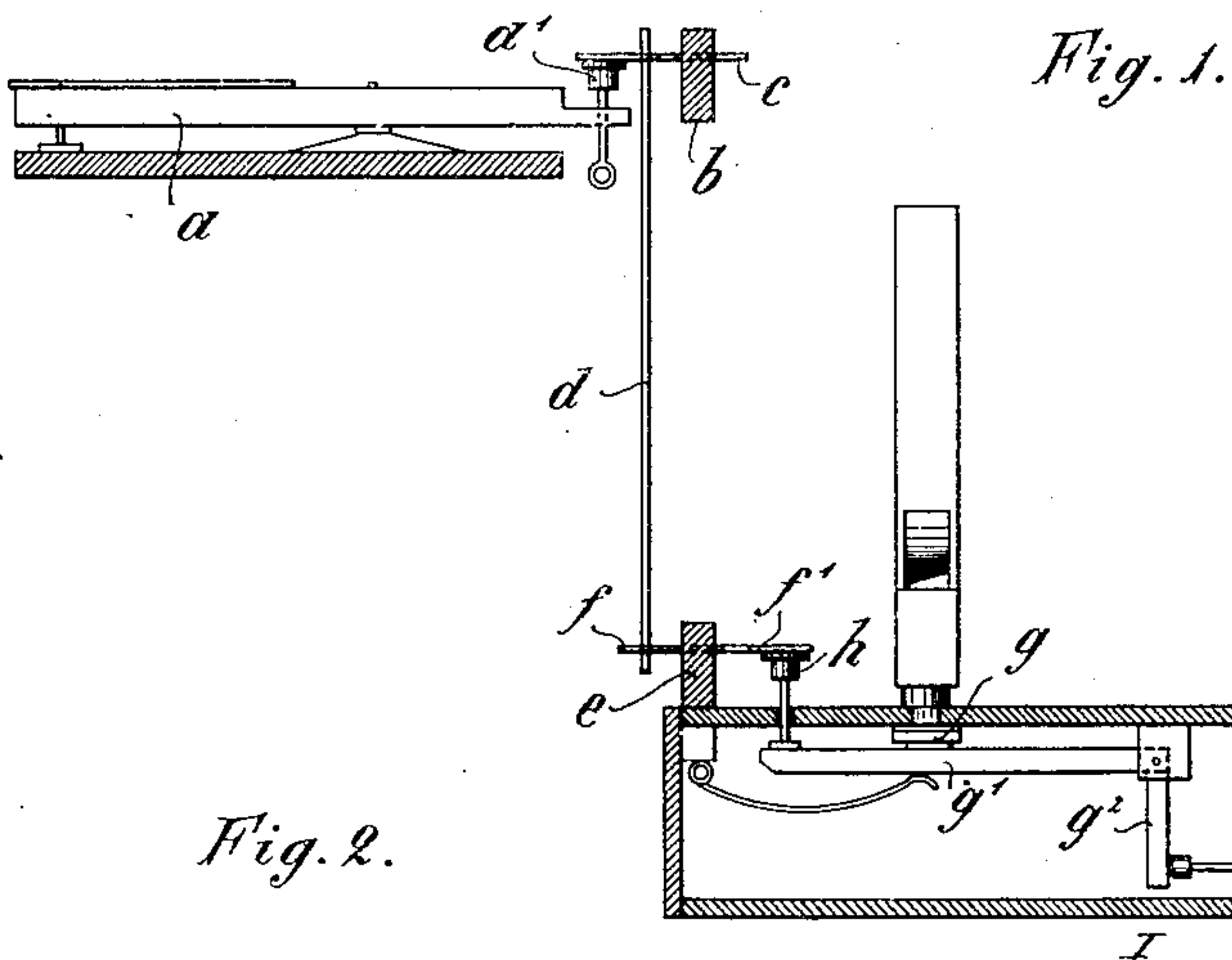


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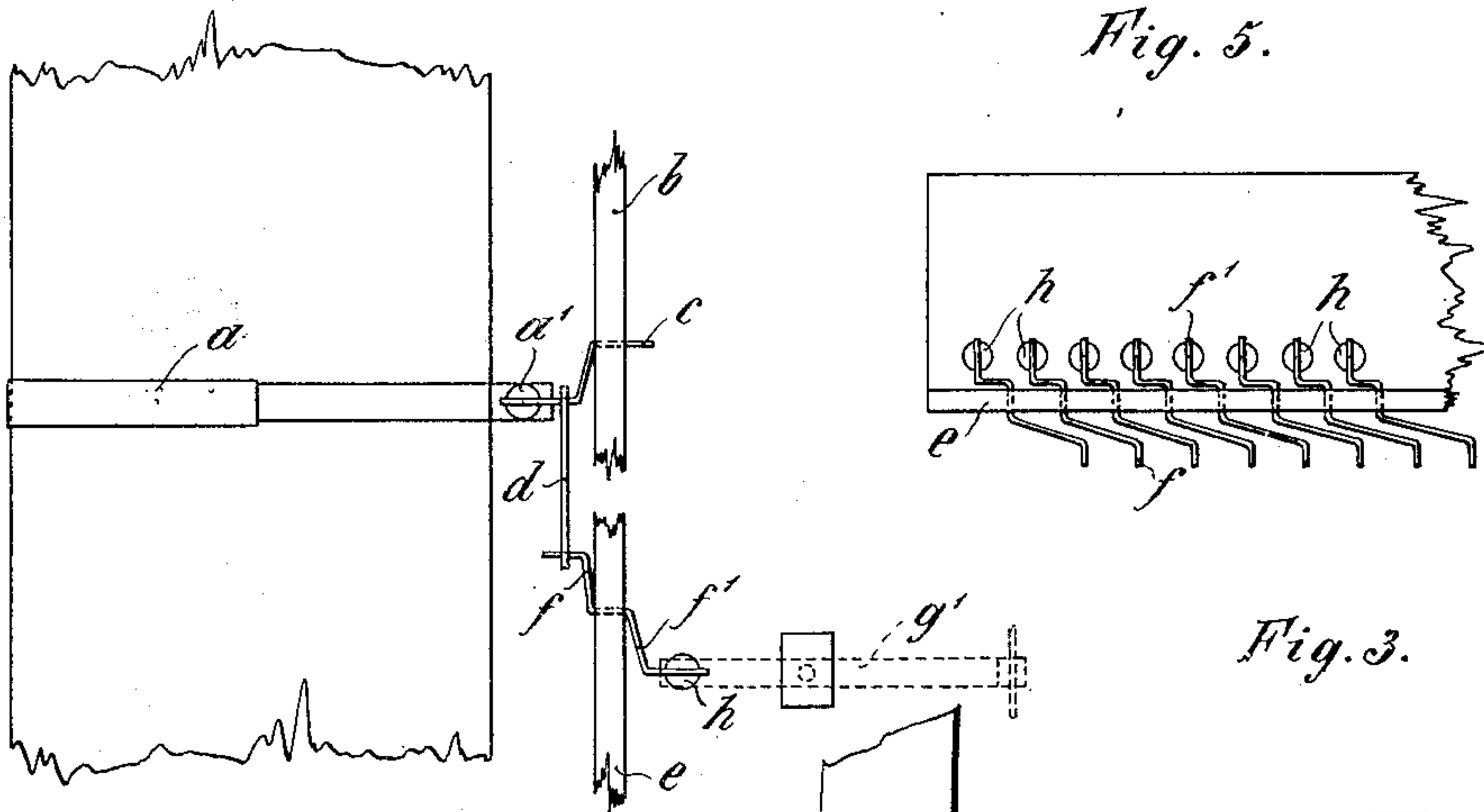
(Application filed May 18, 1898.)

(No Model.)

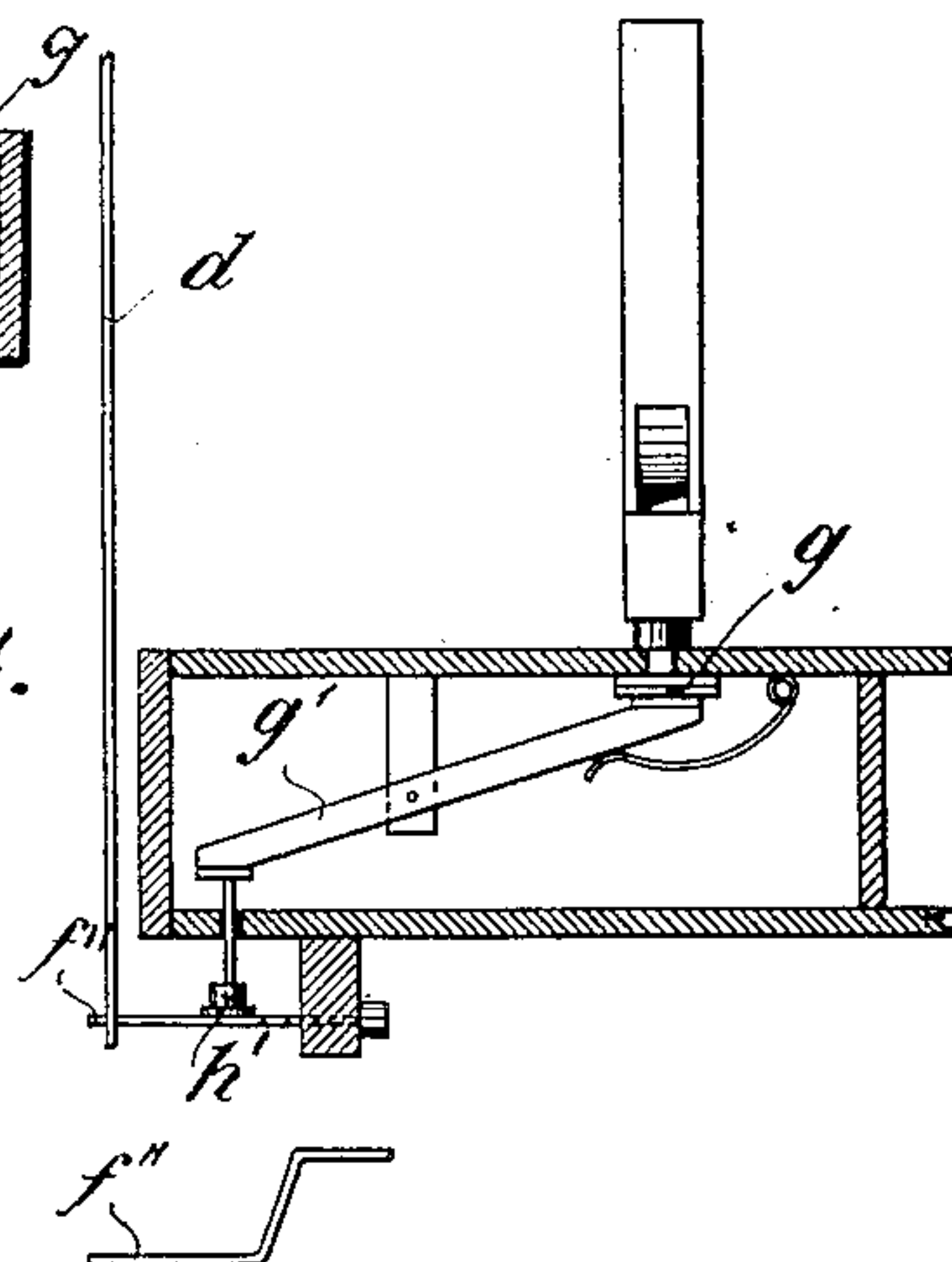
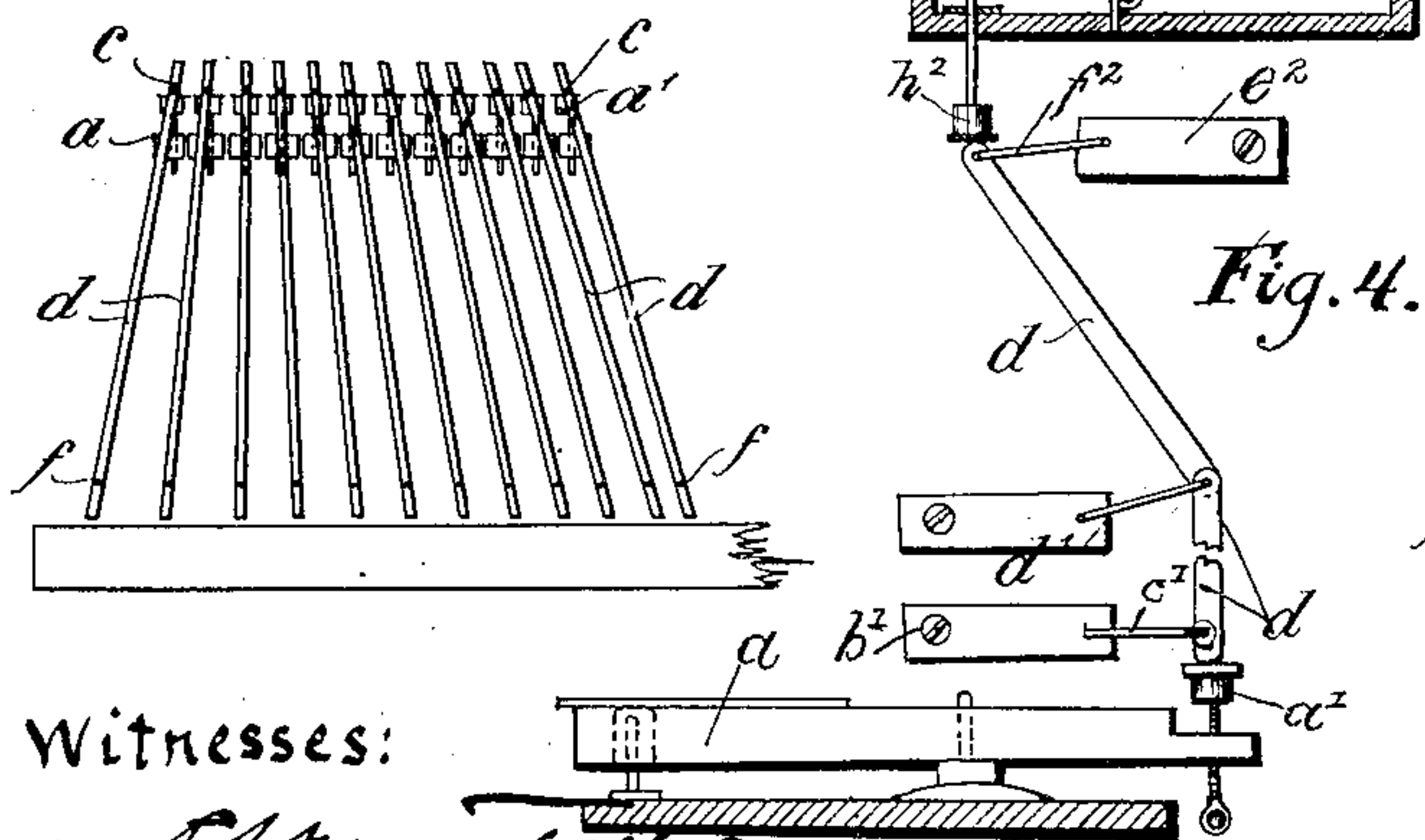


*Fig. 2.*

*Fig. 5.*



*Fig. 6.*



Witnesses:

*Robert Talbot*  
*W. H. L. L. L.*

Inventor  
Friedrich Ernst Paul Ehrlich  
by *Marcellus Bailey, Atty.*

# UNITED STATES PATENT OFFICE.

FRIEDRICH ERNST PAUL EHRLICH, OF GOHLIS, GERMANY.

## ORGAN.

SPECIFICATION forming part of Letters Patent No. 657,594, dated September 11, 1900.

Application filed May 18, 1898. Serial No. 681,053. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH ERNST PAUL EHRLICH, a subject of the King of Saxony, and a resident of Gohlis, near Leipsic, in the Kingdom of Saxony, German Empire, have invented a new and useful Improvement in Organs or Like Musical Instruments, (for which an application for patent has been filed in Germany on April 19, 1898,) of which the following is a specification, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an elevation of the improved parts of the musical instrument, partly in section. Fig. 2 is a plan of a part of the arrangement shown in Fig. 1. Fig. 3 is a sectional elevation of a modification of devices shown in the former figures, while Fig. 4 represents in sectional elevation a modified part of the invention; and Figs. 5 and 6 illustrate in a plan view and a front view, respectively, parts of the devices shown in Figs. 1 to 3.

Similar letters of reference indicate like parts.

The nature of my invention consists in a mechanism for transmitting the movement of the key of an organ or like musical instrument to the valve or valves of the flue pipe or pipes or of the reed cell or cells, by which a more simple and more efficient connection of the keys with the valves is obtained than heretofore.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

Referring to the drawings, *a* indicates the key, in operating which the crank-lever *c* is turned around its fulcrum in the ledge *b* by means of the stud *a'*. The stud is adjustable in its position toward the key. The movement of the lever *c* is communicated to a second crank-lever *f f'*, arranged with its fulcrum in the rail *e* on top of the cell or box *I* by means of the connecting-rod *d*. This lever in turn operates a lever carrying the valve *g*, that controls the air-opening from the box *I*. The lever *f* is formed with an arm *f'* opposite to the arm to which the rod *d* is connected, and this arm *f'* is connected by a rod-guider

*h*, mounted in the wall of the box, with the lever *g'*, which carries the valve *g*. The rod-guider *h* is formed with a head or stud upon which the end or arm *f'* of the lever *f* rests. Whenever a key *a* is depressed, the particular lever *g'* connected with that key through the train of mechanism just described will be moved and its valve uncover the opening which it controls and the instrument caused to sound. For the purpose of simultaneously actuating two or more valves by means of one single key the lever *g'* may be arranged as a double-armed lever, (see Fig. 1,) the arm *g''* operating a like lever provided in the adjacent cell by means of a rod *i*, guided in the wall which separates both cells, and so on.

In the form of my invention shown in Fig. 3 the rod-guider *h'*, which connects the rod *d* and the valve-lever *g''*, enters the box *I'* from below, and the lever *f''* is mounted in a rail *e'* below the box.

In the construction shown in Fig. 4 the connections between the key *a* and the valve *g* extend upward from the key instead of downward, as in the other views. In this construction the rod *d'* is broken or jointed.

In the several views illustrating different forms of my invention corresponding parts are represented by like letters of reference, but different exponents are applied to such letters where the parts differ in construction or arrangement.

The way the levers *f* may be arranged is illustrated in Fig. 5, while Fig. 6 exhibits the arrangement of the connecting-rods *d*, which transmit the movement of the levers *c* to the levers *f*.

I do not confine myself to the precise form and arrangements of the several parts and devices of my invention as above described, as they admit of various modifications without departure from the principle of its construction and operation; but

What I claim is—

A mechanism for connecting a key of an organ or similar instrument with the air-valve which the key controls, comprising in combination with the key and the valve-lever, a crank-lever fulcrumed adjacent to the key



and with which the latter is connected, another crank-lever arranged adjacent to the valve-lever with which it has direct or immediate connection, and a rod directly connecting the said crank-levers, substantially as set  
5 forth.

In testimony whereof I have hereunto set

my hand in presence of two subscribing witnesses.

FRIEDRICH ERNST PAUL EHRLICH.

Witnesses:

MAX HELLINGER,  
RUDOLPH FRICKE.