

J. A. WESER.

MUSIC RACK FOR MUSICAL INSTRUMENT CASES.

No. 514,249.

Patented Feb. 6, 1894.

FIG. 1.

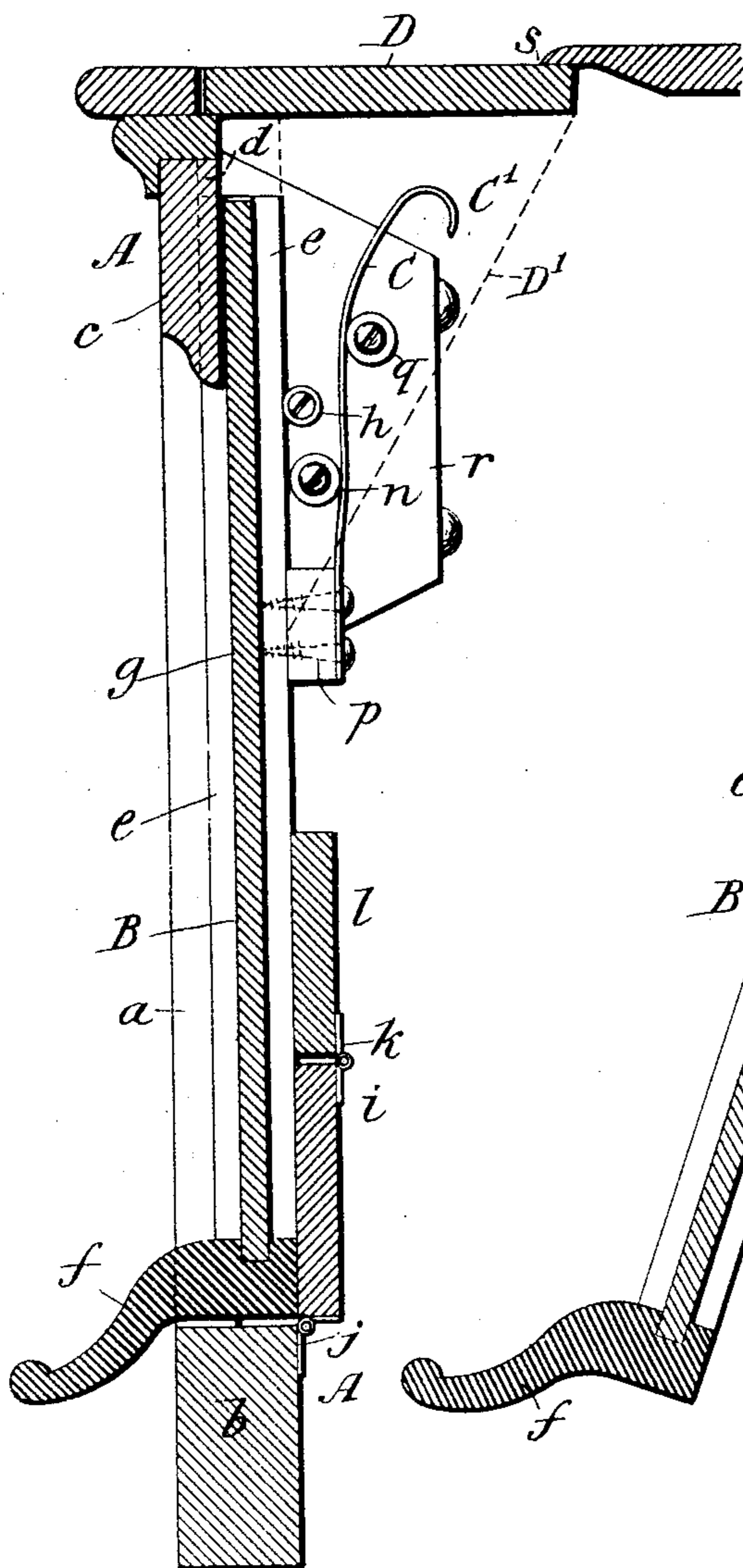
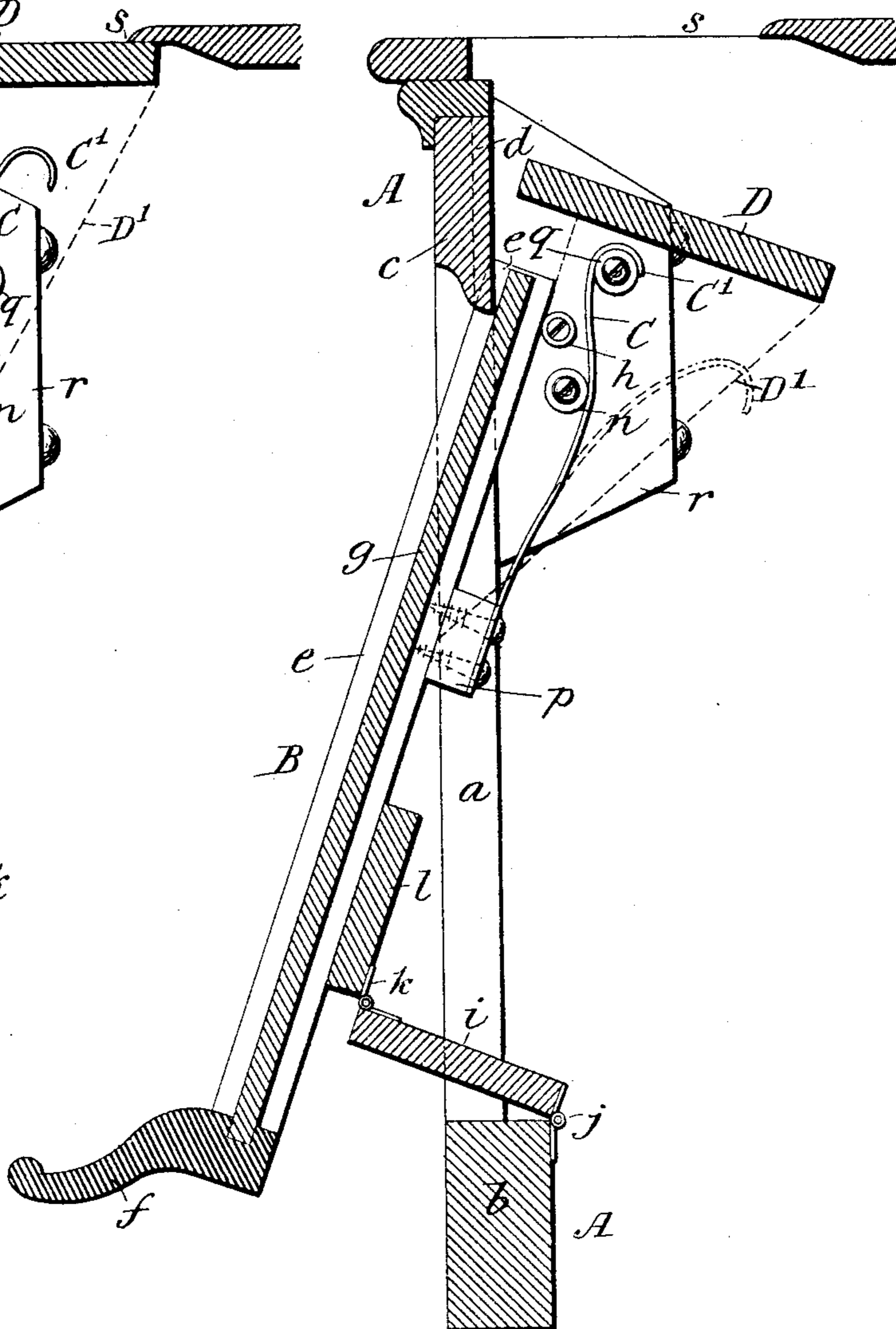


FIG. 2.



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INVENTOR:

John A. Weser,
By his Attorneys,

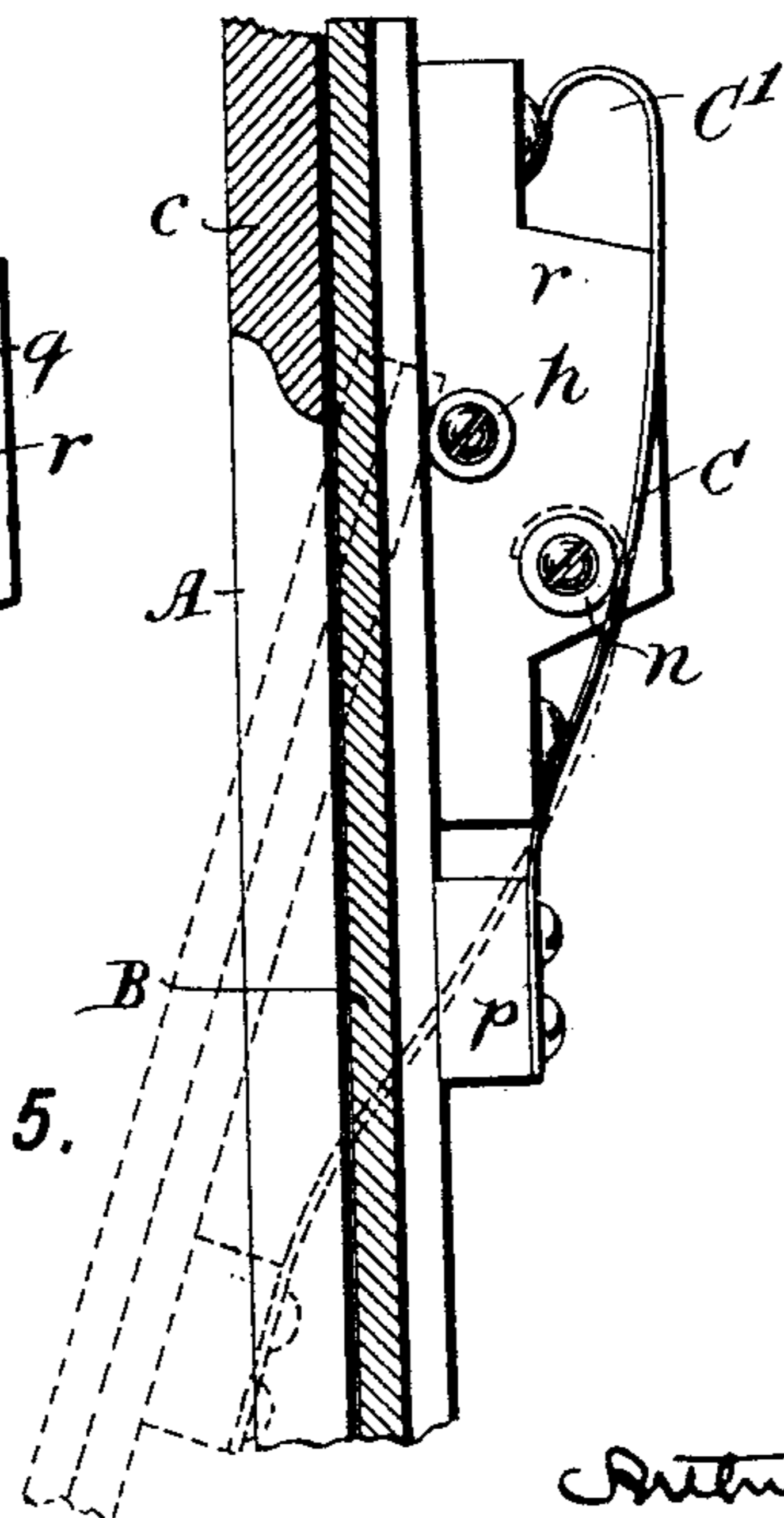
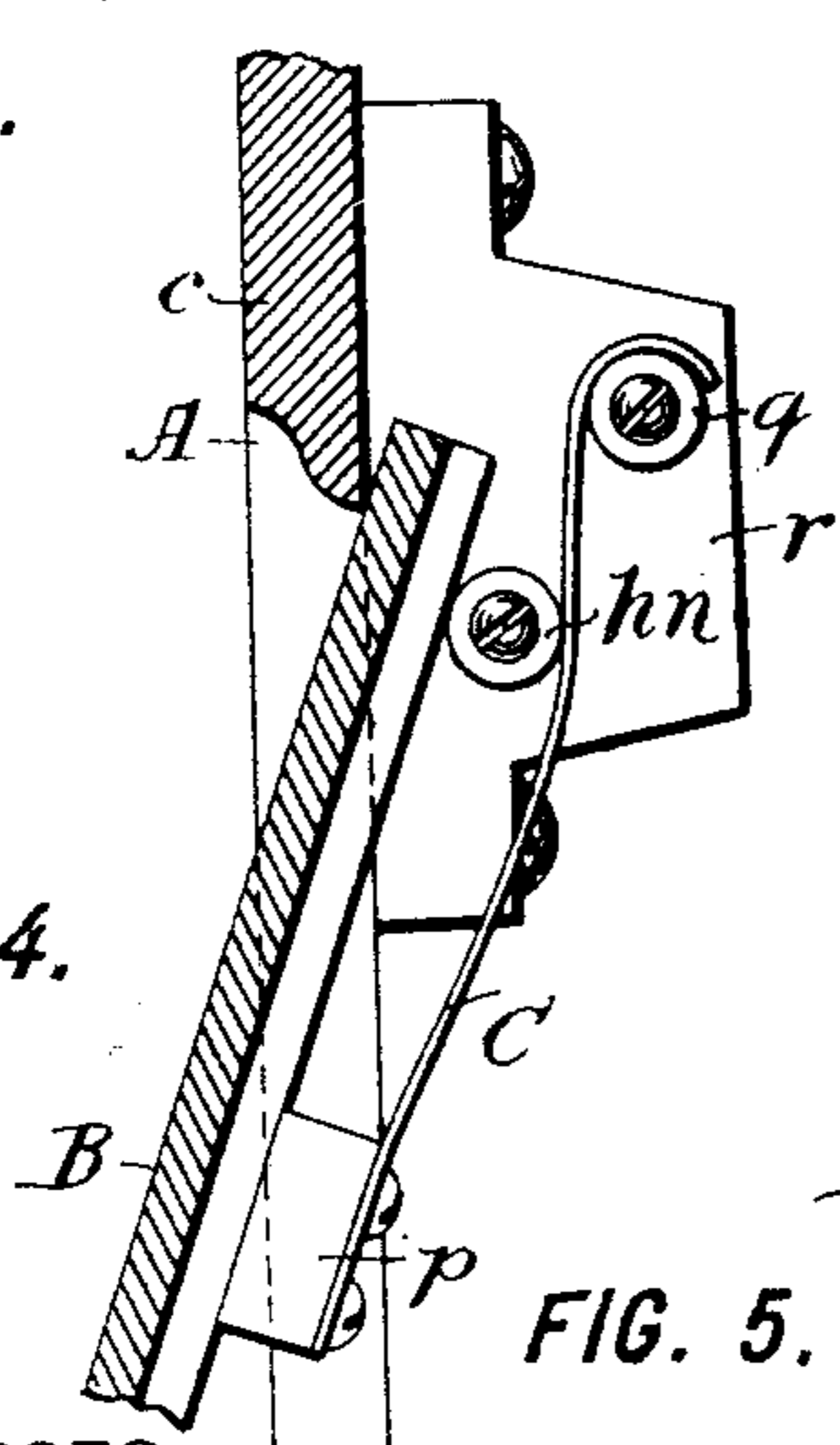
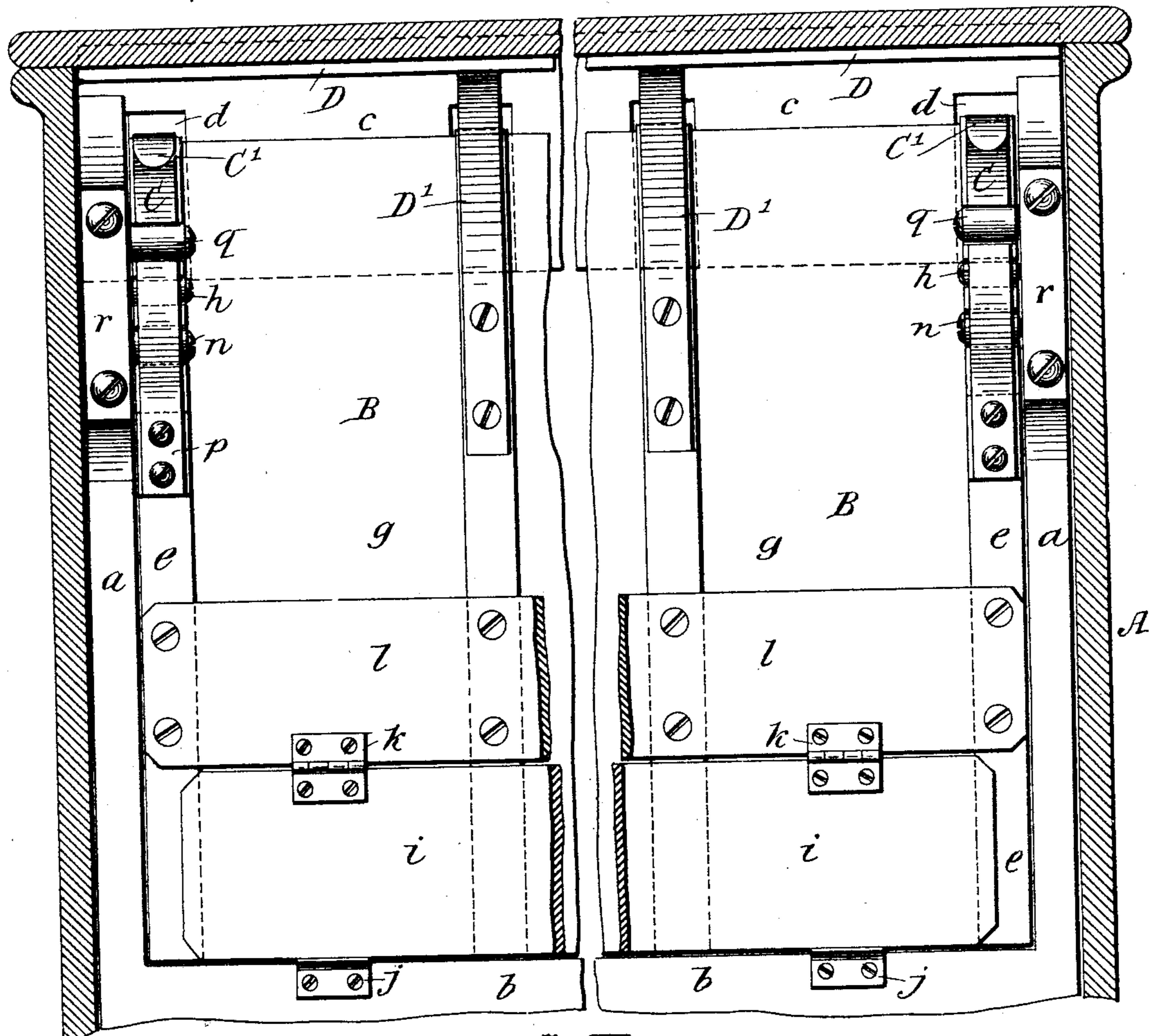
Arthur C. Oraper & Co.

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UNITED STATES PATENT OFFICE.

JOHN A. WESER, OF NEW YORK, N. Y.

MUSIC-RACK FOR MUSICAL-INSTRUMENT CASES.

SPECIFICATION forming part of Letters Patent No. 514,249, dated February 6, 1894.

Application filed May 1, 1893. Serial No. 472,477. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WESER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Music-Racks for Musical-Instrument Cases, of which the following is a specification.

This invention relates to music racks, desks or leaves of that type wherein the desk both swings out and slides down to bring it to the position for use. The desk closes into an opening in the front of the case, having a sliding connection with the top of the opening and a swinging connection with the bottom thereof, so that as the bottom of the desk is drawn out and swings downward its upper part slides down in close engagement with the upper margin of the opening.

In my patents, No. 475,369, dated May 24, 1892, and No. 484,481, dated October 18, 1892, I have shown two constructions of music desks of this character. My present invention is more particularly an improvement upon the construction shown in the later of these two patents. In that patent a leaf spring is mounted upon the case and exerts a rearward pressure against a rod or collar mounted upon the back of the swinging desk so that it tends to close the desk and hold it back firmly in position. Two such springs are preferably provided, one at each side or end of the desk.

My present invention provides an improved construction designed to overcome certain inconveniences attendant upon the construction of springs shown in said patent. According to my present invention I mount the spring or springs upon the back of the desk itself instead of upon the case, inverting them so that their free ends project upwardly within the case and behind the desk, and I mount at the ends of the case rollers or projections which are engaged by the springs, and against which the springs react in order to enable them to exert a rearward tension against the desk. The particular arrangement of these springs and rollers or projections will be fully hereinafter described.

Figure 1 of the accompanying drawings is a vertical transverse section through the front portion of the case of an upright pianoforte showing the desk closed. Fig. 2 is a similar

section showing the desk open. Fig. 3 is a sectional rear elevation showing the ends of the case and desk. Figs. 4 and 5 are transverse sections showing two modified constructions. Fig. 4^a is a horizontal section of Fig. 4.

Let A designate in general the front part of the case of a musical instrument, as for example an upright pianoforte or parlor organ, and B the music desk or leaf thereof. Or the part B may be a mere movable front to the case in instruments having a separate music rack. I will hereinafter refer to the part B as a music desk.

The case A is made as usual with an opening which is closed by the desk when the latter is in its normal position or out of use, as shown in Figs. 1 and 3. When the desk is in use it is swung forward at the bottom and brought down to the position shown in Fig. 2. To admit of this descending movement, its upper end is arranged to slide in the case at the upper side of the opening.

The case A is formed as usual with side bars *a a* at opposite sides of the music desk opening, with a cross-bar *b* beneath the opening, and with a cross-bar *c* extending across the front of the case at the top of the opening.

The desk B is constructed with a frame consisting of side bars *e e*, and a bottom bar *f*, and within this frame is held a plate or board *g*. When the desk is closed, this board *g* occupies a plane inside of the inner face of the top bar *c*, and the upper ends of the side bars *e e* of the desk lie in grooves *d d* in the back of the top bar. As the desk is swung out at its bottom and drawn down, its upper end descends, the ends of its side bars *e e* sliding down in the grooves *d*, being guided in this movement by means of two rollers *h h*, preferably felt covered, arranged at the opposite sides of the case and just back of the lower edge of the top bar *c*. These rollers bear against the rear of the side bars *e e* and form a rolling fulcrum on which the music desk may slide and rock.

The lower end of the music desk may be supported and guided in its movements in various ways, preferably by interposing a crank-arm or link between it and the lower bar *b* of the case. In the construction shown this crank-arm or link consists of a strip of

wood or other material *i* extending preferably the entire width or nearly so of the desk, and fastened by hinges *j j* to the lower bar *b*, and by hinges *k k* to the lower edge of a back bar
5 or board *l* attached to the back of the desk.

As thus far described the construction is the same as in my aforesaid patents. This construction is preferred by me for use with my present invention, but so far as my present invention is concerned, the construction
10 of the side bars *e* to slide in grooves *d* is not essential. Any other suitable guide may also be substituted for the rollers *h h*, which essentially are mere projections from the case
15 arranged to guide the sliding movement of the desk.

To hold the desk firmly in place in either its open or closed position, I provide a spring or preferably two springs *C C*, located close to
20 the opposite sides of the desk. These springs are strips or leaves of suitable spring metal plate the elasticity of which is such as to cause them to tend to assume approximately the shape shown in dotted lines in Fig. 2.
25 These springs are fastened at their lower ends to blocks *p p* mounted on the back of the desk near its opposite edges. The springs project upward from their attachment to these blocks, and are engaged by projections *n* and *q* mounted
30 on the stationary part of the case. The spring passes behind the projection *n* and in front of the projection *q*, and these projections are so placed as to bend or deflect the spring out of the position which it normally tends to
35 assume, so that it is caused to exert a tension against the desk by its reaction against these projections, the tension thus exerted being in the direction for pressing the desk backward into its normal position shown in Fig. 1. To
40 this end the projection *q* is arranged above the projection *n* and preferably somewhat farther back, as clearly shown in Figs. 1 and 2. The projections *n q* are preferably rollers, although rigid bars, blocks or pins may be
45 employed instead. These rollers, with the roller or projection *h*, are all mounted upon a block *r* of wood, which is screwed or otherwise fastened against the inner side of the case *A*, preferably to the side bar *a* thereof.

In the closed position of the desk as shown in Fig. 1, the spring exerts a very strong tension to hold it closed by reason of the fact that its fastening block *p* is in this position located somewhat close to the projection *n*,
50 so that the intervening portion of spring is very short, and consequently has considerable stiffness. As the desk is pulled forward and swung down, the desk with the block *p* swings around the center of the rollers *h*, and as the
60 block *p* moves forward the spring is bowed or strained, its stiffness being greatly increased by the provision of the upper projection *q* against which it reacts. As the desk is drawn down the spring slides or travels down against
05 the rollers *n q*. As the spring thus descends, its portion between the block *p* and projec-

tion *n* is lengthened, so that its tension is decreased, a result which is practically very desirable, since it is preferable to have the desk pressed back very strongly when closed, but
70 is not desirable to have very much pressure exerted against it when it is open.

Some means has to be provided for constituting a stop to arrest the desk when it has been drawn down to the desired position, and
75 to accomplish this result I prefer to bend the free end of the spring into a loop or hook *C'*, the length of the spring being such that when the desk reaches its extreme position, the hooked end of the spring abuts against the
80 upper projection *q*, as shown in Fig. 2, thus forming a somewhat yielding or elastic stop. The projections *n q* are preferably rollers in order to turn as the spring moves up or down
85 past them, and are preferably made of yielding and noiseless material, as rubber or felt, in order that the movements of the spring shall make no sound. In my said Patent No. 484,481, a similar leaf spring is employed
90 mounted on a block fixed to the upper cross-bar of the case, the spring projecting thence downward behind the desk, and pressing backward against a bar or roller mounted on the back of the desk. My said patent shows
95 one spring so applied, but in practice two springs are preferably arranged on opposite sides of the middle. This patented construction while a marked improvement upon anything which was previously known, is subject to the disadvantages that with some proportions of case, the top bar *c* above the top
100 of the desk when closed, is too narrow for a sufficiently strong attachment of the spring; that the bar or roller against which the spring acts requires a special mounting on the back
105 of the desk; and that in order to bring this bar or roller and the point of attachment of the spring as close together as is desirable to give the maximum tension when the desk is closed, it is necessary to either mount the
110 spring on an overhanging block or bracket, or to mount the side bar or roller on an unduly upwardly projecting mounting or block on the back of the desk. My present invention is designed to overcome these disadvantages, and to provide a construction of
115 restoring spring for the desk which shall be easier and cheaper to attach, require less complication, and shall afford if possible even greater perfection of operation. To this end
120 I have inverted the spring and fastened it to the desk instead of to the case, and mounted the roller against which it works on the case instead of on the desk; and in addition, to increase the tension and effectiveness of the
125 spring, I have provided a second roller to impart a lever action to the spring, as has been described. By this construction no projecting part is required to be attached to the rear of the desk; and the rollers *n* and *q* are mounted
130 on the same block *r* which serves for mounting the guiding roller *h* previously used, this

block being simply made larger to afford room for three rollers instead of one. By preference two springs C C are employed, arranged close against opposite edges of the desk, by which means the simplest mounting for the rollers is available; but if preferred a single spring C might be arranged at the middle of the desk by suitably supporting the rollers from the case.

Fig. 4 shows a modified construction wherein a single roller *h n* is substituted for the two rollers *h* and *n* shown in the preceding construction, the roller *q* being retained. Here the action of the spring is substantially the same as already described, except that the first flexure of the spring due to the outward swinging movement of the desk changing the relative positions of the block *p* and roller *n* in Fig. 1 does not result, since these parts do not change their positions until the downward sliding movement of the desk takes place. In this construction consequently the effective tension of the spring is wholly dependent upon its lever action due to the employment of the second roller *q*. While a single roller *h n* may be used as described, yet by reason of the fact that the frictional contact with the desk on the one side and the spring on the other would tend to revolve this roller in contrary directions, it is better to use two rollers as shown in Fig. 4^a both mounted on the same axis, the roller *h* being arranged to bear against the side bar *e* of the desk, and the roller *n* being arranged next it and receiving the tension of the spring C, which in this case is placed to one side of the bar *e*. The second roller *q* while advantageous, is not strictly essential. Fig. 5 shows a construction in which this roller is omitted. In this case the hook C' of the spring is turned toward the front, in order that it may engage the roller *n*.

In Figs. 1 and 2, I have shown the case as constructed with a movable top portion or cover D for closing a top opening *s* in the case, this cover being mounted on the desk B through the medium of brackets D' D' shown in dotted lines in Figs. 1 and 2, and in full lines in Fig. 3, so that the top of the case is opened when the desk is drawn down. This construction is claimed in my application for patent, filed November 10, 1892, Serial No. 451,535, and is shown herein only to illustrate the preferred construction of the musical instrument case to which my invention is applied.

I claim as my invention the following-defined novel features, substantially as hereinbefore specified, namely:

1. The combination with a musical instrument case having a front opening, a music desk adapted to close said opening, mounted to slide against the case at the top of the opening and to swing out at the bottom, a leaf spring mounted on the back of the desk and projecting upwardly, and a stationary pro-

jection on the case engaged by said spring and against which the spring presses forwardly, tending to pull the desk back to the closed position.

2. The combination with a musical instrument case having a front opening, a music desk adapted to close said opening, mounted to slide against the case at the top of the opening and to swing out at the bottom, two leaf springs mounted on the back of the desk at its opposite sides, and stationary projections from the opposite sides of the case behind the opposite sides of the desk, arranged to be engaged by the respective springs, and against which the springs press forwardly, tending to pull the desk back to the closed position.

3. The combination with a musical instrument case having a front opening, a music desk adapted to close said opening, mounted to slide against the case at the top of the opening and to swing out at the bottom, a leaf spring mounted on the back of the desk and projecting upwardly, and two stationary projections on the case between which said spring projects, a lower one against which the spring presses forwardly and an upper one against which the spring presses rearward, whereby the spring serves as an elastic lever tending to press the desk back to the closed position.

4. The combination with a musical instrument case having a front opening, a music desk adapted to close said opening, mounted to slide against the case at the top of the opening and to swing out at the bottom, of two leaf springs mounted on the back of the desk at its opposite sides, and stationary rollers projecting from the opposite sides of the case behind the opposite sides of the desk, one roller at each side arranged to guide the upper part of the desk adjacent to the top of the opening, and two such rollers at each side arranged one above the other to be engaged by one of said springs, a spring passing behind the lower roller and pressing forwardly against it and in front of the upper roller and projecting rearward against it, whereby the springs serve as elastic levers tending to press the desk back to the closed position.

5. The combination with a musical instrument case having a front opening, a music desk adapted to close said opening, mounted to slide against the case at the top of the opening and to swing out at the bottom, of a leaf spring mounted on the back of the desk and projecting upward with its free end bent into a hook, and a stationary projection on the case against which said spring presses tending to pull the desk back to the closed position, and arranged relatively to the hooked end of the spring to form stops to limit by their engagement the downward movement of the desk in opening.

6. The combination of case A, desk B mounted to swing out and slide down, guide rollers *h* for guiding the sliding movement of the upper portion of the desk, blocks *r r* on which

said rollers are mounted, rollers or projections n and q mounted on the same blocks, and leaf springs C C fastened to the back of the desk and projecting upward between said
5 rollers n and q so as to react against these rollers and exert a tension pressing the desk toward the closed position.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN A. WESER.

Witnesses:

GEORGE H. FRASER,
CHARLES K. FRASER.