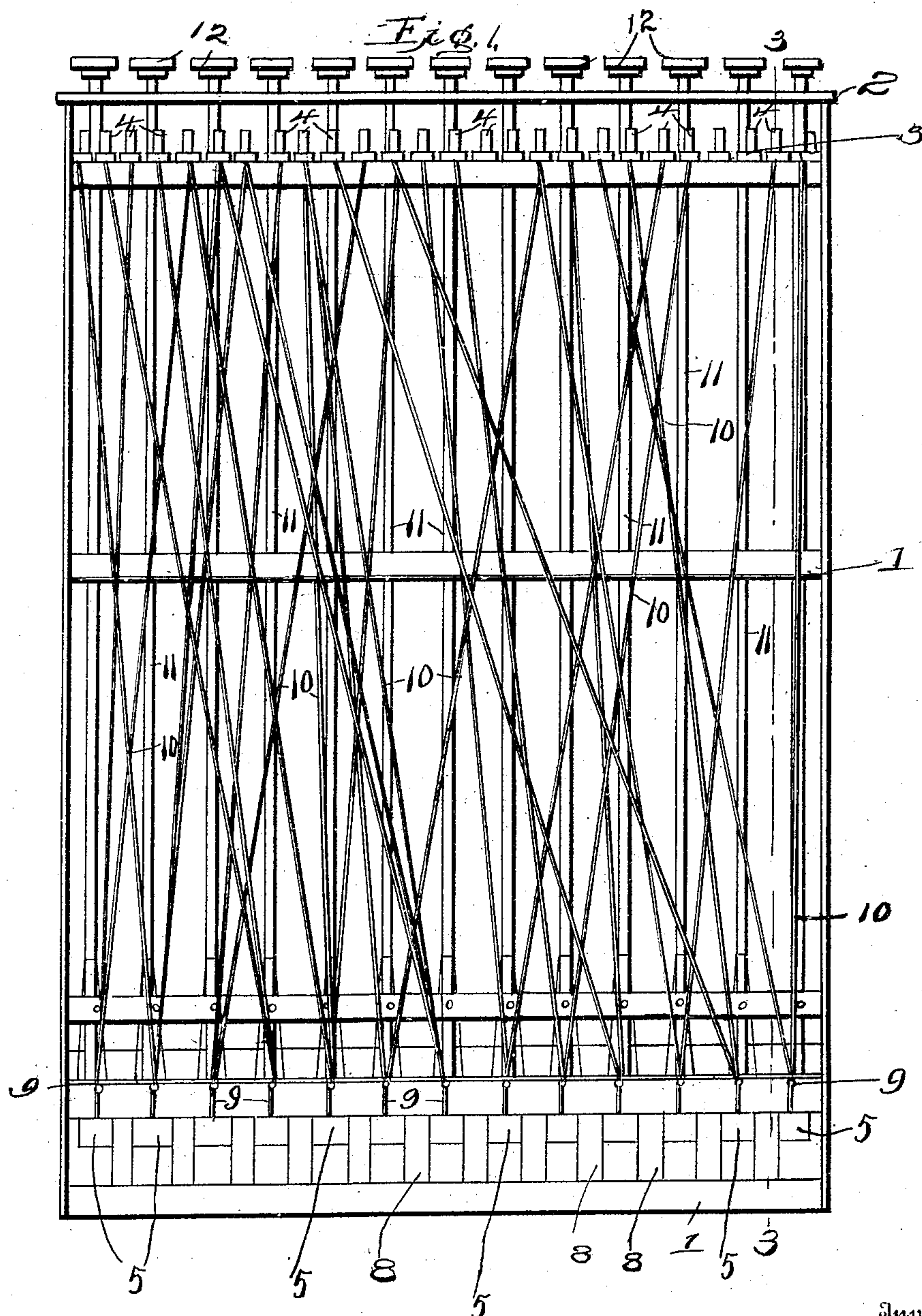


F. P. HANSON.  
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APPLICATION FILED DEC. 16, 1907.

908,404.

Patented Dec. 29, 1908.

3 SHEETS—SHEET 1.



Inventor

Fred P. Hanson

Witnesses  
J. M. Fowler for  
Edgar M. Fitchin

By Mason F. Lawrence,  
his Attorneys

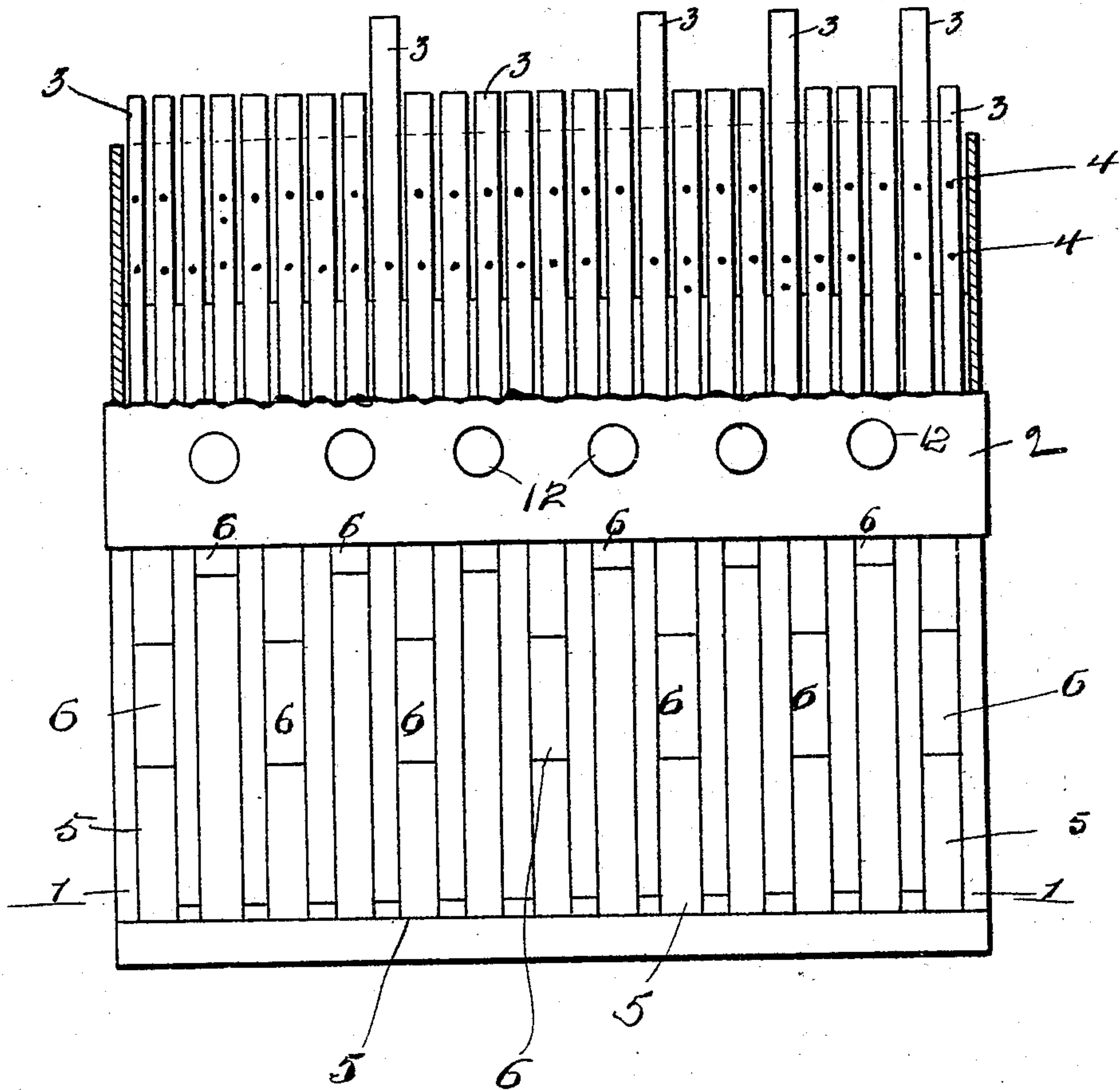
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*Fig. 2*



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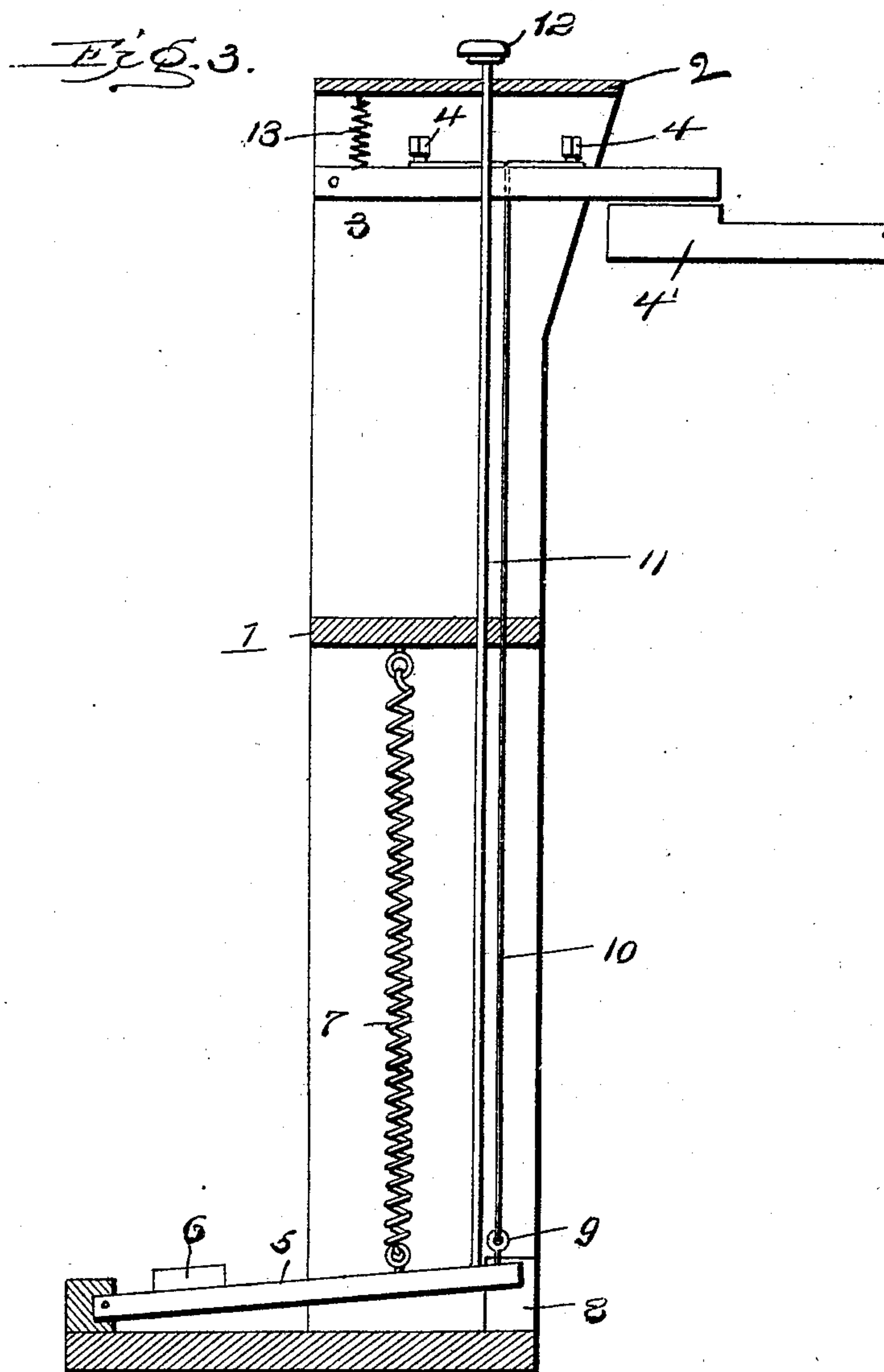
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# UNITED STATES PATENT OFFICE.

FRED P. HANSON, OF WAUPACA, WISCONSIN.

## MACHINE FOR PLAYING PIANOS.

No. 908,404.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed December 16, 1907. Serial No. 406,745.

*To all whom it may concern:*

Be it known that I, FRED P. HANSON, citizen of the United States, residing at Waupaca, in the county of Waupaca and State of Wisconsin, have invented certain new and useful Improvements in Machines for Playing Pianos, of which the following is a specification.

This invention relates to improvements in musical instrument players and is more particularly directed to mechanism for playing chords.

The object of the invention is the provision of selective mechanism for causing the striking of all of the keys of a musical instrument representing one part of one chord, at one time, by the simple manipulation of a single key or pedal.

With this and further objects in view the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawings:—Figure 1 is a rear elevation view of one embodiment of this invention. Fig. 2 is a top plan thereof, the lever springs being omitted for clearness. Fig. 3 is a vertical section taken on the plane indicated by line 3—3 of Fig. 2.

Referring to the drawings by numerals, 1 indicates a suitable frame having all connecting and bracing beams and plates necessary for supporting and strengthening the parts and provided at its upper end with a horizontal cross-plate 2. Pivottally supported in the frame 1 beneath the plate 2 are levers 3—3 which extend beyond the frame 1 in position for overhanging the keys 4' of a piano, or other musical instrument, when the frame is positioned in front of the piano and contiguous thereto. Each lever 3 is sustained in a raised position by any suitable means, as by a spring 13. Each lever 3 is provided with a number of tension bolts 4, corresponding with the number of combinations into which the levers may enter in various parts of musical chords. At the lower end of the frame 1 are pivottally mounted foot levers 5—5, each of which is provided with a foot block or pedal 6. Each lever 5 is pivoted at its outer end, and the inner end is retained in a raised condition by a spring 7 which extends upwardly therefrom and is connected to a cross-bar or plate of the frame 1. The inner ends of several levers 5 are retained against lateral play for spacing

blocks 8—8, which serve to guide the said levers in their swinging movement.

The inner ends of each of the levers 5 are provided with an eye 9 to which are connected cords 10—10. As many cords 10 are connected to one eye 9 as there are keys utilized in one part of a musical chord, and each cord 10 extends to one of the tension bolts 4. In other words, for the musical chord of the key of *c*, there will be provided for the treble clef three of the levers 5, the first of these levers being connected with cords 10 extending to levers 3 overhanging the keys 4 of the piano, which are keys *c e g c*; and the second lever 5 of the *c* musical chord is connected with levers 3 which overhang keys 4 which are the keys *c f a c* of the piano; and the third lever 5 of the *c* musical chord will be provided with cords 10 connected with lever 3 overhanging the keys 4 which are the *e a* and *c* keys of the piano. Thus when it is desired to play the *c* chord in the treble clef the first lever 5 is struck which gives the harmony of the keys *c e g c*, and then the second lever is struck producing the harmony of *c f a c*, and then the third lever is struck producing the minor strain of *e a c*, and then the first lever is struck again returning to the original harmony of *c e g c*. For the bass clef the levers 5 are correspondingly arranged, except, of course, that the cords 10 are depressed for engaging the proper levers 3, as for instance, in the *c* chord of the bass clef the first lever will be provided with cords 10 extending to levers 3 which overhang the keys 4 which are the *c*, *g* and *c* keys of the piano; the second lever 5 of the bass clef is provided with cords 10 connected with levers 3 overhanging the keys 4 which are the keys *c f* and *c* of the piano; and the third lever 5 of the bass clef is provided with cords 10 which are connected with the levers 3 overhanging the keys 4 which are the *e a* and *c* keys of the piano. Thus in playing the chord, the operator will depress the first lever *c* of both the treble and the bass clef, giving the harmony of *c g c* of the bass clef and *c e g c* of the treble clef. The operator will next depress the second set of levers giving the harmony of *c f c* of the bass clef and *c f a c* of the treble clef. And then the third set of levers is depressed, giving the minor harmony of *e a c* in the bass clef and *e a c* in the treble clef, and for finishing the chord the operator will depress



the first levers 5 of the bass and treble clef. While I have taken for illustration the ordinary 4 note chord, obviously the selective mechanism consisting of the cords 10 extending from several levers 5 to the required levers 3 may be arranged for manipulating a six note chord or any other chords that are found desirable.

The present invention is adapted especially for being manipulated by the feet of the operator so that he may have his hands free for playing some other instrument, but for the purpose of facilitating manipulation by the hands of the operator, I provide a rod 11 for each lever 5, each of the rods 11 extending from a point above the plate 4 downwardly through the frame 1 into contact with its respective lever 5. Preferably, each rod 11 is formed with an operating button or cap 12 at its upper end.

Obviously, while I have described separate levers 5 for the bass and treble clefs, it would only require additional cords 10 to connect one of the levers 5 for the entire stretch of both bass and treble, so that the complete harmony of one part of a chord may be produced by the depression of a single lever. In other words the selective mechanism comprised of the cords 10 and connected parts may be arranged for manipulating any desired number of keys 3 from a single lever 5.

The machine shown is capable of playing in all of the major keys according as it is set to the piano keyboard. The machine may be moved from one position to another along the keyboard in order to operate upon the entire keyboard or any part as may be desired.

I claim:

1. In a mechanism of the class described, the combination, with a frame, of key striking levers pivotally mounted therein, tension bolts carried by said levers, cords connected with said tension bolts, and operating levers for said key striking levers, each of the operating levers being connected with a plurality of said cords, the cords connected to any one operating lever extending to those key striking levers which correspond to certain harmonizing notes of a part of a musical chord, springs for returning the operating levers and the key striking levers to their normal position, and independent lever operating means, said means comprising a series of rods connected with the operating levers and extending to a point above the key striking levers.

2. In a mechanism of the class described, the combination, with a frame, of key striking levers pivotally mounted therein, operating levers for actuating the key striking levers, selective mechanism for each of said operating levers connecting the same with a plurality of the key striking levers corresponding to harmonizing notes of a part of a musical chord, and additional manually operative means extending from said operating levers in position for being engaged by the fingers of the operator.

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

FRED P. HANSON.

Witnesses:

O. G. ANDERSON,  
L. F. SHOEMAKER.