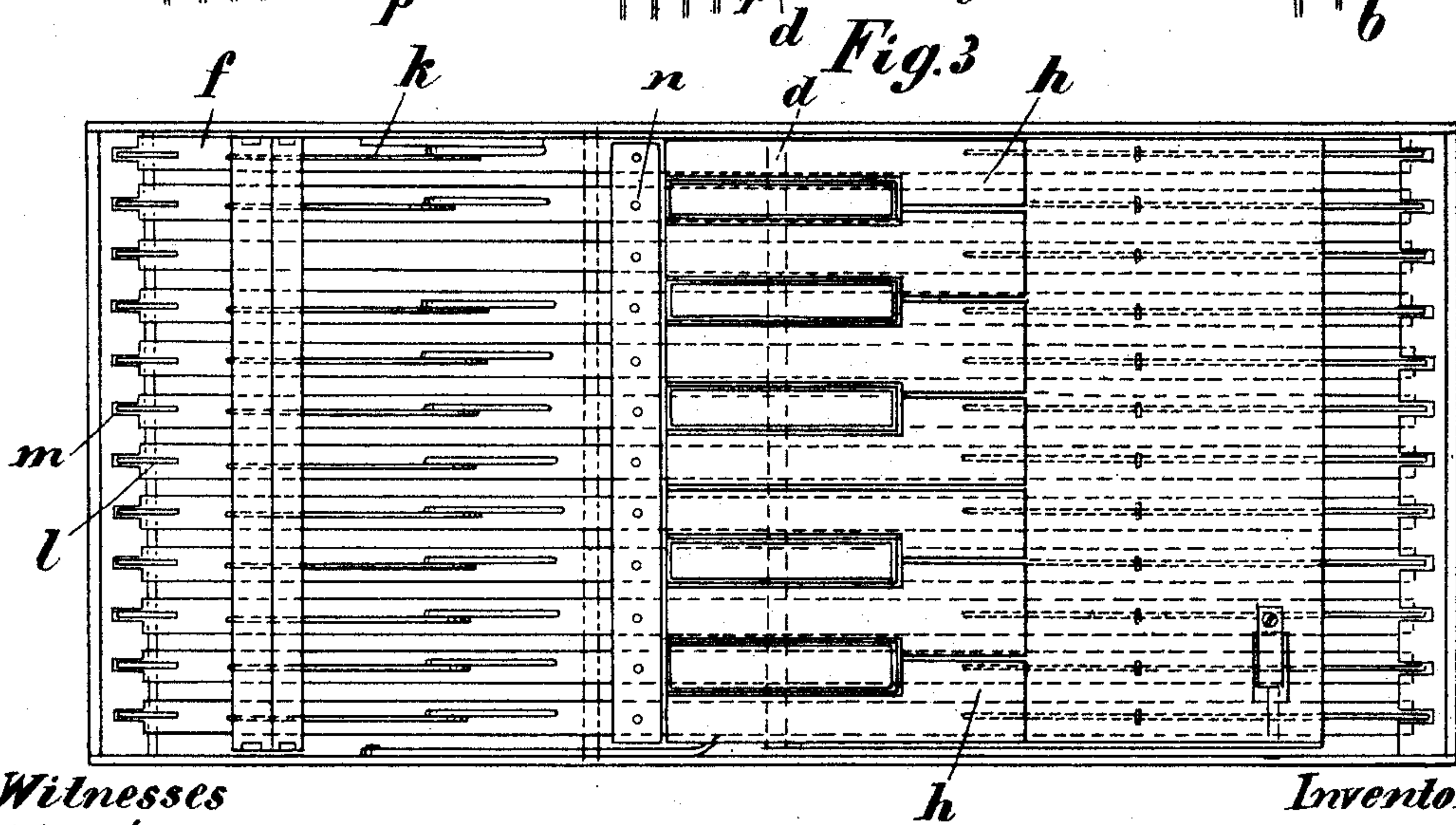
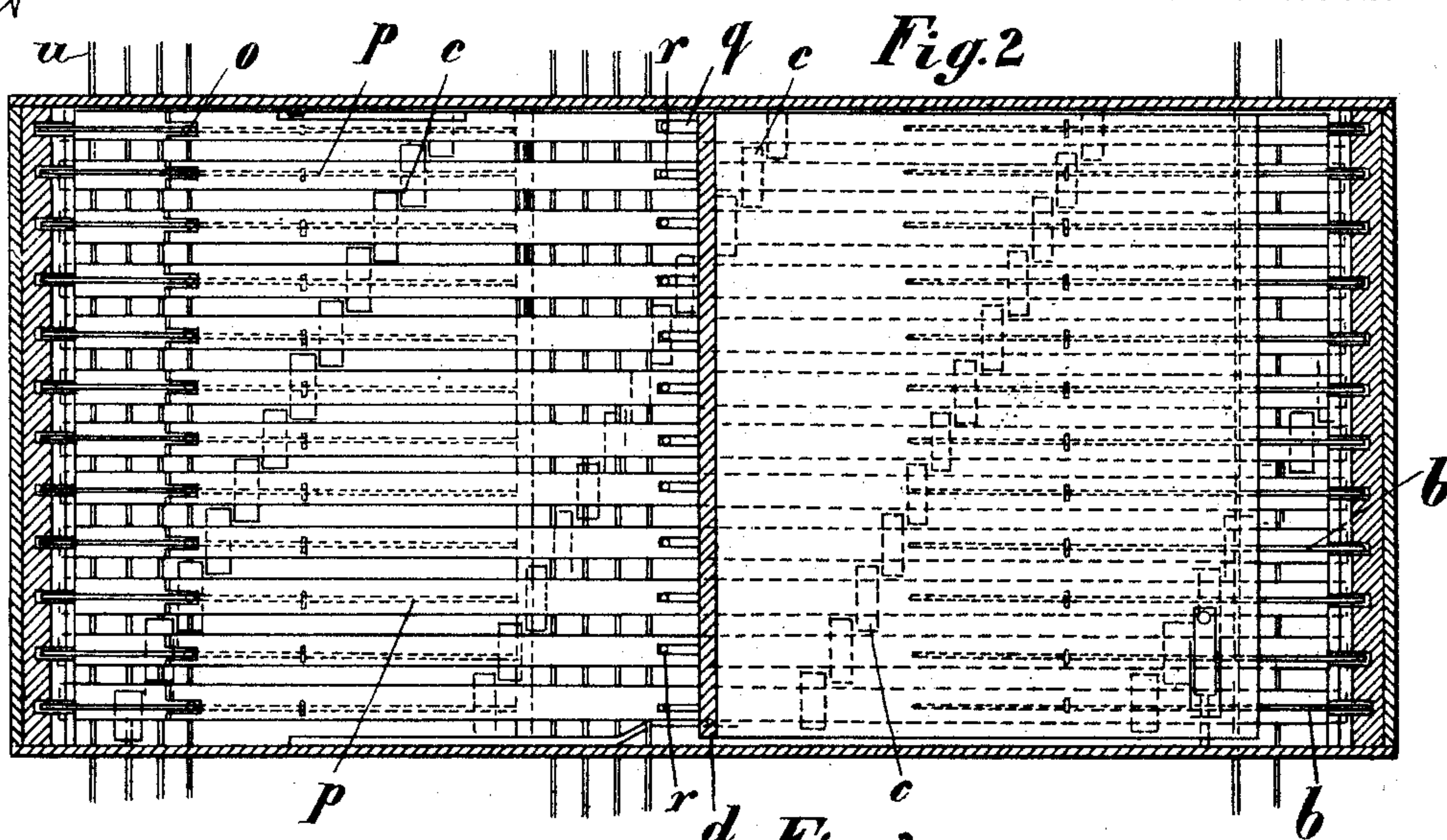
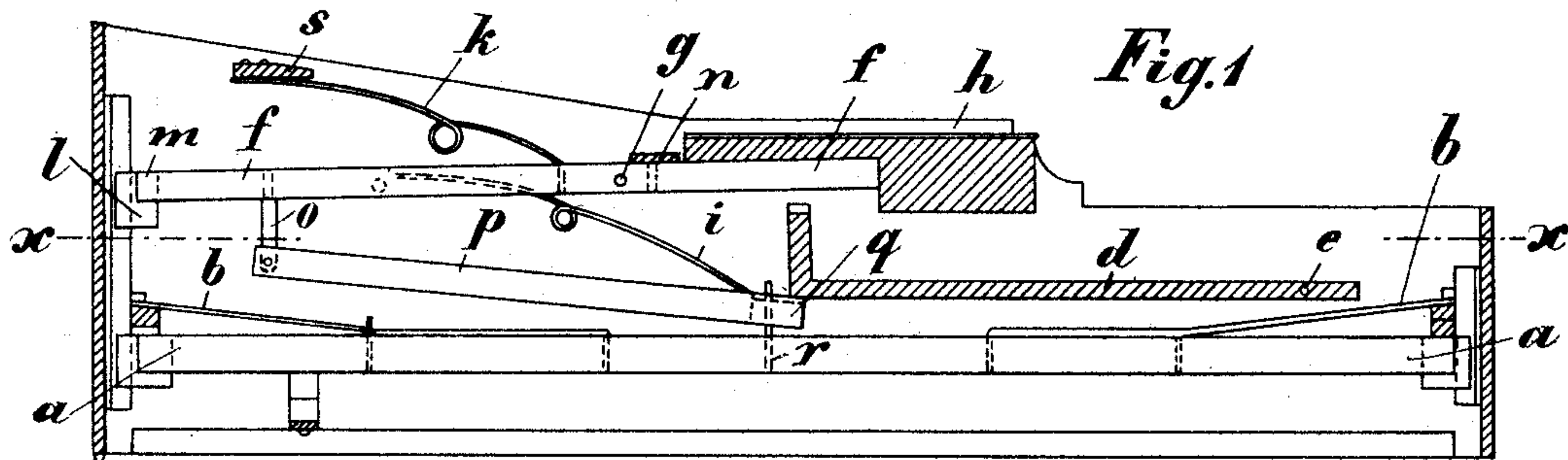


(No Model.)

P. RENK.
ATTACHMENT FOR CITHERNS.

No. 587,454.

Patented Aug. 3, 1897.



Witnesses
K. E. Detyner.
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UNITED STATES PATENT OFFICE.

PETER RENK, OF LEIPSIC, GERMANY.

ATTACHMENT FOR CITHERNS.

SPECIFICATION forming part of Letters Patent No. 587,454, dated August 3, 1897.

Application filed March 20, 1896. Serial No. 584,159. (No model.)

To all whom it may concern:

Be it known that I, PETER RENK, a subject of the King of Saxony, residing at Leipsic, Saxony, Germany, have made a new and useful invention in the improvements in apparatus with twelve sordine-boards and twelve corresponding key-boards, every one emulating the effect of its sordine-board when it is pressed down, of which the following is a full and clear specification.

This invention relates to an apparatus which when placed across a chromatically-stringed cithern or other similar musical instrument enables all the chords or harmonies that occur in music to be produced on such instrument.

The invention is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a sectional elevation of the apparatus; Fig. 2, a sectional plan taken on the line *xx* of Fig. 1, and Fig. 3 a plan corresponding to Fig. 1.

This apparatus is contained in a box-like case which can be placed over the cithern or other similar instrument transversely to the strings *u* of such instrument, as shown in Fig. 2.

a a represent twelve damper-bars hung on springs *b*. Each of these damper-bars corresponds to all the strings of the same name or note that there may be in the instrument and is furnished with a damper *c* for each of such strings. For example, the first bar *a* on the left hand corresponds to all the C's, the next to all the C-sharps, the next to all the D's, and so on. All these bars are so arranged that their dampers *c* come immediately over their respective strings. Over these bars *a* is placed a bridge *d*, which is pivoted at one end on pins *e*, fixed in the case. The other end rests on two springs *i*, arranged one at each side of the case, and which constantly tend to press the said bridge up into its normal position. (Shown in Fig. 1.)

Immediately over the bridge *d*, but with a small intervening space between it and them, are placed the key-bars *f*, which are pivoted on pins *g*, fixed in the case. These key-bars carry at one end the keys *h*. On the upper surface of these key-bars are fitted springs *k*, which when the keys are released return the bars *f* into their normal positions. In order

to prevent side play of the damper-bars *a* and key-bars *f*, the former are guided by sheet-metal plates *l* at both ends taking into notches *m*, and the latter at one end only by similar sheet-metal plates taking into the same notches, while the wooden bar *n*, furnished with small pins, serves as a guide for the other ends of the bars *f*.

Below each of the key-bars *f* is a third bar *p*, pivoted on the pin *o*, fixed to the bar *f*. The free end of this third bar *p* lies loosely on the corresponding damper-bar *a* and has at its end a slot *q*, which receives a pin *r*, fixed in the damper-bar *a*, and which pin serves as a guide for the intermediate bar *p*. The loose free end of this bar *p* projects, when in its normal position, a short distance under the bridge *d*.

It will now be understood that when one of the keys *h* is pressed down the rear end of its key-bar *f* is raised. The intermediate bar *p*, connected with the said bar, is likewise drawn up, and its loose end slides out from under the bridge, quite free of the latter. The front end of the key-bar *f* in its descent comes in contact with and pushes the bridge *d* downward, and as the loose ends of all the other intermediate bars *p* remain still under the bridge *d* the latter bears on these loose ends, and these again on the damper-bars *a*, which are therefore forced to participate in the downward motion, and consequently the dampers *c* on these bars *a* are pressed against their corresponding strings and all the strings are damped except those corresponding to the key that has been depressed, so that if the strings of the instrument are struck those of which the key *h* has been depressed sound in all their octaves, but those that have been damped remain silent.

If three, four, or more keys are pressed down at once, all the damper-bars corresponding to them are thrown out of action and all strings of the instrument having the same name as these keys sound when struck while all the strings are damped.

As the combination of the keys to be pressed down can be varied, as required, it is possible to produce every chord or harmony that can occur in music.

The cross-bar *s* serves as the point of resistance for the springs *k*, and the pins *t* serve

for guiding and holding the case of the apparatus in position on the instrument.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

The apparatus for damping the strings of citherns and other similar musical instruments, which consists of a series of keys *h*, intermediate bars *p*, damper-bars *a*, and a
10 pivoted bridge *d*, combined and operating

substantially as described with reference to the accompanying drawings.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER RENK.

Witnesses:

EDUARD LOEPER,
RUDOLPH FRICKE.