

A. STAIB.
 LOCK FLANGE FOR PIANO ACTIONS.
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1,048,752.

Patented Dec. 31, 1912.

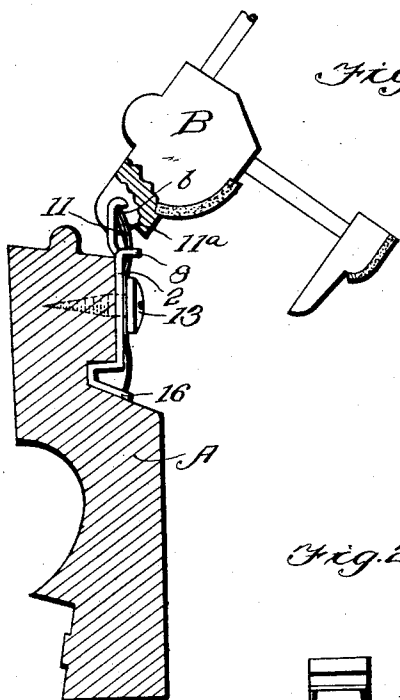


Fig. 1.

Fig. 3.

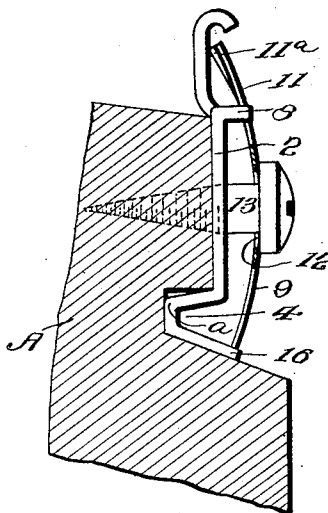


Fig. 2.

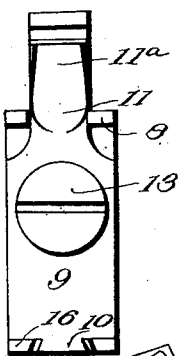
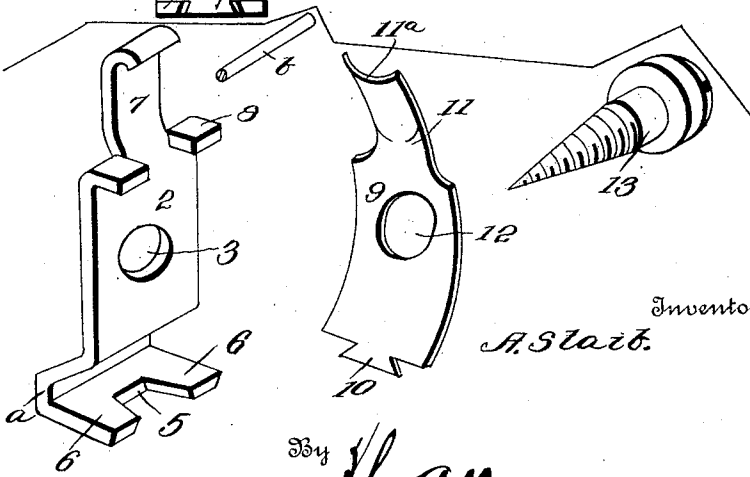


Fig. 4.



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LOCK-FLANGE FOR PIANO-ACTIONS.

1,048,752.

Specification of Letters Patent.

Patented Dec. 31, 1912.

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To all whom it may concern:

Be it known that I, ALBERT STAIB, citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Lock-Flanges for Piano-Actions, of which the following is a specification.

My invention relates to flanges for musical instruments such as pianos, organs and the like, and is applicable to actions of every sort, grand, square or upright.

The invention particularly relates to certain improvements upon the lock flange shown and described in the patent of George C. Snyder, No. 1,011,510, dated Dec. 12, 1911. In this application there was illustrated a lock flange having a straight base or body portion formed with a hooked pivot pin seat at one end and at the other end formed with an abutment. Operating upon the face of the flange was a bowed spring adapted to engage at one end with the abutment and at the other being angularly bent so as to contact with the pin and when in place hold the pivot pin clamped between the extremity of the spring and the hooked pin seat on the base. The screw for holding the flange in place passed through the spring and through the base plate itself, and as this screw was turned home it caused the bowed spring to flatten and the free end of the spring to clamp the pin in the pin seat. By reversely turning the screw, the free end of the spring would be retracted, thus permitting the pin to be removed from the pin seat. In the practical operation of this device, it has been found that the angularly bent terminal end of the bowed spring necessitates a considerable flexure of the bowed spring in order to permit the flanged end of the spring to drop below the pin seat and release the pivot pin, and that as a consequence the spring would not clamp the pivot pin as it should when the screw engaging the spring and passing through the flange was fully turned home. It was further found that with the construction before described and upon which this is an improvement, the pin could be slipped out because the surfaces of the pin seat and of the angular end of the spring were practically parallel. The pin, therefore, could not be held clamped tightly enough to hold a hammer-butt when the action was in operation.

One object of my invention, therefore, is

to improve upon the form of the base plate and of the spring so as to permit the removal of the pin upon a relatively slight recession of the spring and thus do away with the necessity of creating too great an opening between the extremity of the spring and the pin seat.

Another object of my invention is to so form the extremity of the spring clamp that when the screw is driven home and the spring clamp is flattened, the terminal end of the spring will grip the pivot pin of the member supported upon the flange and clamp it so tightly that the pin can not be removed or displaced without releasing the spring clamp from its flattened condition.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings wherein:

Figure 1 is a side elevation of my improved flange applied to the action rail of a piano and pivotally supporting a hammer-butt, the action rail being shown in section. Fig. 2 is a face view of the improved flange. Fig. 3 is an enlarged sectional view of a portion of an action rail, the spring clamp being shown partly in section and relaxed. Fig. 4 is a perspective detail view of the flange, the several parts thereof being separated from each other.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these drawings, it will be seen that like the spring clamp forming the subject matter of the application of George C. Snyder before referred to, the flange comprises a base plate and a bowed spring clamp.

The base plate designated 2 is a solid piece of metal from one end to the other but perforated at its middle as at 3 for the reception of the screw holding the flange in place upon the action rail A. One end of the base plate is formed with a U-shaped bend designated 4 which is adapted to fit within the groove or kerf *a* of the action rail A. The extremity of this angularly bent end of the base plate is cut away as at 5 to provide oppositely disposed abutments 6 for the clamping spring, as will be more fully described later. The upper end of the base plate is reduced in width to provide a relatively narrow extension 7, and

on each side of this extension at its point of juncture with the main portion of the base plate there are provided the guiding studs 8 which project out from the face of the base plate. The upper extremity of the portion 7 is bent over so as to form a hook shaped seat for a pivot pin 6 which may be the pivot pin of a hammer-butt B.

In the application of George C. Snyder above referred to, the base plate 2 of the flange lay practically all in the same plane, that is, the extension 7 and the main body of the base plate was in the same plane. As before referred to, it was found in practice that this necessitated too great a movement of the spring clamp in order to release the pivot pin, and I have found that it is necessary in order to render the construction practical that the extension 7 be slightly bowed or curved toward the inner face or back of the flange 2, this curved portion 7 extending above the upper corner of the action rail.

The clamping spring is designated 9 and consists of a strip of relatively thin resilient metal, preferably phosphor bronze. This locking member or clamp is bowed and is provided at one end with a dovetailed tongue 10 which engages between the abutments 6. The upper end of the spring 9 is reduced in width as at 11 so as to fit between the studs 8 and to extend over the reduced portion 7 of the base of the flange.

The main body of the spring 9 has the same width as the base 2 while the reduced portion 11 has the same width as the reduced portion 7 of the base. Before the spring is flattened and while it is still bowed, it is considerably shorter, measuring across the chord of the arc, than the distance between the abutments 6 and the seat 9 for the pivot pin. When the spring is flattened, however, it will have nearly the same length as the distance between said abutments and the pivot pin seat.

The extremity of the portion 11 of the clamping spring is laterally curved or bent as at 11^a, and this is a very vital feature of my invention as this inwardly curved terminal end grips the pin and holds it tight when the spring is flattened, and in fact the curved terminal end of the spring clamp, when the spring is flattened, imbeds itself into the pin and bites the pin so strongly that the pin is most rigidly held and can not be moved. This spring is not angularly bent at its upper end as are the clamping springs described and claimed in the said application of Snyder, but the end is curved, and this in conjunction with the curved portion 7 of the base plate causes the clamping spring to ride on the back of the curved part 7 as the screw is turned home but permits the spring to move down and back from the spring seat sufficiently

to permit the removal of the pivot pin upon a minimum of movement of the screw. In other words, the screw 13 which passes through the perforation 12 in the spring and through the perforation 3 into the action rail needs only to be turned to a slight degree in order to either open the lock flange to permit the removal of the pivot pin, or to cause the clamping spring to bite against the pin and lock it in place.

It is to be particularly observed that the U-shaped bend 4 forms one terminal end of the base plate 2, and that the base plate does not extend beyond this U-shaped bend as it is shown as doing in the said invention of George C. Snyder, previously referred to. By causing this U-shaped bend to form the terminal end of the base plate, I find that a better resilient action may be secured because where the base plate extends beyond this U-shaped terminal end, if the bend is compressed to any extent, it throws the lower portion of the base plate out of contact with the face of the action rail.

It is particularly to be noted that the lateral curve or bend given to the extremity 11^a of the clamping spring causes oppositely disposed portions of this terminal end to extend across the pivot pin so that when the spring is flattened, these portions will be forced into the pivot pin and will bite into it so as to hold the pin with great rigidity.

It will be seen from Figs. 2 and 4 that the tongue 10 is dovetailed in form and that the abutments 6 have beveled faces which extend inward and toward the middle of the base plate 2, and with which the dovetailed tongue engages so as to lock the clamp spring 11 in engagement with the abutments 6 and prevent any longitudinal movement of the spring, even when the screw 13 is partially removed.

What I claim is:

1. A flange for piano actions having at one end an open seat for a pivot pin, and a coacting clamping member, one end of which is free to move into a pivot-pin-clamping position across the opening of the seat, the flange and clamping member having registering perforations extending entirely through both the flange and clamping member, the extremity of the clamping member being transversely bent to provide portions extending across the line of the pivot pin, and biting against said pin when the clamping member is in clamping position.

2. A flange for piano actions having at one end an open seat for a pivot pin, and a coacting clamping member seating at one end against said flange and at the other end formed to move into position across the opening of the pivot pin seat, the flange and clamping member having registering perforations extending entirely through both

the flange and clamping member, the extremity of the clamping member being transversely curved toward the face of the flange to provide end portions extending across the line of the pivot pin and biting against the pin when the clamping member is in its pin-clamping position.

3. A flange for piano actions comprising a base member having an abutment at one end, the other end of the base member being bent to form a hook-shaped open seat for supporting a pivot pin, and a bowed resilient clamping member disposed between the abutment and the seat, one end of the clamping member engaging said seat and the other end being free as the clamping member is flattened to move into a pivot pin clamping position across the opening of the seat, the base and the clamping member having registering perforations extending through both the base and clamping member, the extremity of the clamping member being transversely bent to provide portions extending across the pivot pin, and biting upon the pin when the clamping member is in its pin-clamping position.

4. A flange for piano actions comprising a base member having an extension at one end, reduced in width relatively to the body portion of the base member, the extremity of said extension being bent to form an open hook-shaped seat for supporting a pivot pin, the other end of said base being bent to form an abutment, the said extension being bowed in a direction toward the rear face of the flange, a bowed resilient clamping member disposed between the abutment and the pivot pin seat, the opposite ends of said clamping member contacting with the face of the base, one extremity of the clamping member engaging the abutment and the other extremity being free to move along the face of the base as the clamping member is flattened and clamp a pivot pin within said seat, and a screw passing entirely through both the clamping member and the base, said clamping member being transversely curved at its pin engaging extremity to provide portions extending across the line of the pin, and biting against the pin when the clamping member is in its pin-clamping position.

5. The combination with a rail of a piano action, of a flange therefor including a base

member having an abutment at one end and having a portion projecting beyond the rail, said projecting portion being longitudinally curved in a direction toward the rail and being formed at its extremity with a seat for a pivot pin, a bowed resilient clamping member engaging at one end with said abutment on the base and at the other end movable longitudinally along the face of the base to clamp a pivot pin in place in said seat, and a single attaching means passing through both the clamping member and the base of the flange and engaging said rail for flattening the bowed clamping member against the face of the base and holding the base in position on the rail.

6. A flange for piano actions including a base having at one end an open seat for a pivot pin, the other extremity of the base being bent to form an approximately U-shaped resilient crimp, and a coacting clamping member comprising a bowed resilient strip, one end of the strip being adapted to engage with one extremity of the base, the other end of the strip being free to move as the strip is flattened into position across the opening of the seat to clamp a pivot pin therein, said base and clamping member having registering perforations extending entirely through both the base and the clamping member.

7. A flange for piano actions including a base having at one end an open hook-shaped seat for a pivot pin, the other extremity of the base being formed with oppositely disposed lateral abutments, each having a beveled inside face, and a coacting clamping member comprising a bowed resilient strip, one end of the strip being formed with a dovetailed tongue engageable between said abutments, the other end of the strip being free to move into position across the opening of the pivot pin seat as the spring is flattened to clamp a pivot pin therein, said base and clamping member having registering perforations extending entirely through both the base and the clamping member.

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

ALBERT STAIB. [L.S.]

Witnesses:

H. ABENDSCHEIN,
CHARLES F. BRAUN.