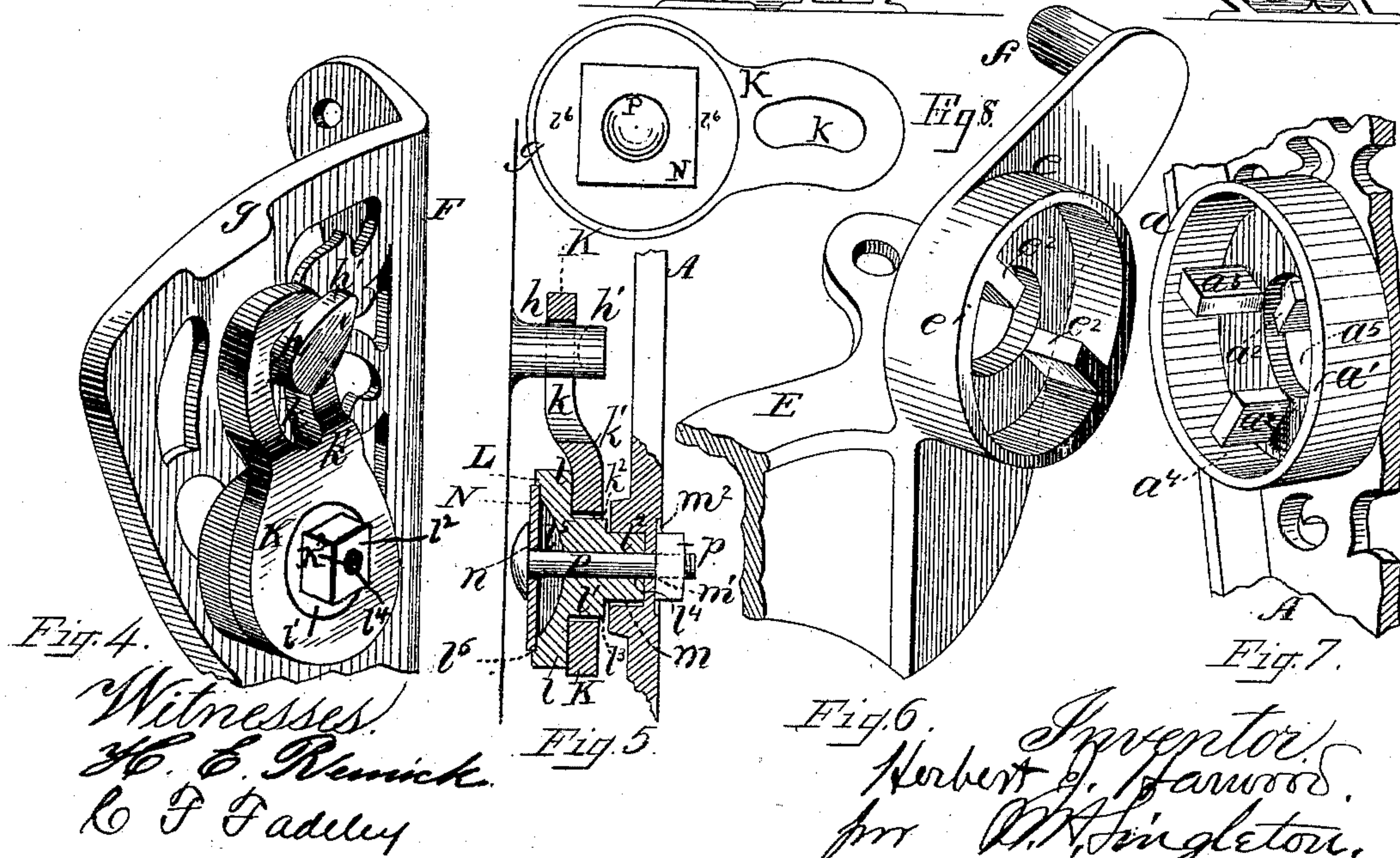
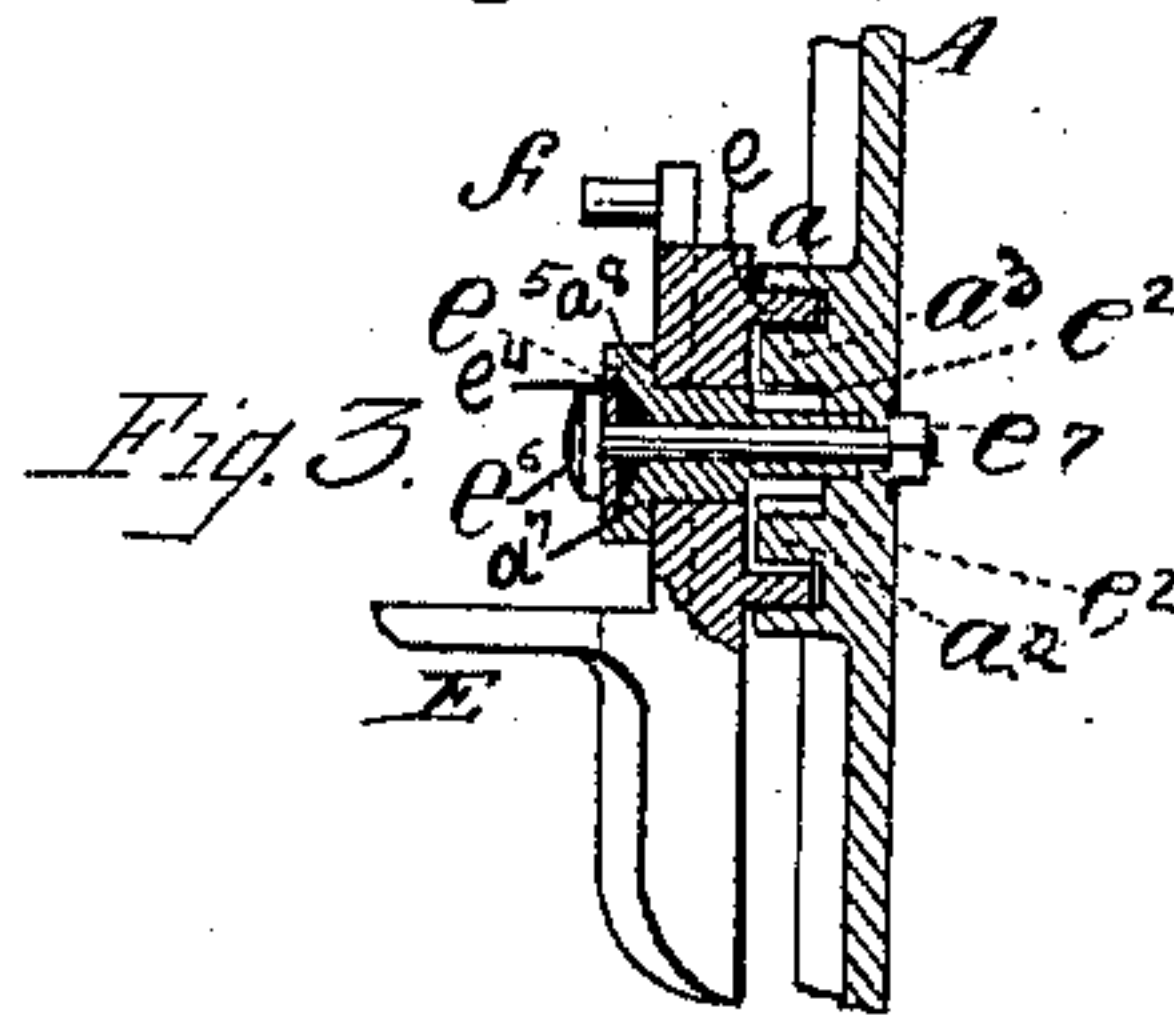
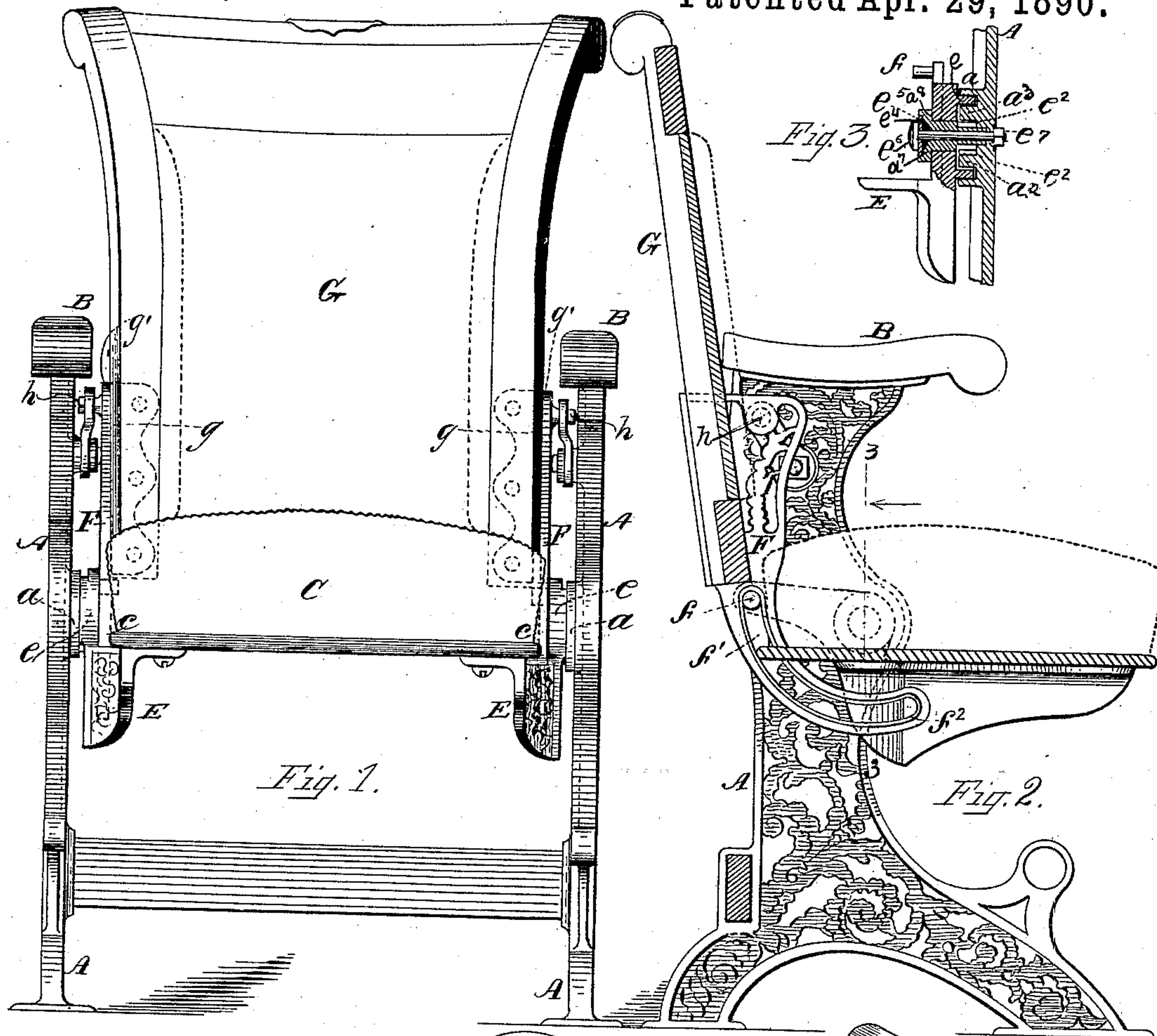


(No Model.)

H. J. HARWOOD.
THEATER CHAIR.

No. 426,533.

Patented Apr. 29, 1890.



Witnesses:
H. E. Remick.
C. F. Fadeluy

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UNITED STATES PATENT OFFICE.

HERBERT JOSEPH HARWOOD, OF LITTLETON, MASSACHUSETTS.

THEATER-CHAIR.

SPECIFICATION forming part of Letters Patent No. 426,533, dated April 29, 1890.

Application filed November 25, 1889. Serial No. 331,519. (No model.)

To all whom it may concern:

Be it known that I, HERBERT JOSEPH HARWOOD, a citizen of the United States, residing at Littleton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Theater-Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation of a chair embodying the invention. Fig. 2 is a vertical transverse section. Fig. 3 is an enlarged detail section on line 3 3, Fig. 2, looking in the direction of the arrow. Fig. 4 is a perspective view of the back-support, the standard being removed, and also the bolt and nut. Fig. 5 is a vertical section of Fig. 4, taken through the pivot-bolt, having the standard and bolt added to it. Fig. 6 is a perspective view of the inside of the seat half of the seat-supporting socket, and Fig. 7 is a similar view of the standard half of the same socket. Fig. 8 is a side view of the hanger.

This invention relates to an improvement in opera-chairs, or that kind of chair in which the seat tilts and the back swings.

The invention consists in the construction hereinafter pointed out.

In the annexed drawings, the letters A A indicate the usual seat-supporting standards having the usual arm-rests B B. At the proper height to hold the seat these standards are provided with the half-sockets a a. These sockets have the circular rims a' a', and within the lugs a² a² a³. The lugs a² a² are opposite each other on the same diameter, and the lug a³ is at right angles to them. These lugs are spaced at a⁴ away from the rim a' a sufficient distance to admit the rim of the other half-socket on the seat. Within these lugs is the orifice a⁵ of the standard half of the socket.

Secured to the sides c c of the seat C are castings E E. These castings E E are made with half-sockets e e, which are the fellow sockets of the standard half-sockets a a.

These half-sockets e e have circular rims e' e', adapted to fit within the rim a' of the half-sockets a a.

Within the half-sockets e e are the two lugs e² e², at opposite ends, of the same diameter. The location of the lugs e² e² is such that when the half-sockets e and a are fitted together these lugs e² e² will bear against the lugs a² a² when the seat C is down, and one lug e² will bear against the lug a³ when the seat C is up. These half-sockets are put together by inserting the half-sockets e e into the half-sockets a a. A trunnion or bushing a⁷ is slipped through the sockets, its head a⁸ bearing against the inside of the casting E. This bushing has the recess e⁴, into which is inserted a spring-washer e⁵, and a bore through which a bolt e⁶ is put and held by a nut e⁷, as shown in Fig. 3. These castings E E extend to the rear, and are provided with the lugs f f, which extend inwardly, as shown. These lugs f f fit into and engage curved slots f' f', made in the lower curved ends f² f² of castings F F, which are secured to the sides g g of the back G. Near their tops g' g' these castings F F have studs h h, which extend outwardly, and have noses h' h', which extend rearwardly, as shown in Fig. 4. These studs h h pass through slots k k of hangers K K. These slots k k have a curve necessary to permit the proper swing of the back. These hangers K K are preferably made with bends k' k', and have at their lower ends the holes k² k². Passing through these holes k² k² are the bushings L L. These bushings have the flanges l l, which bear against the inner faces of the hangers K K, the circular bearing l' l', which fits the holes k² k², and smaller square or polygonal bearings l² l² at their ends, there being shoulders l³ l³ between the bearings. These bushings have the bores l⁴ l⁴, and at their larger ends the concavities l⁵ l⁵, about which are the square or polygonal seats l⁶ l⁶. Adapted to the square or polygonal bearings l² l² of these bushings L L are square or polygonal openings m m in the standards A A. Passing through these standards centrally of these openings m m are the bores m' m', and outside of the standards A A are nut-seats m² m². Placed on the seats l⁶ l⁶ are the spring-plates N N, having the holes n n. Through

these plates and the bushings L L pass the bolts P P, the nuts p p of which rest in the seats m^2 m^2 .

By the construction described is produced
 5 a chair which is of few parts and simple and yet easily operated. The seat tilts on the sockets at its edges, and through the connection with the back the latter is swung upon the hangers, by which it is held to the stand-
 10 ards. The spring-plates e^5 and N not only form tight connections, but they give a yielding action to the joints, which renders their manipulation easy. Of course it is understood that these chairs are to be placed in
 15 rows in the usual manner. Only the construction of a single chair needs description, as all the others are duplications. In putting them together in rows, a standard between two chairs being common to both, the construction on each side of such standard is to
 20 be the same.

Having described my invention, what I claim is—

1. The combination of the standards, the
 25 seat pivoted thereto, and the studs extending out transversely therefrom at the rear, the back having the dependent arms with the

curved slots into which these studs fit, the back-studs having noses, and the slotted hangers connected to the back and to the
 30 standard, as set forth.

2. The combination of the back G, having the studs h , with their noses h' , the hangers K, having the slots k for the reception of the studs h and holes k^2 , the bushings L and
 35 standards A A, having the recesses m for the reception of the end of the bushing L, and the bolts P, whereby all the parts are held in place, as set forth.

3. The combination of the standards, the
 40 seat secured thereto by the bushings, lugs, and bolts, the studs extending out at rear, the back having the arms with curved slots, into which these studs fit, the back-studs having the noses, and the slotted hangers pivoted
 45 to the standards and connected to the back by these studs having noses, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HERBERT JOSEPH HARWOOD.

Witnesses:

ALBERT G. Y. MACADAM,
 H. E. BOTHFELD.