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L. BLASIUS.

ATTACHMENT FOR LEVERS FOR AUTOMATIC PLAYING MUSICAL  
INSTRUMENTS.

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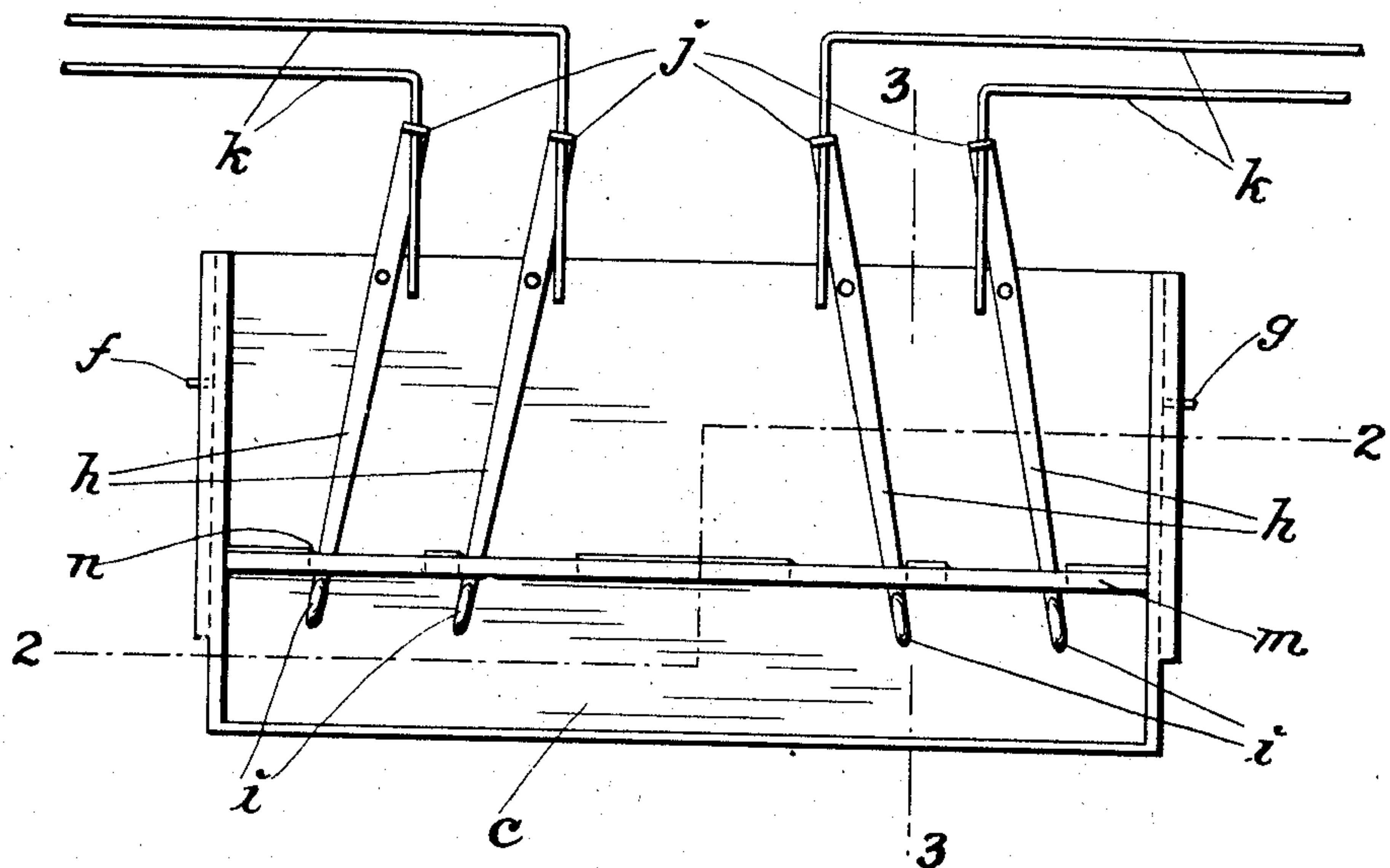


FIG. 1.

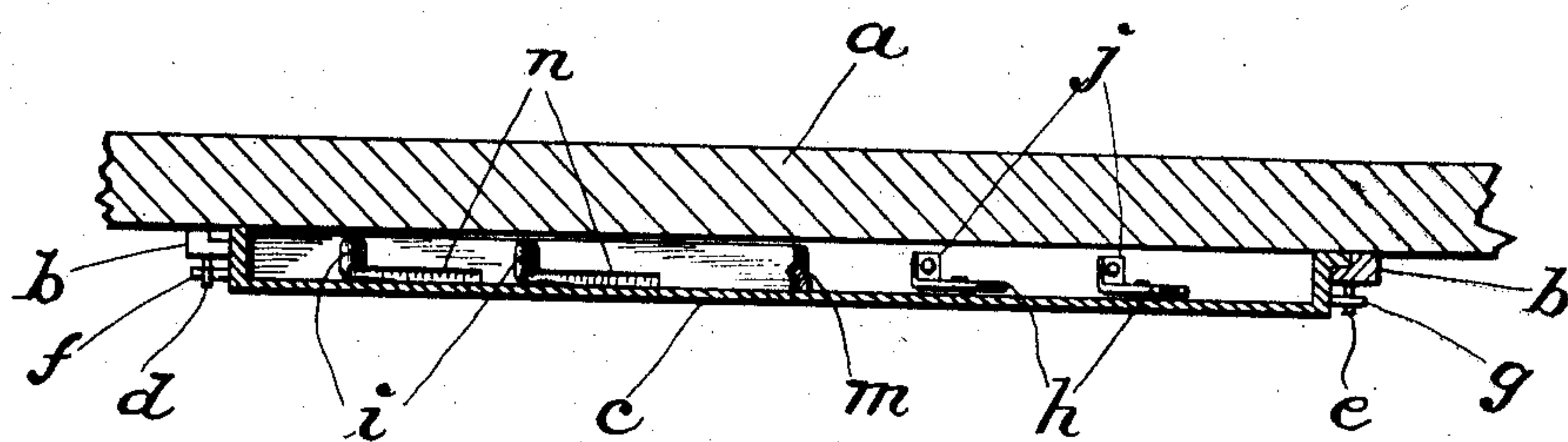


FIG. 2.

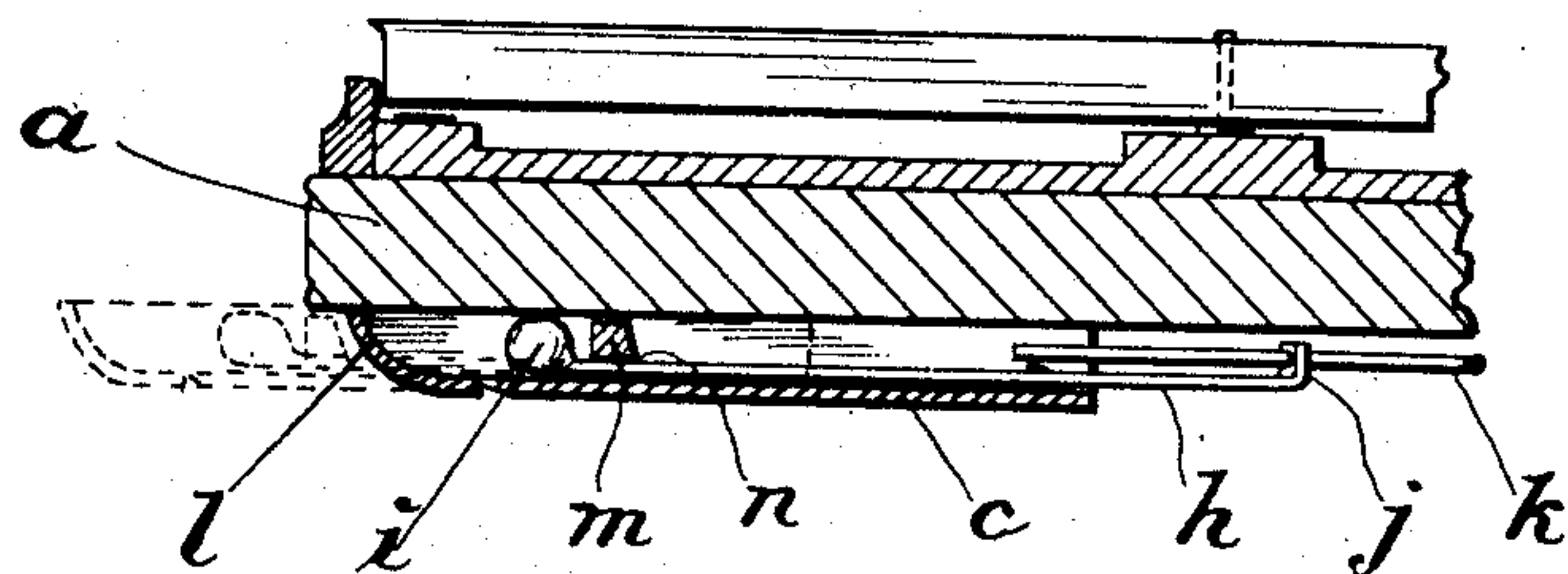


FIG. 3.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## ATTACHMENT FOR LEVERS FOR AUTOMATIC-PLAYING MUSICAL INSTRUMENTS.

No. 875,887.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed June 12, 1907. Serial No. 378,468.

*To all whom it may concern:*

Be it known that I, LEVIN BLASIUS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Attachments for Levers for Automatic-Playing Musical Instruments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

In this class of musical instruments, say pianos, the instrument is at times operated as an automatic playing instrument and at other times manually and in the ordinary manner.

It is quite desirable that the levers which control the mechanism for automatically operating the instrument should be concealed when the instrument is to be manually operated.

My invention consists in certain novel mechanisms whereby, when the instrument is to be manually operated, these levers may be concealed and yet may be readily brought into operative position when it is desired to operate the piano automatically. Speaking generally, I accomplish this result by pivoting the levers upon a frame or shelf, which is slidably mounted on the under side of the keyboard ledge or rail, so that they may be moved outward beyond the outer edge of said keyboard ledge, when in use, and inward beyond the ledge when out of use and it is desired to conceal the same. The rods connecting these levers with the operating mechanism of the automatic player are connected to the respective levers by means of a loose connection which enables the levers to be moved outward with the frame or shelf and yet maintain operative connection with said rods.

I will first describe the embodiment of my invention, illustrated in the accompanying drawings, and then point out the invention in the claims.

In the drawings: Figure 1 is a plan view of levers and supporting frame. Fig. 2 is a longitudinal section taken on line 2—2, Fig. 1. Fig. 2 is a cross-section taken on line 3—3, Fig. 1.

*a* is the keyboard ledge or shelf. On the under side of this ledge are the guides *b*, which support the frame or shelf *c* and upon which said shelf or frame may be moved outwardly beyond the outer edge of the key-

board ledge or inwardly beyond said edge. Upon the guides *b* are pins *d* and *e*, and upon the frame pins *f* and *g*, the pins *d* and *f* coacting to limit the outward movement of the frame or shelf *c* and the pins *e* and *g* coacting to limit the inward movement of said frame or shelf. Upon the frame or shelf *c* are pivoted the operating levers *h*. The outer ends of the levers *h* have the operating handles *i*. The inner ends have the hooks *j* through which pass the ends of the rods *k* leading to the operating and controlling mechanism of the automatic player. As may be seen, the levers *h* can move outward and inward with the shelf or frame *c* and yet maintain operative connection with the rods *k*. The outer end of the shelf may be turned up and rounded, as shown at *l* in Fig. 3, so that, when the shelf is in its inner position, the end of the shelf forms an ornamental front for that portion of the instrument.

In Fig. 3 the full lines show the shelf and levers in the inner position, in which position the levers are concealed from view. When it is desired to use the instrument as a self-playing instrument, the shelf or frame is moved outward to the position shown in dotted lines, Fig. 3, when the levers are in view and in operative position. *m* is a bridge having slots *n* equal in number to the levers and of such extent as to limit the movement of the levers to that necessary for their proper movement to operate.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:

1. In a piano adapted to be used as a manual and self-playing instrument, in combination, a shelf or frame slidably mounted, operating levers for the self-playing mechanism pivotally connected to said shelf or frame, rods adapted to connect said levers and the self-playing mechanism, and a loose connection between said levers and rods, whereby said levers may move with said frame and maintain operative connection with said rods.

2. In a piano adapted to be used as a manual and self-playing instrument, in combination, a key board ledge a shelf or frame mounted on the under side of the keyboard ledge to move inward and outward, operating levers for the self-playing mechanism pivotally connected to said shelf or frame, rods adapted to connect said levers and the self-playing mechanism, and a loose connec-



tion between said levers and rods, whereby said levers may move with said frame and maintain operative connection with said rods.

5 3. In a piano adapted to be used as a manual and self-playing instrument, in combination, a shelf or frame slidably mounted, operating levers for the self-playing mechanism pivotally connected to said shelf or  
10 frame, rods adapted to connect said levers and the self-playing mechanism, a hook upon each of said levers in which the corresponding rod rests, whereby said levers may move with said frame and maintain opera-  
15 tive connection with said rods.

4. In a piano adapted to be used as a manual and self-playing instrument, in combination, a shelf or frame slidably mounted, operating levers for the self-playing mechanism pivotally connected to said shelf or  
20 frame, rods adapted to connect said levers and the self-playing mechanism, and a loose connection between said levers and rods, whereby said levers may move with said  
25 frame and maintain operative connection with said rods, the outer end of said frame or shelf having a vertical extension.

5. In a piano adapted to be used as a manual and self-playing instrument, in combi-

nation, a shelf or frame slidably mounted, 30 operating levers for the self-playing mechanism pivotally connected to said shelf or frame, rods adapted to connect said levers and the self-playing mechanism, and a loose connection between said levers and rods, 35 whereby said levers may move with said frame and maintain operative connection with said rods, and means carried by said shelf or frame for limiting the movement of said levers on their pivots. 40

6. In a piano adapted to be used as a manual and self-playing instrument, in combination, a movable shelf or frame, operating levers for the self-playing mechanism pivotally connected to said shelf or frame, rods 45 adapted to connect said levers and the self-playing mechanism, and a loose connection between said levers and rods, whereby said levers may move with said frame and maintain operative connection with said rods. 50

In testimony of which invention, I have hereunto set my hand, at Philadelphia, on this 10th day of June, 1907.

LEVIN BLASIUS.

Witnesses:

M. M. HAMILTON,  
A. M. URIAN.