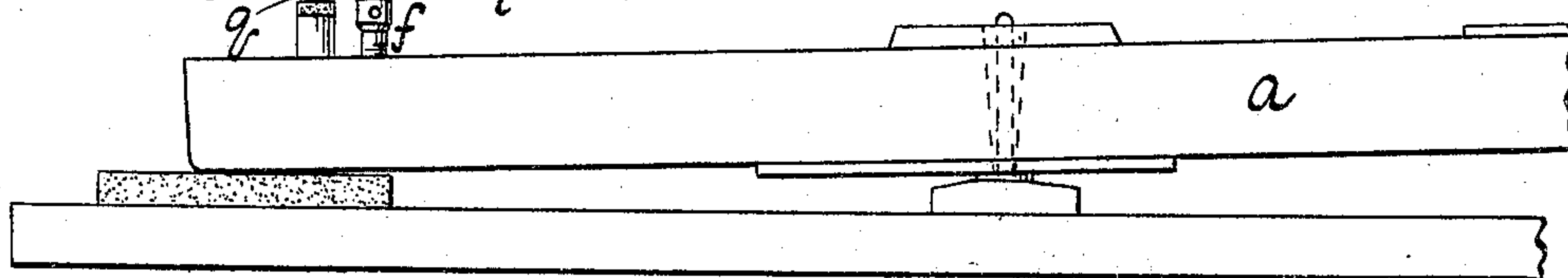
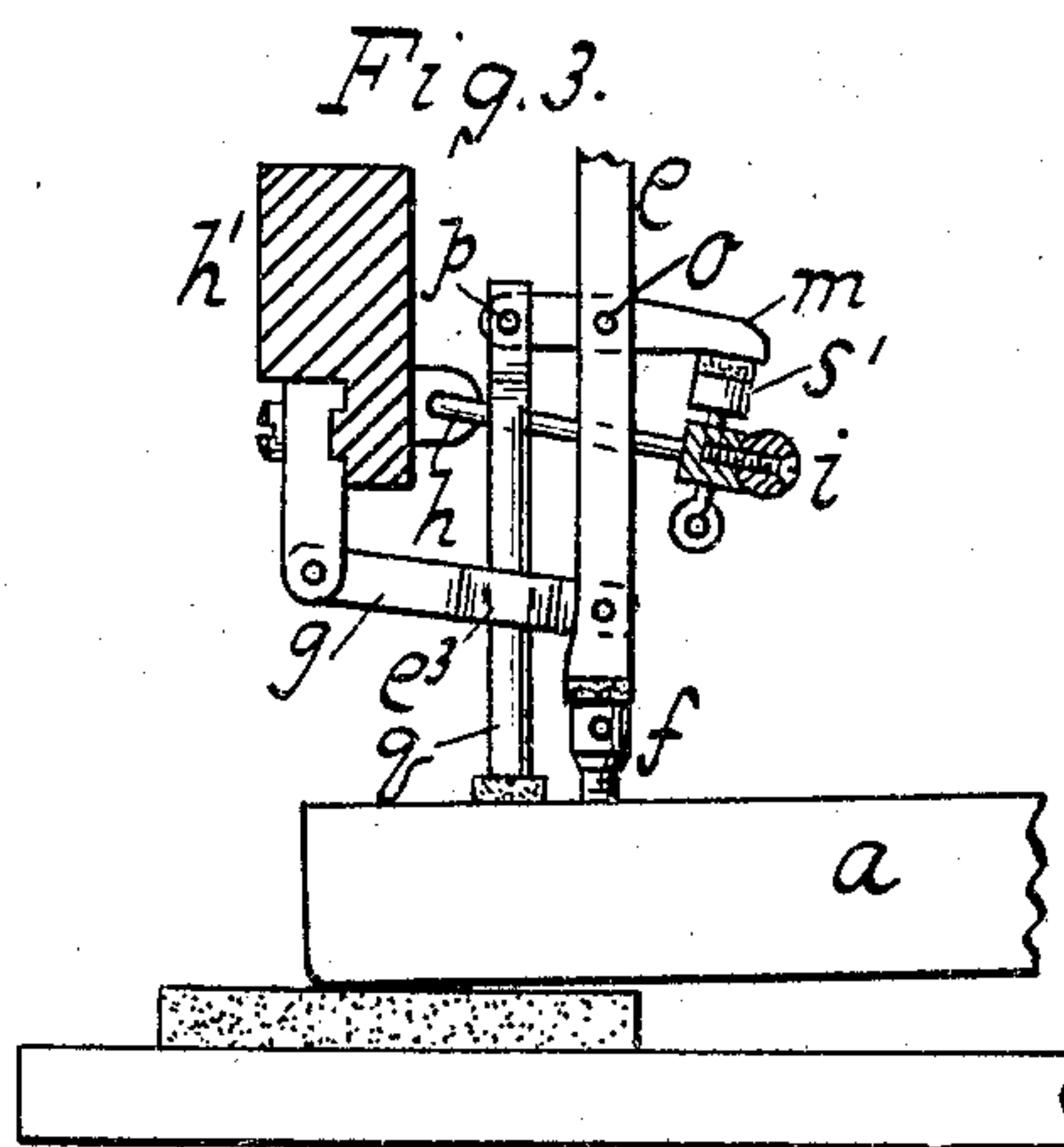
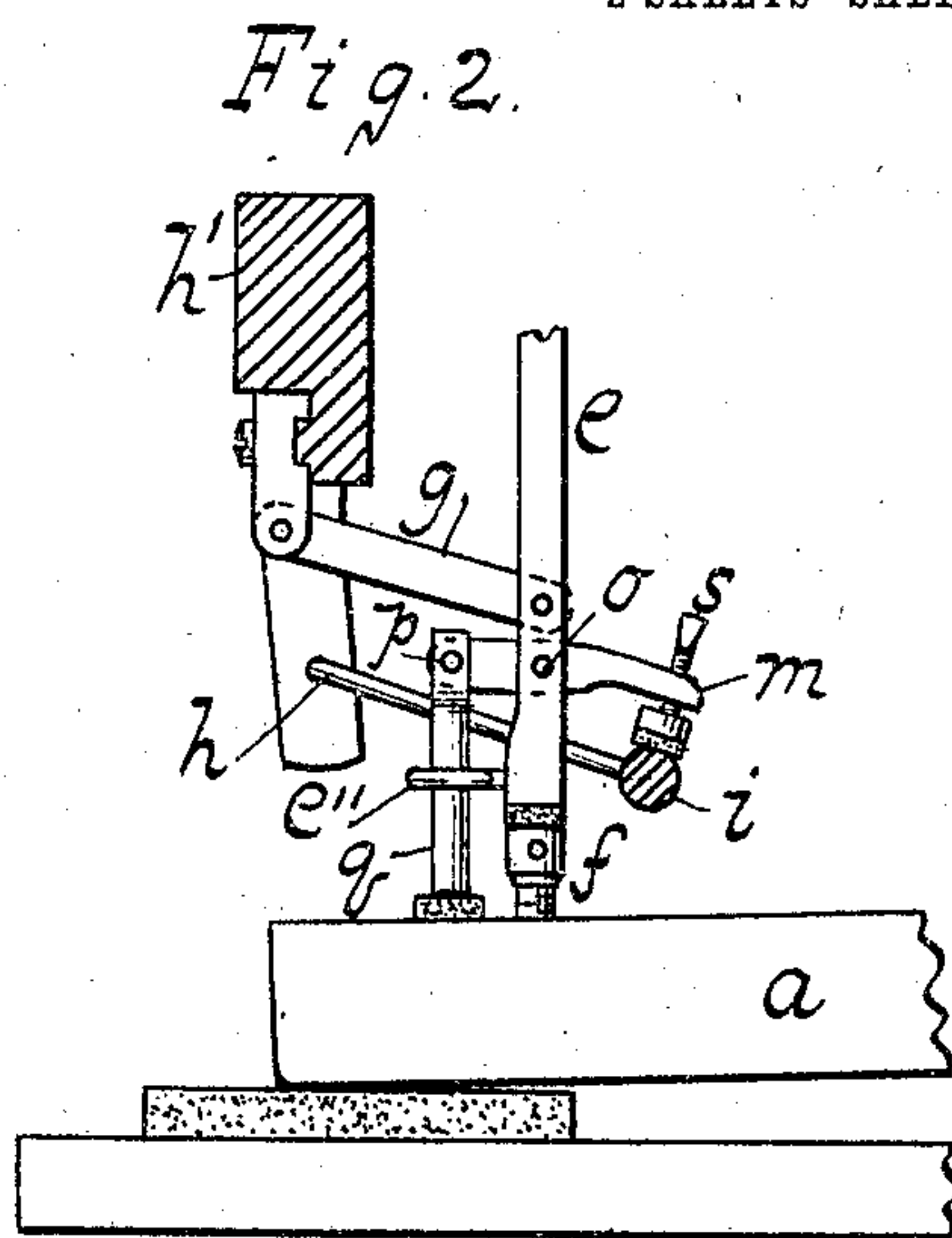
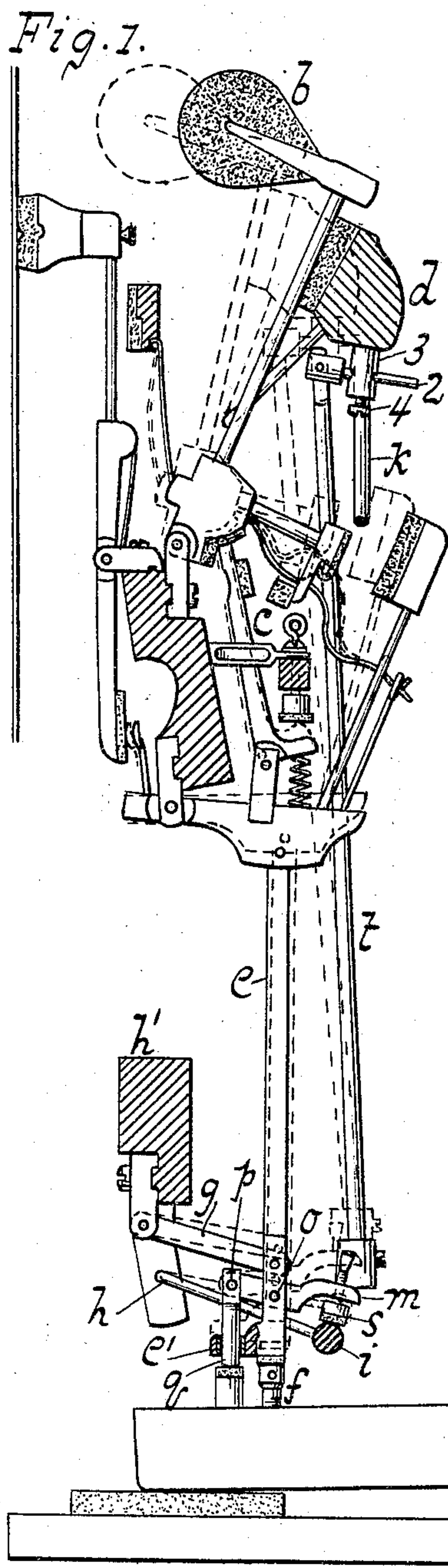


No. 794,515.

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APPLICATION FILED OCT. 6, 1904.

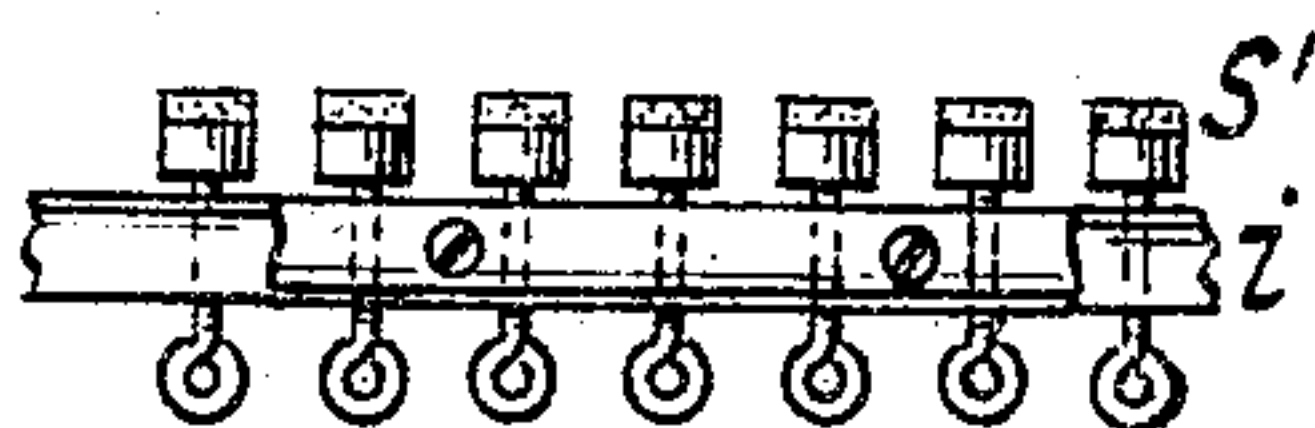
2 SHEETS—SHEET 1.



WITNESSES:

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Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

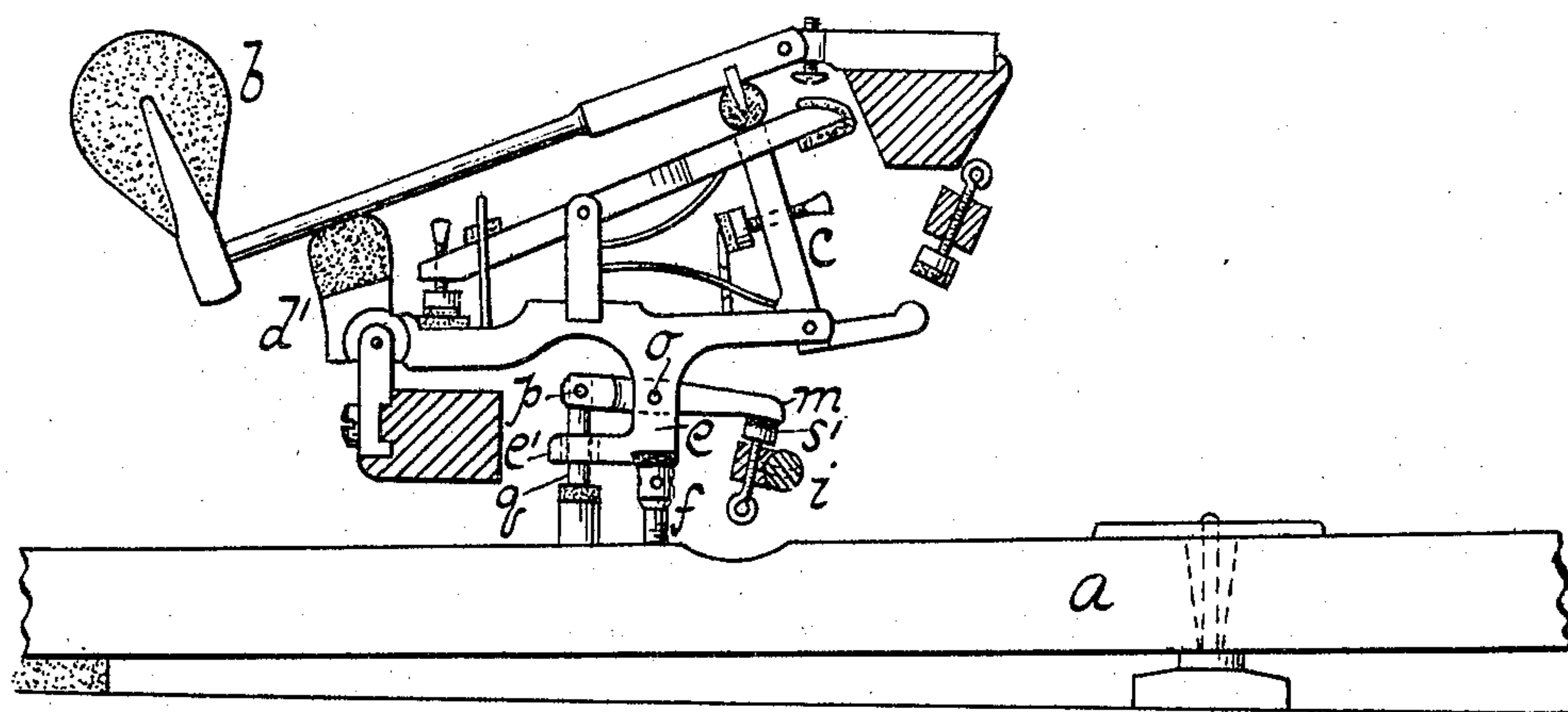
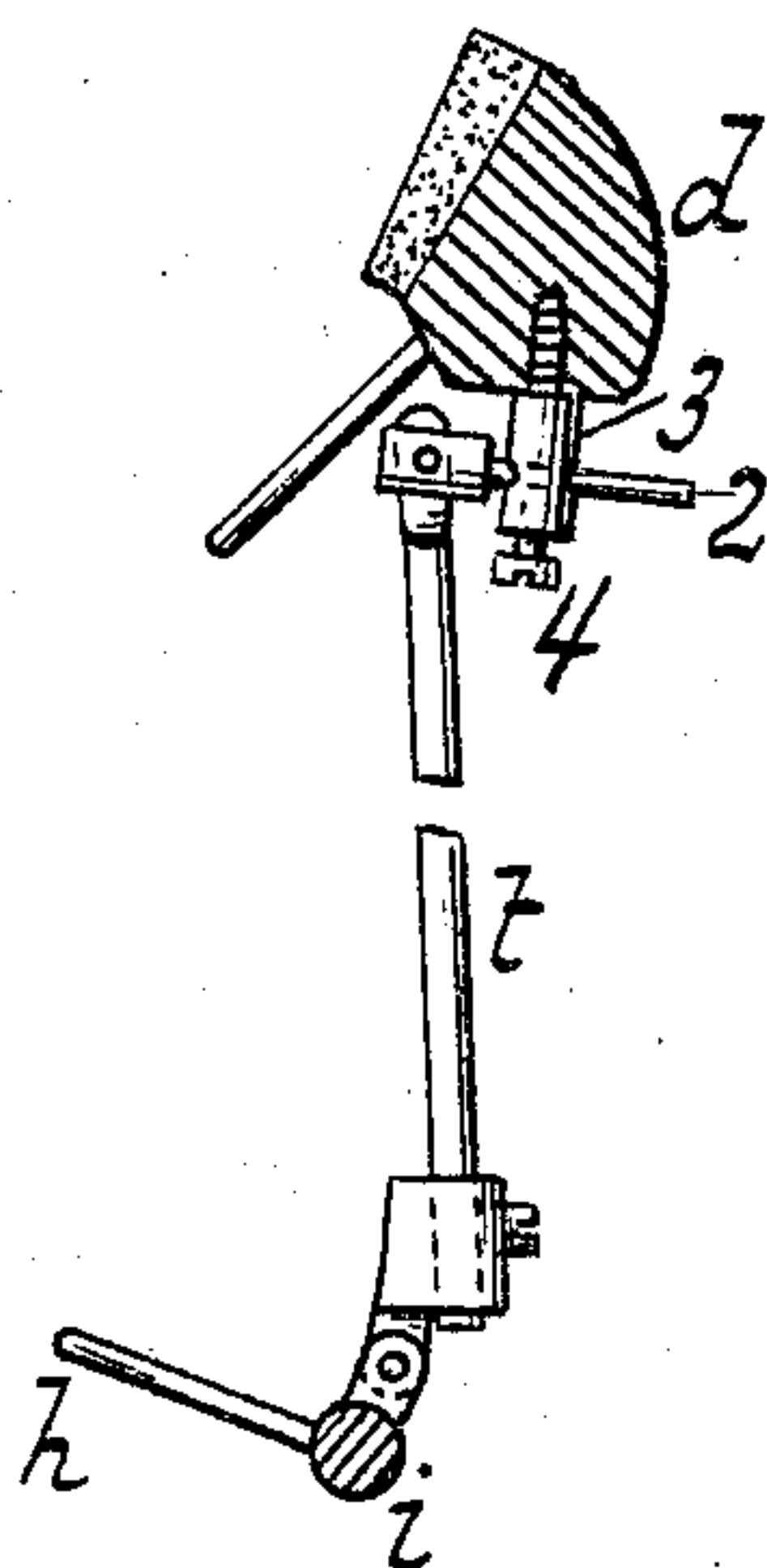


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM KRETER AND CHARLES KRETER, OF NEW YORK, N. Y.

PIANISSIMO DEVICE.

SPECIFICATION forming part of Letters Patent No. 794,515, dated July 11, 1905.

Application filed October 6, 1904. Serial No. 227,431.

To all whom it may concern:

Be it known that we, WILLIAM KRETER and CHARLES KRETER, citizens of the United States, residing at Manhattan, in the county and State of New York, have invented new and useful Improvements in Pianissimo Devices, of which the following is a specification.

This invention relates to a pianissimo device, and the invention resides in the features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side view of a piano-action embodying this invention. Fig. 2 shows a modification. Fig. 3 shows a further modification. Fig. 4 shows a rail with regulating screws and buttons. Fig. 5 shows a grand action instead of an upright one and embodying this invention. Fig. 6 shows a detail.

In the drawings is shown a key *a* and a hammer *b*. Such parts as the jack *c*, with the whippen, the hammer-rest rail *d*, and sticker or abstract *e*, are known and need no description. The capstan-screw *f* on key *a* serves as a foot or rest for the lifting-rod or abstract. The link *g*, hinged to cross-bar *h'*, holds the abstract in line. The links *h* steady the compensator-bar *i*, lifted by link *t* and hammer-rest rail *d*, which latter is moved to carry the hammer to pianissimo position by the soft-pedal rod *k*. Such compensator-bar engages lever *m*, pivoted at *o* to the abstract and at *p* to post *q*, resting on the key or on a suitable pad or post on the key. When the bar *i* is lifted, it swings lever *m* about point *p*, and said lever by connection *o* lifts the abstract *e* to the position shown in dotted lines. When the key is then actuated, it lifts the post *q*, which raises or swings lever *m* and abstract *e*, so that the hammer is made to strike or sound. Said abstract *e* is shown with a guide or an eye *e'* for the post *q*. This eye can be lined with rubber or soft material and serves to keep the post in line or on its foot on the key. The hammer-rest rail, as noted, is arranged so as to be shifted to soft or pianissimo position and carries a post 3. The link *t* when raised by the rail moves the bar *i*. This link *t* is shown jointed to a stem 2, ad-

justably secured in post 3 by a clamp or screw 4. This stem 2 can be set so as to bring the hammer-rest rail and link to proper relative position. This link *t* is shown jointed to the soft-pedal bar *i*, Fig. 6.

In place of being formed integral with the abstract the eye can be secured thereto, as seen in Fig. 2, where a screw-eye *e''* is connected to the abstract. Such eye can also be lined or covered with rubber or soft material that is serviceable as a deadener or antinoise medium. In Fig. 3 the steadying eye or guide for part *g* is shown formed at *e''* in link *g* and can likewise be lined or provided with soft material.

In addition to the jack-adjusting means provided by the capstan-screw on the key an adjusting device or means is provided for the compensating means or lever *m*. The screws or buttons *s*, Fig. 1, allow adjustment of the compensating means. Each lever having its individual adjusting screw or button, it can be individually set or brought into proper relative position. Such adjusters *i* being away from or outside the keys, the adjustment of screws *f* or *s* can be effected without one interfering with or being in the way of the other. In Figs. 1 and 2 the levers *m* are shown pivoted or fulcrumed at one end and the adjusting-screw is at the other or free end, or opposite the pivot. In place of being on lever *m* the adjusters can be on the rail *i*, as seen at *s'*, Figs. 3 and 4.

In the grand action, Fig. 5, the whippen *e* is likewise provided with a guide-eye *e'* for the part *q*, and rail *i* has individual adjusting-buttons *s'* for the lever *m*, as before described.

Among other advantages derived in the present pianissimo construction from having the adjustment of the compensating means or lever *m* removed from or independent of the key is that a modification may be readily accomplished in the adjustment of the said compensating means without interference with any adjacent part in contradistinction to the inconvenience and annoyance in adjusting compensating means in pianissimo devices having the adjusting means therefor directly applied to the key. In pianissimo devices having the adjusting means for the compen-

sating means on the key such means is usually so close to the capstan-screw that obstruction is always present to a ready adjustment of the compensating lever.

5 What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a piano-action, the combination with a hammer and its jack, a movable hammer-rest rail and a key, of jack-adjusting means on the
10 key, means for compensating for the forward movement of the hammer by the rail to maintain adjustment of the hammer and jack, and a device at a distance from, or clear of, the key for adjusting the compensating means.

15 2. In a piano-action the combination with a key, a hammer and its jack, of adjusting means therefor, a movable hammer-rest rail, means for compensating for the forward movement of the hammer by the rail, and a device
20 for adjusting said compensating means, one of said adjusting means being on the key and the other clear of the key so as to allow free access thereto respectively.

25 3. In a piano-action, the combination with keys, hammers and jacks, of adjusting means therefor on the keys, a movable hammer-rest rail, and a compensating means for the movement of the hammer by the rail including a movable compensating bar having a series of
30 independently-adjustable posts engaging another member of the compensating means.

4. In a piano-action, the combination with a key, a hammer and its jack, and a movable hammer-rest rail, of pivoted compensating mechanism to regulate the movement of the
35 hammer by the rail, and including adjusting means supported above and clear of the key and engaging the free terminal of a movable portion of the compensating mechanism.

5. In a piano-action the combination with
40 a hammer and its jack, a movable hammer-rest rail and a key of a movably-supported link, a stem jointed to the link and adjustably connected to the rail, a compensator, jack-adjusting means on the key and compensator-ad-
45 justing means clear of the key.

6. A hammer and a movable hammer-rest rail, a compensator-rail, a link jointed to the compensator-rail and having an adjustable pivot connection with the hammer-rail, a com-
50 pensator-lever engaged by the compensator-rail, a key, a capstan or hammer-adjusting screw on the key, and an adjusting-screw for the compensator-lever clear of the key.

In testimony whereof we have hereunto set
55 our hands in the presence of two subscribing witnesses.

WILLIAM KRETER.
CHARLES KRETER.

Witnesses:

GEORGE HULSBURG,
EDWARD WIESNER.