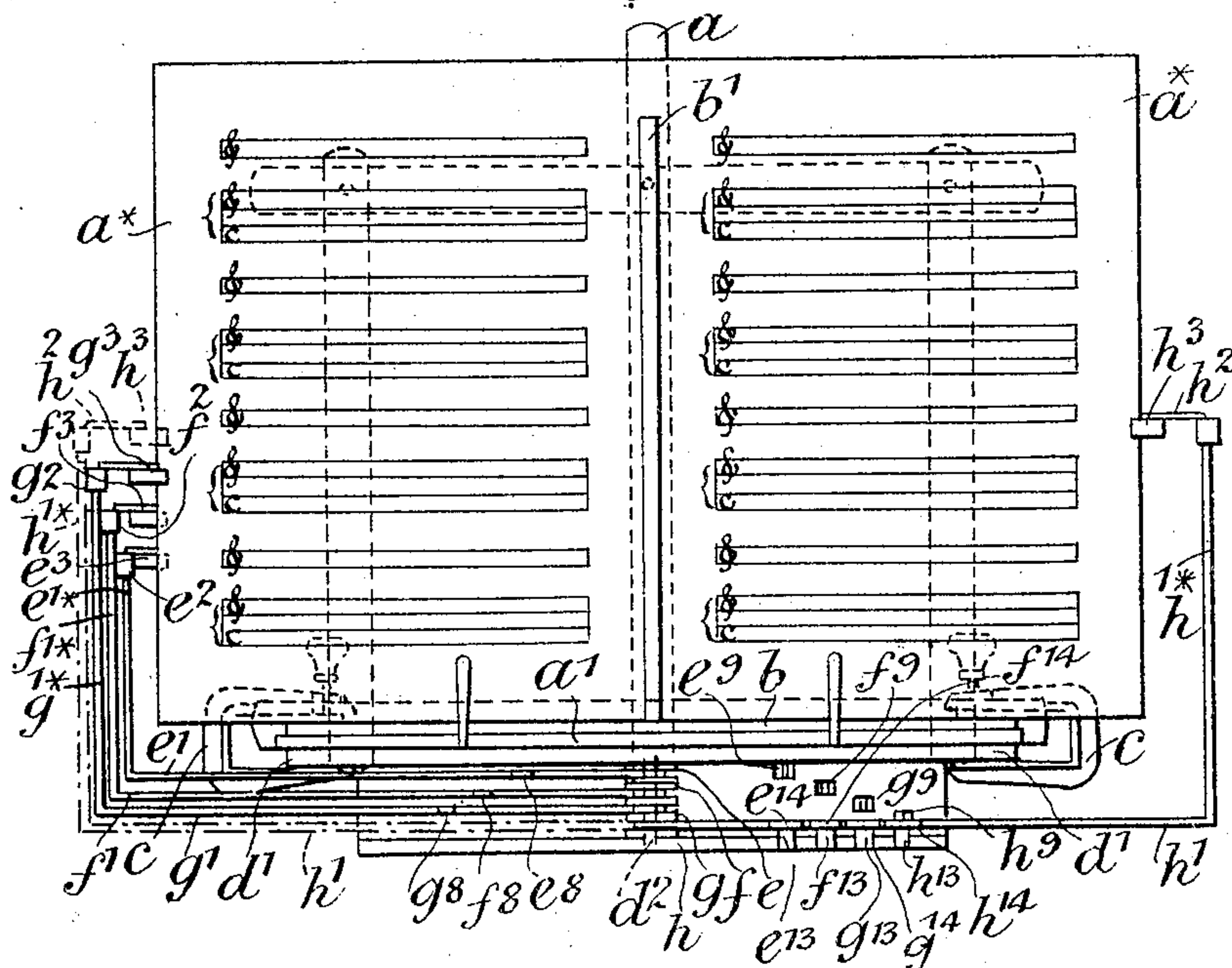


Fig. 2.

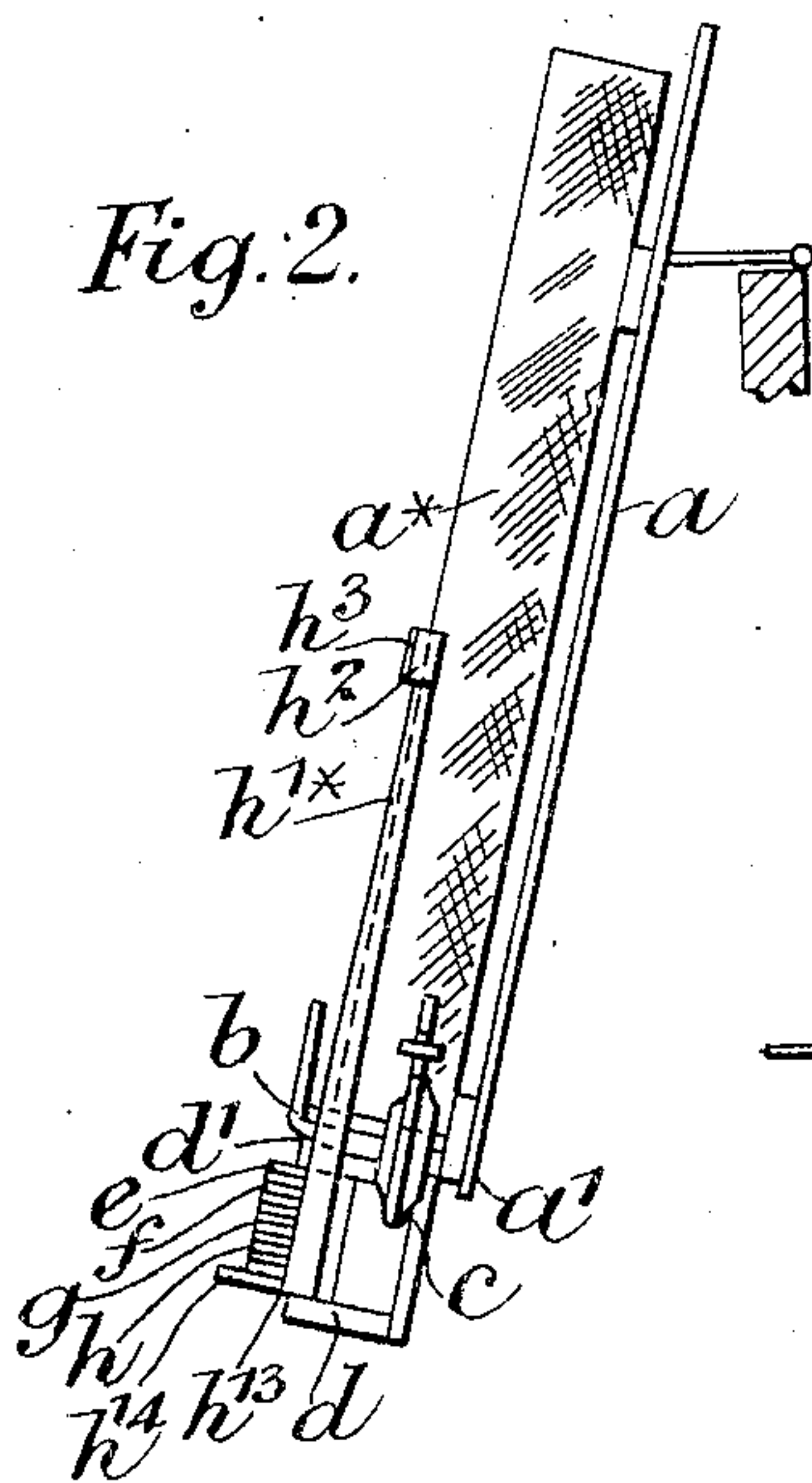


Fig. 6.

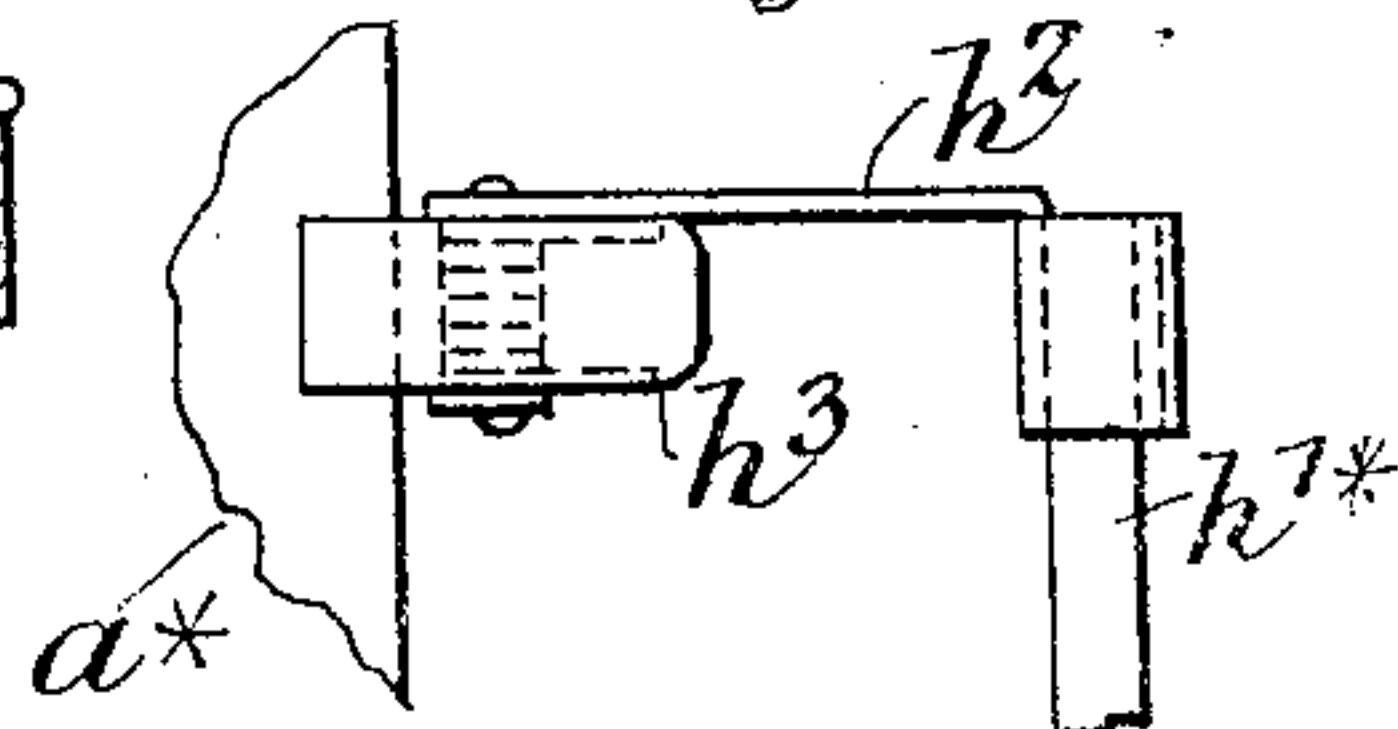
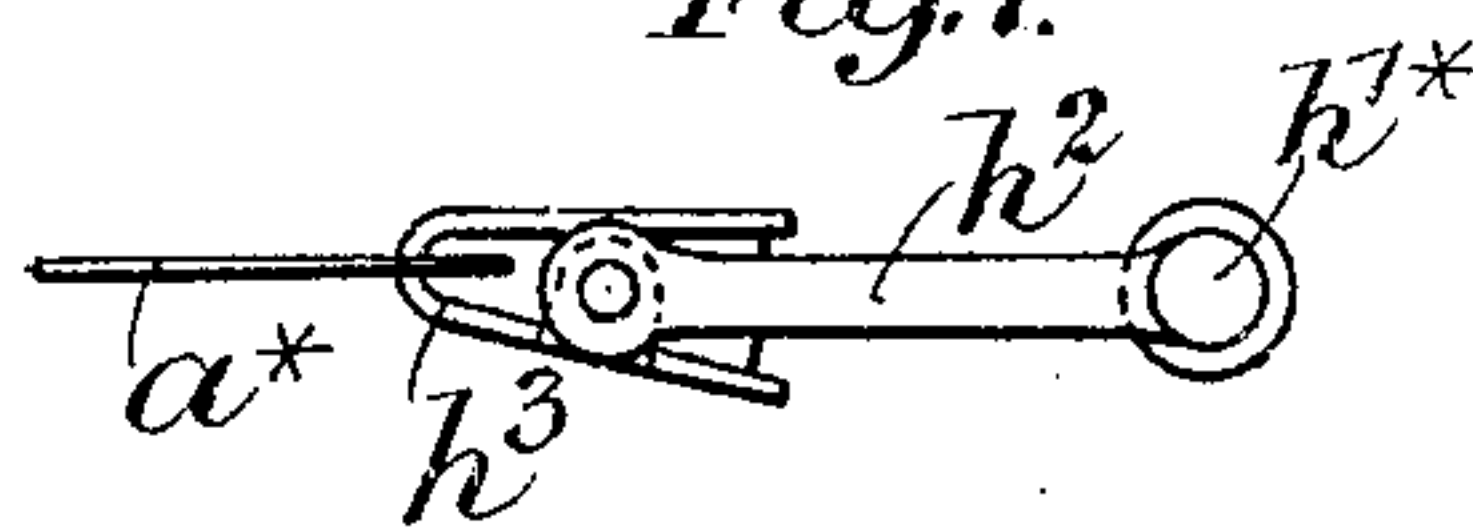


Fig. 7.



Witnesses:

C. H. White
J. A. Hudson.

Inventor:

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3 SHEETS—SHEET 2.

Fig. 5.

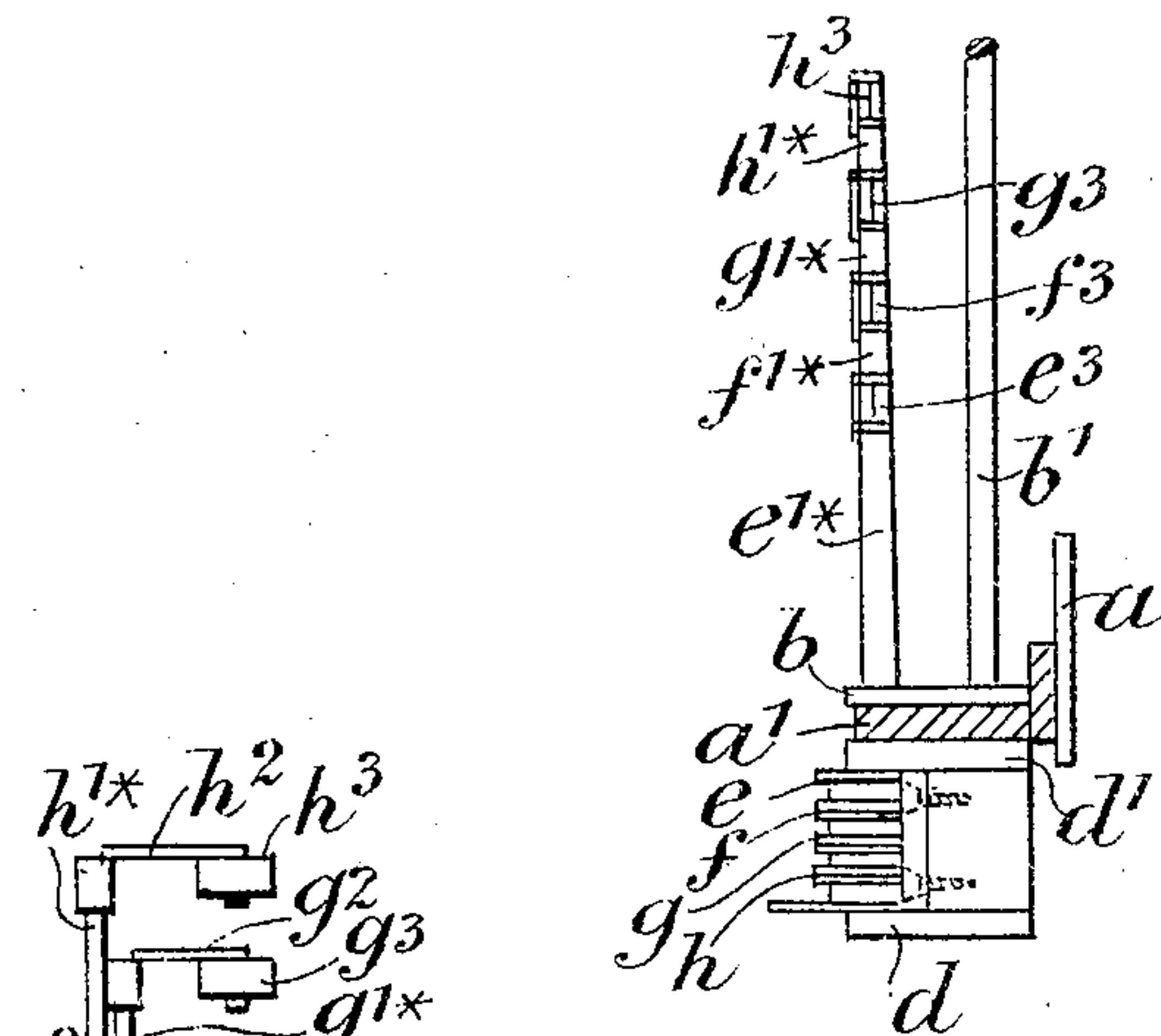


Fig. 3.

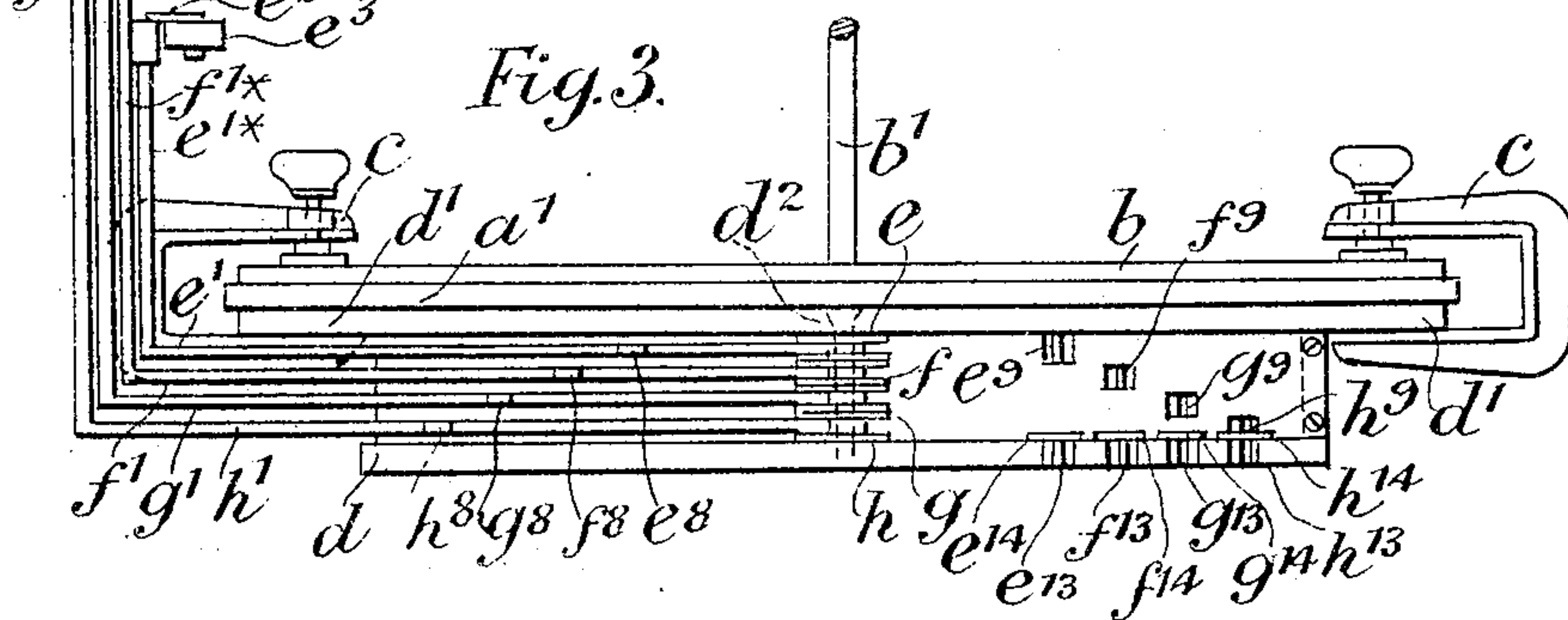
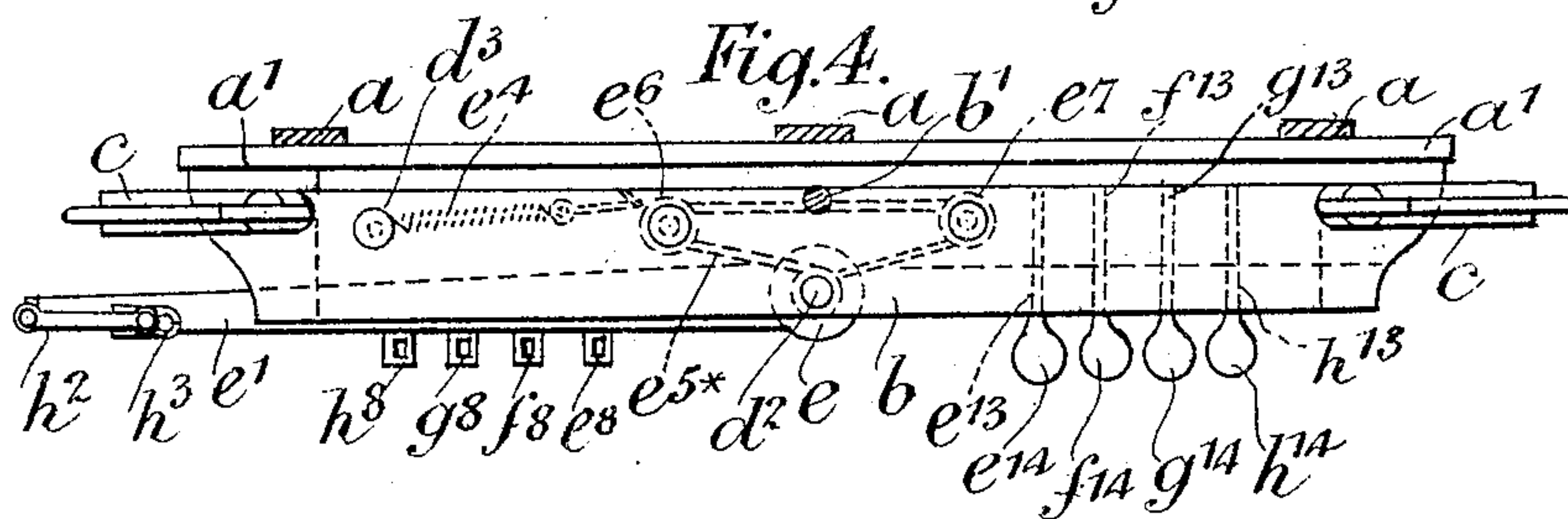


Fig. 4.



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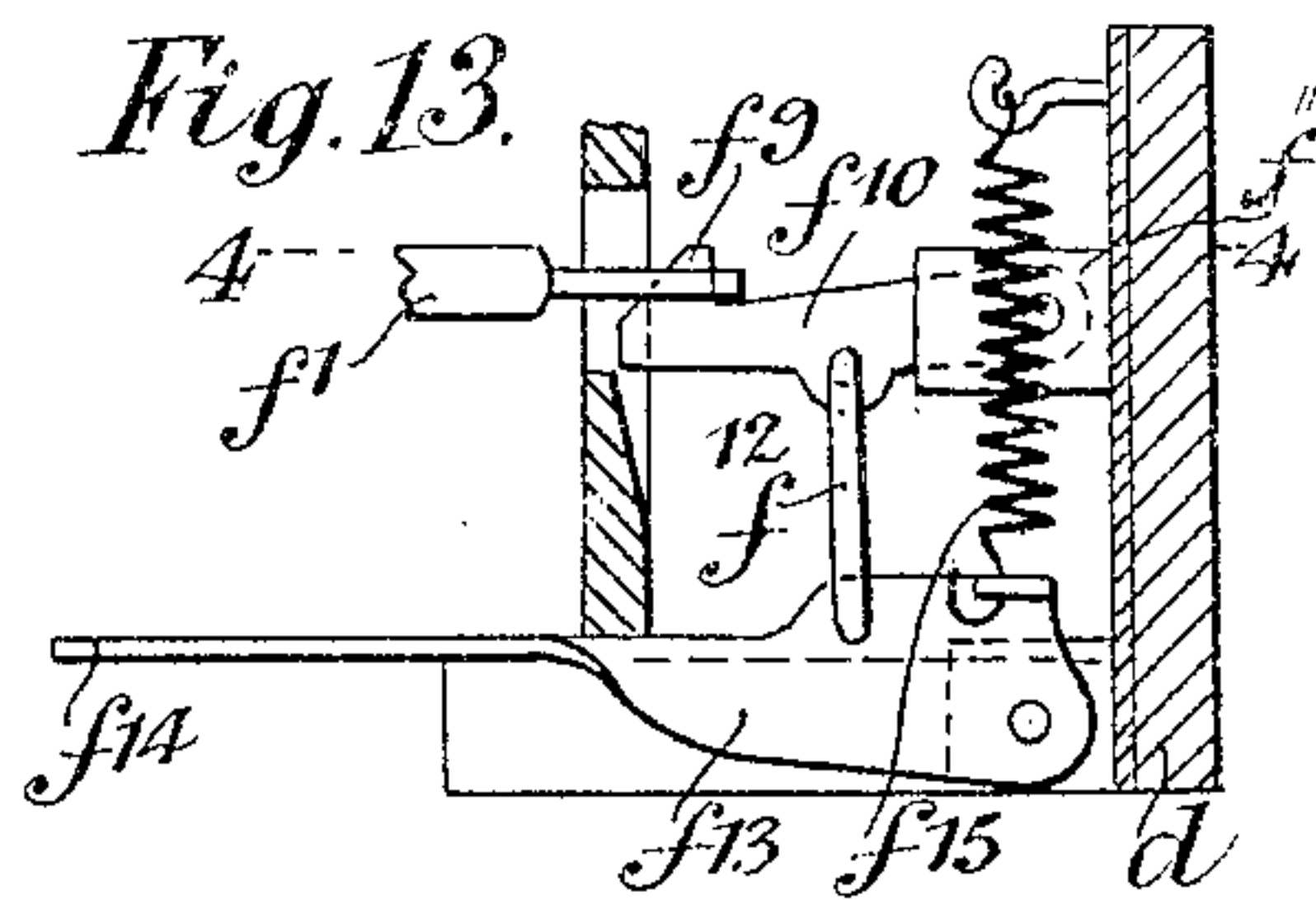
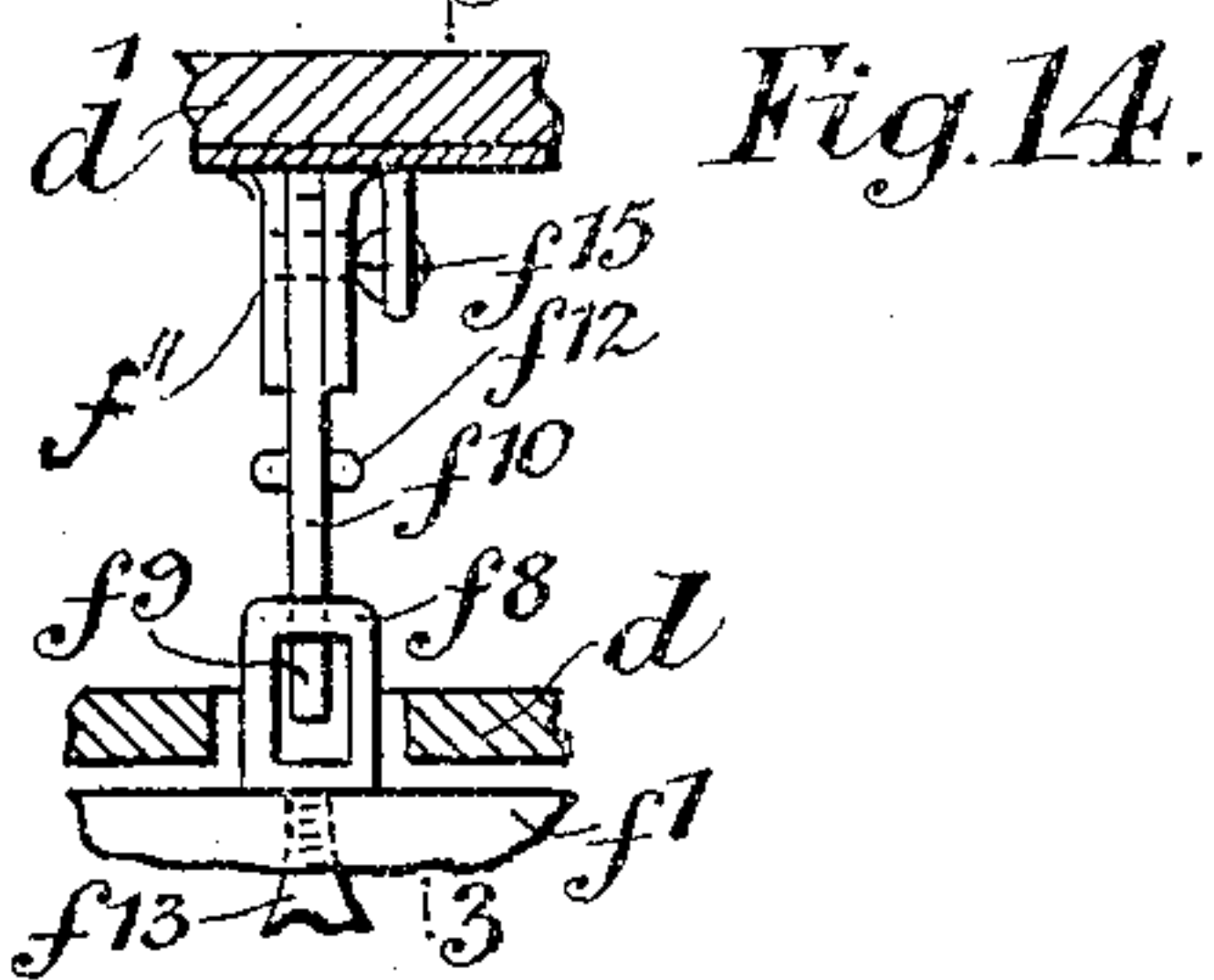
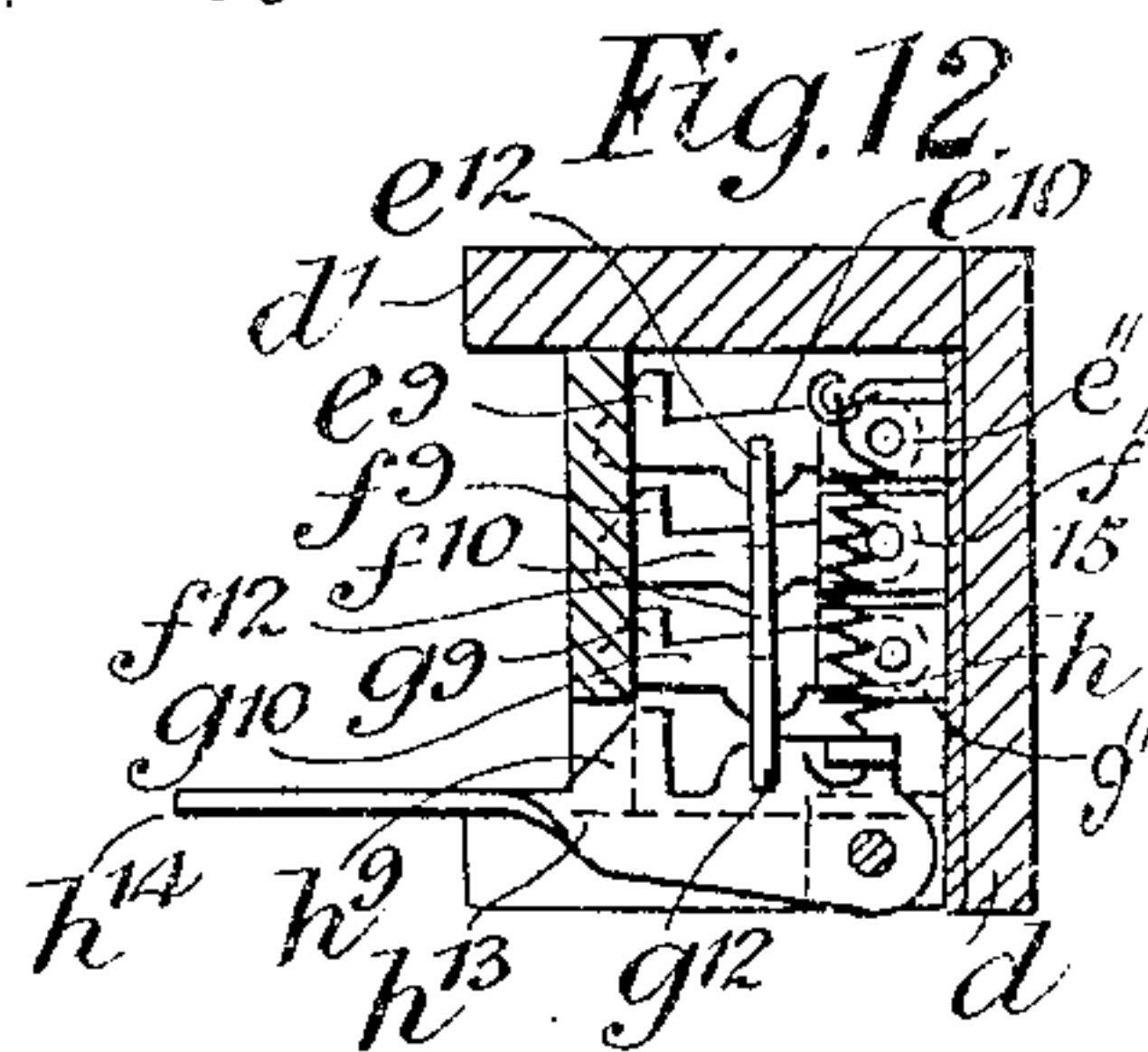
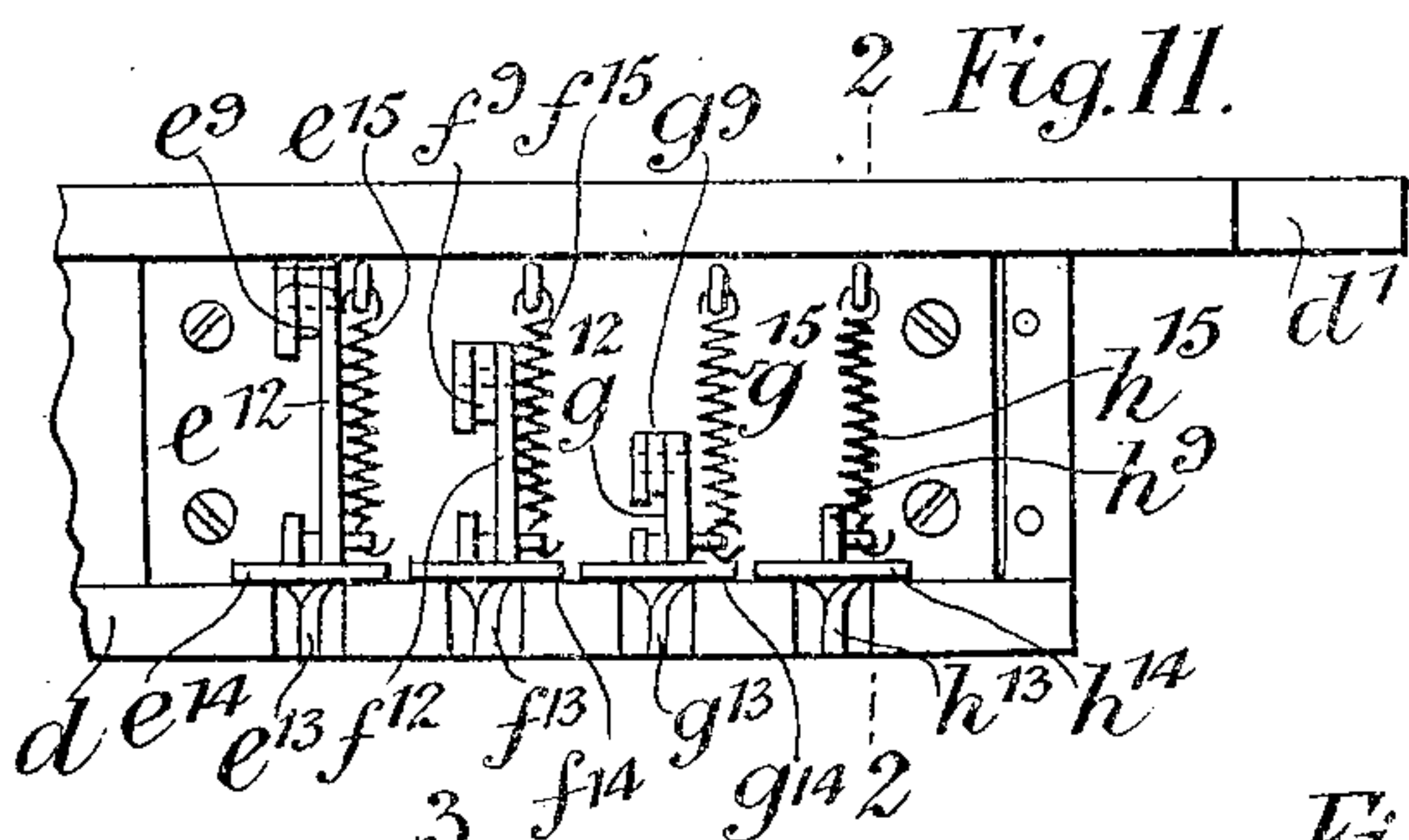
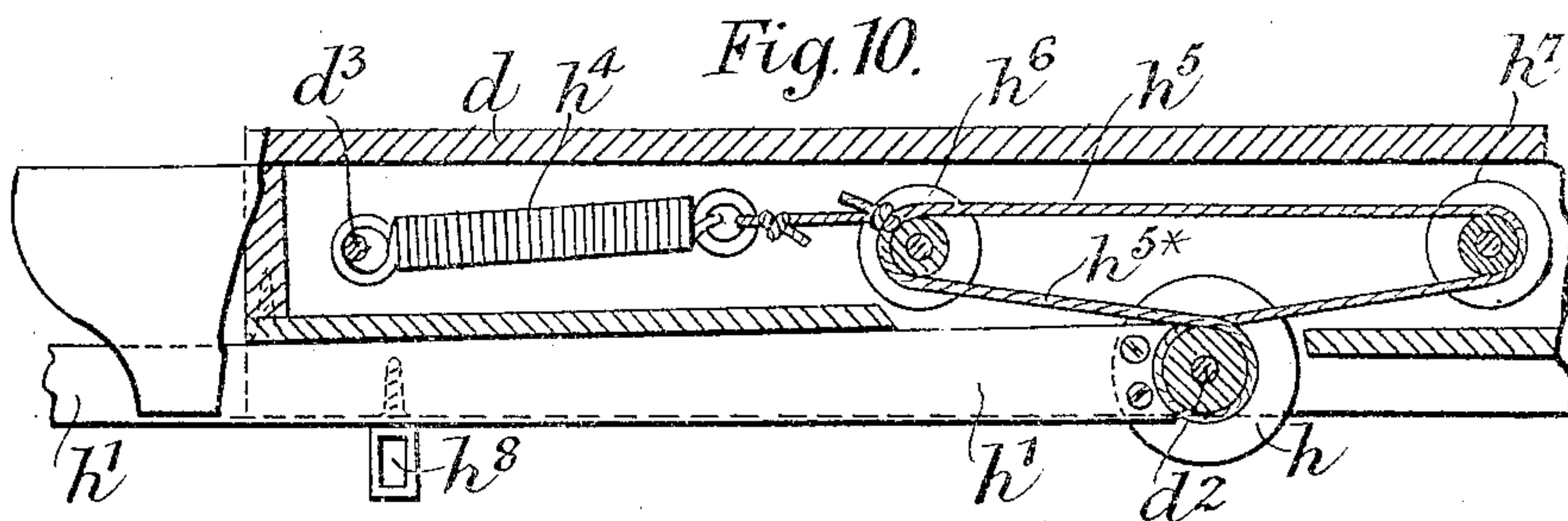
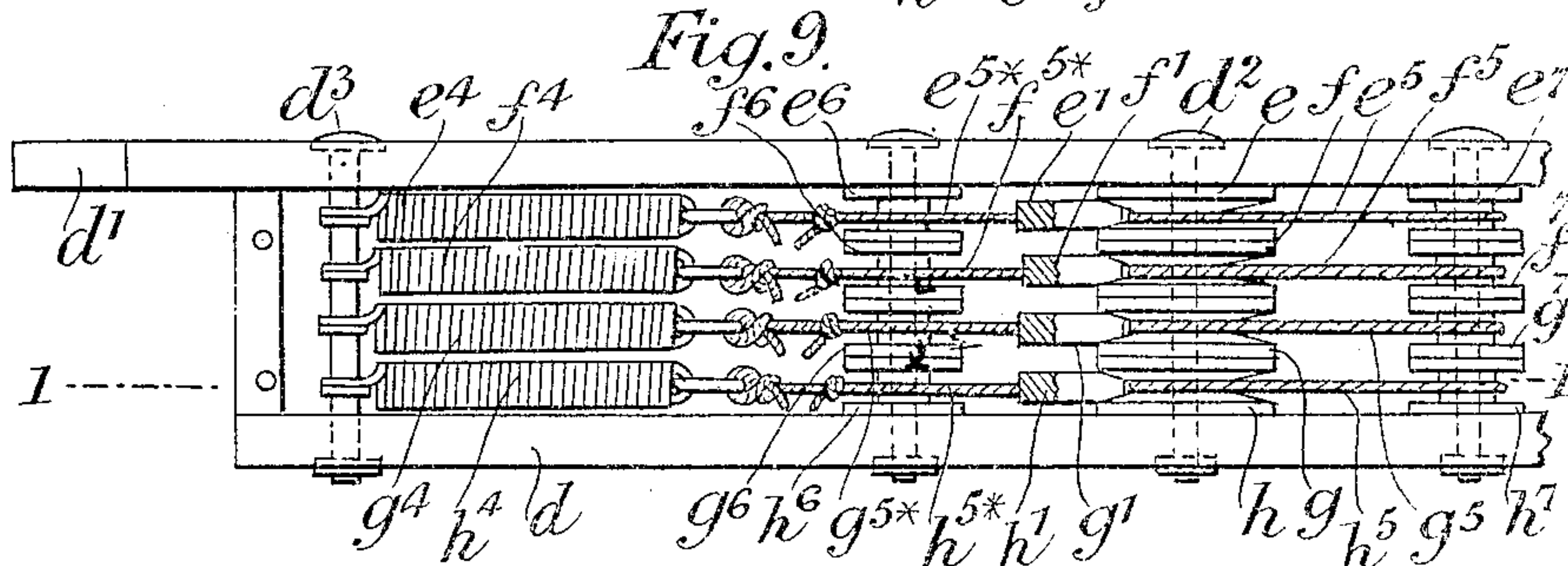
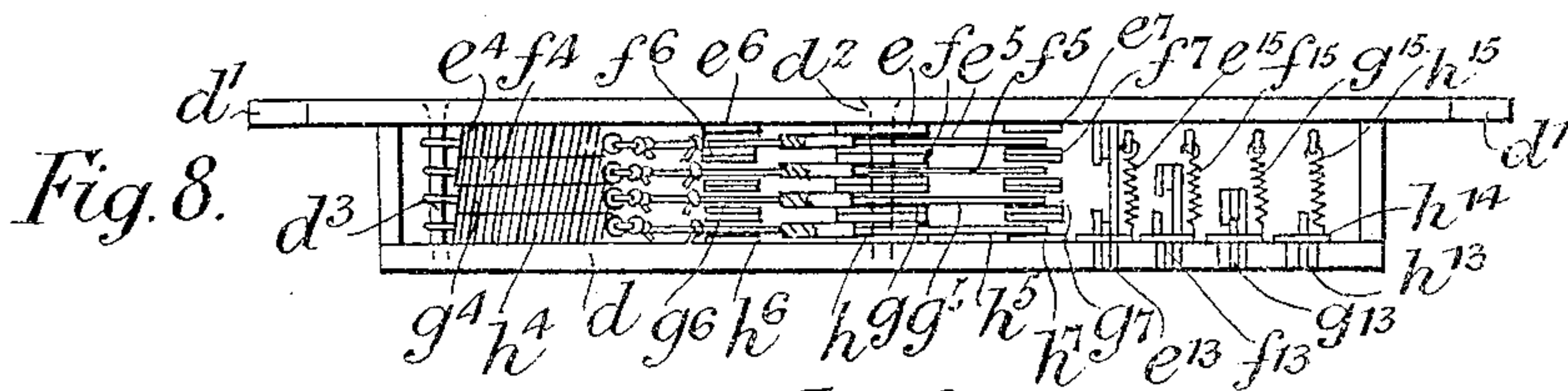
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3 SHEETS—SHEET 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD BRYON, OF WALLINGTON, ENGLAND.

MUSIC-LEAF TURNER.

No. 804,302.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed February 20, 1905. Serial No. 246,575.

To all whom it may concern:

Be it known that I, EDWARD BRYON, printer's traveler, a subject of the King of Great Britain, residing at Crayfield Lodge, Wallington, in the county of Surrey, England, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification, reference being had to the drawings hereunto annexed, and to the figures and letters marked thereon—that is to say:

The invention relates to music-leaf turners.

The difficulty of turning over the leaves of a piece of music by hand is well known, and many attempts have been made to provide means for mechanically performing this operation; but said attempts have failed from various causes and up to the present time no such device has come into general use.

Now the object of the present invention is to obtain an instrument of this character which shall be highly effective and almost automatic in its action, easy to manipulate, and of simple and inexpensive construction.

In the accompanying drawings, Figure 1 is a front elevation of the music rest or stand of a piano, having attached thereto a music-leaf turner constructed according to the present invention, a piece of music being shown in position and one of the arms ready to act. Fig. 2 is a side elevation thereof. Fig. 3 is a front elevation with some parts removed and showing the arms in their normal position. Fig. 4 is a plan thereof. Fig. 5 is a side elevation thereof, partly in section. Fig. 6 is a detail view of part of Fig. 1. Fig. 7 is a plan thereof. Fig. 8 is a front elevation, partly in section, of the lower part or body of the device with some parts removed. Fig. 9 is a similar view of the left-hand end of Fig. 8. Fig. 10 is a horizontal section taken on the line 1 1 of Fig. 9. Fig. 11 is a similar view to Fig. 9 of the right-hand end of Fig. 8. Fig. 12 is a vertical transverse section taken on the line 2 2 of Fig. 11. Fig. 13 is a vertical transverse section taken on the line 3 3 of Fig. 14, showing one of the arms locked by its coacting catch; and Fig. 14 is a horizontal section taken on the line 4 4 of Fig. 13.

In the several figures like parts are indicated by similar letters of reference, and Figs. 3 to 5 and 8 are drawn to an increased scale. Figs. 9 to 14 are drawn to a further increased scale, and Figs. 6 and 7 are drawn to a further increased scale with respect to Figs. 1 and 2.

a represents the music rest or stand of a piano, *a'* represents the ledge or shelf thereof, and *a** represents a piece of music mounted thereon.

d represents a box or case constituting the body of the music-leaf turner, the top *d'* of which is formed to project beyond the body at the ends thereof, *b* represents a loose strip or plate placed upon the ledge *a'* and carrying a central rod *b'*, which occupies a position immediately in front of the fold of the piece of music *a**, and *c* represents clamps which embrace the ends of the strip or plate *b* and top *d'* of the box *d*, with the ledge *a'* of the music-rest between, thereby fixing said devices therewith.

Centrally of the box *d* is removably fixed a shaft or spindle *d'*, upon which are revolvably mounted several drums or pulleys *e f g h*, to which are fixed horizontal and parallel arms *e' f' g' h'*, which near to their outer ends are vertically bent or cranked, and said cranked parts *e'* f'* g'* h'** are of differential lengths and at their extremities are provided with horizontal fingers *e² f² g² h²*, carrying spring-clips *e³ f³ g³ h³*, each adapted to clip onto a sheet or leaf of the music *a**.

Within the box *d* and at one end attached to a bar or rod *d³*, fixed to the box *d*, are several coiled extension-springs *e⁴ f⁴ g⁴ h⁴*, corresponding with the arms *e f g h*, and to the opposite ends of these springs are attached one end of cords or they might be chains *e⁵ f⁵ g⁵ h⁵*, which pass across guide-pulleys *e⁶ f⁶ g⁶ h⁶*, thence around guide-pulleys *e⁷ f⁷ g⁷ h⁷*, thence completely around the drums or pulleys *e f g h*, to which they are fastened, then around the guide-pulleys *e⁶ f⁶ g⁶ h⁶* back to that part of the cords adjacent to the springs *e⁴ f⁴ g⁴ h⁴*, where they are fastened to the cords, thus constituting endless bands.

The springs *e⁴ f⁴ g⁴ h⁴* through the bands *e⁵ f⁵ g⁵ h⁵* thus exercise a constant tendency to retain the arms *e' f' g' h'* in the position indicated in Fig. 3—that is to say, at the left-hand side of the apparatus.

To the arms *e' f' g' h'* are fixed eyes *e⁸ f⁸ g⁸ h⁸*, and at the right-hand side of the box *d* are provided coacting spring-catches *e⁹ f⁹ g⁹ h⁹*, and the catches *e⁹ f⁹ g⁹ h⁹* are formed upon the outer ends of levers *e¹⁰ f¹⁰ g¹⁰ h¹⁰*, which are pivotally mounted by their inner ends at *e¹¹ f¹¹ g¹¹ h¹¹*, and said catch-levers *e¹⁰ f¹⁰ g¹⁰ h¹⁰* are by links *e¹² f¹² g¹² h¹²* connected with key-levers *e¹³ f¹³ g¹³ h¹³*, provided with operating-keys *e¹⁴ f¹⁴ g¹⁴ h¹⁴*, and the key-levers are acted upon by

coiled springs $e^{15} f^{15} g^{15}$ to normally retain them, and consequently the catches $e^9 f^9 g^9$, in their raised or normal positions.

The catch h^9 is formed directly upon a key-lever h^{13} , which is also provided with an operating-key h^{14} and spring h^{15} .

When the apparatus is in use, the several arms $e' f' g' h'$ are turned upon their axis to the right against the force of the springs $e^4 f^4 g^4 h^4$ and are secured in that position by the eyes $e^8 f^8 g^8 h^8$, engaging the catches $e^9 f^9 g^9 h^9$, as shown with respect to the arm h' in Fig. 1, and the leaves of the piece of music a^* are attached to the clips $e^3 f^3 g^3 h^3$ of the arms $e' f' g' h'$.

When it is desired to turn over a leaf of the music, the key $e^{14} f^{14} g^{14}$, or h^{14} , controlling the arm e' , f' , g' , or h' , to which said leaf is attached, is depressed, releasing the arm from the catch $e^9 f^9 g^9$, or h^9 , when the released arm under the influence of its spring $e^4 f^4 g^4$, or h^4 , as the case may be, will turn upon its axis from right to left, carrying with it the leaf of music around the rod b' .

The resistance of the atmosphere to the passage of the leaf of music will largely prevent the too sudden movement thereof; but an additional regulation is obtained by that part $e^5 f^5 g^5$, or h^5 of the cords which in the turning of the arm e' , f' , g' , or h' to the right to engage its catch $e^9 f^9 g^9$, or h^9 is slackened, but by the movement of the arms to the left is tightened.

By the means hereinbefore described a music-leaf turner is obtained which is simple and inexpensive in construction and absolutely reliable in its action, so that it is adapted to come into general use, and thus dispense with the necessity of turning over the leaves of music by hand and the accompanying trouble and uncertainty.

Having now particularly described and as-

certained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a music-leaf turner the combination of several drums or pulleys revolubly mounted in different horizontal planes upon a vertical axis and having horizontal arms fixed thereto said arms having cranked ends of differential lengths located in different vertical planes, clips or the like at the extremities of said cranked parts, a coiled spring corresponding with each arm, guide-pulleys mounted upon vertical axes located one on each side of the axis of the drums, flexible bands fastened to the springs and passing behind one set of guide-pulleys, around the other set, around the drums to which they are also fastened, then in front of the other set of guide-pulleys to the bands to which they are fastened, catches for retaining the arms in their operative positions against the force of the springs and keys for withdrawing each catch independently substantially as herein shown and described and for the purpose stated.

2. In a music-leaf turner, a case containing the mechanism and having a top adapted to come beneath the shelf of a music-stand and provided with projecting ends or lugs, a corresponding loose plate adapted to rest upon said shelf, clamps for embracing the top and loose plate with the shelf between and a vertical rod carried by the loose plate and adapted to rest in the fold of the music substantially as herein shown and described and for the purpose stated.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

EDWARD BRYON.

Witnesses:

C. MELBOURNE WHITE,
C. H. WHITE.