Richards, Sofge & Richards,

Stringing Pianos.

No. 99,708. Patented Feb. 8, 1870.

fig. 1.

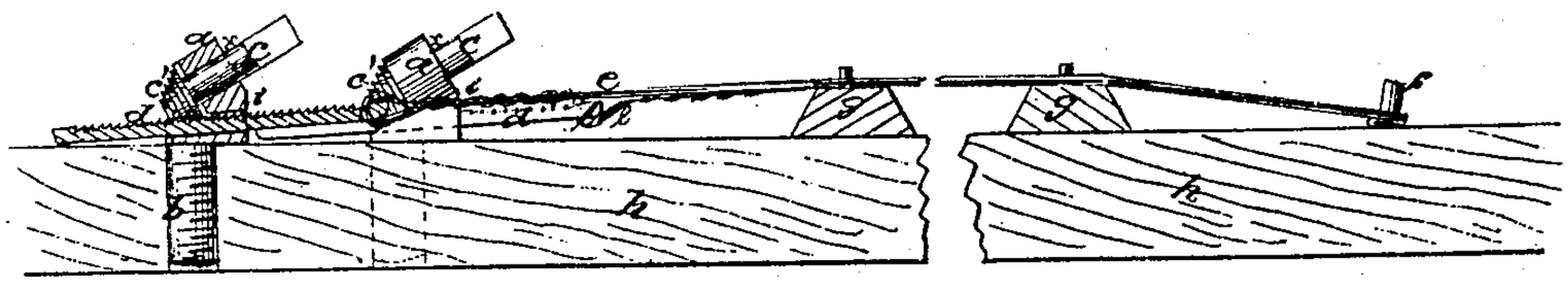
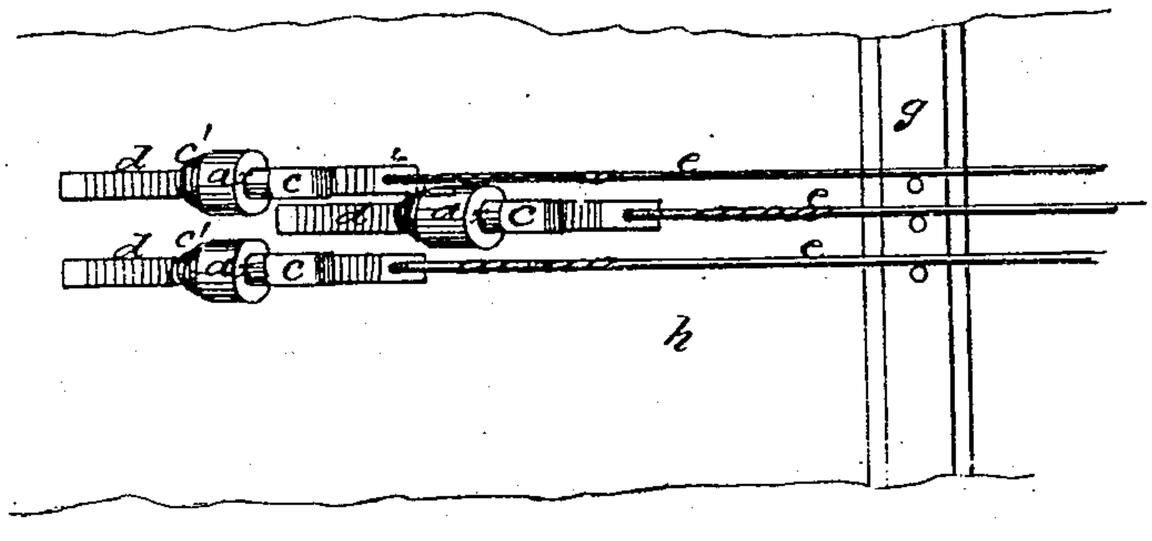


fig. 2.



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Letters Patent No. 99,708, *dated February* 8, 1870.

IMPROVEMENT IN STRINGING AND TUNING PIANO-FORTES.

The Schedule referred to in these Letters Patent and making part of the same

We, WILLIAM J. RICHARDS, FERDINAND M. SOFGE, and JOSEPH H. RICHARDS, of the city of La Fayette, county of Tippecanoe, and State of Indiana, have conjointly invented a certain new and useful Method of Stringing and Tuning Piano-Fortes, &c., of which the following is a specification.

The object of our invention is to secure a more reliable fastening for the strings of the piano-forte, and, especially, a better mode of regulating their tension, in which consists the operation of tuning.

The old plan, copied from the ancient harp, and still in universal use, employs round iron pins, passing through the cast-iron plate in a perpendicular direction, without contact with the plate, and fastening into the wood beneath, but extending far enough above the plate to admit of wrapping the wire. The only means of regulating the tension is by turning the iron pins. But the defects of the plan are many, three of which stand prominent, first, the difficulty of stopping the pin at the precise point desired, when once it has been moved; second, the flexibility of the pin, as also, of the tuning-hammer; and third, the inevitable shrinkage and wearing of the wood, which is the only force holding the pins, and which, not unfrequently, leaves the pin so loose as to render further tuning impossible.

Our new method entirely dispenses with the iron pins, as a means of fastening and tuning, and reference is now had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a side view of our invention, and

Figure 2 is a top view of the same.

Both are marked by letters corresponding with those used herein.

Instead of the iron pin of "the old plan," we insert, through the cast-iron plate, into the wood *h*, the metallic screw *b*, with its head reaching to *a*.

Through the head *a*, at *i*, is a hole, drilled parallel with the upper surface of the piano-forte, which hole receives the rod *d*, which rod is made with small cogs on its upper surface, and to which is attached, at *l*, the wire string *e*.

A second hole is drilled through the head *a*, at *x*, so as to receive, at an angle of about forty-five degrees, the shaft *c*, upon the lower end of which is cut the conical screw *c'*, the thread of which is cut left, and perfectly fits into the cogs on *d*.

By the application of a key to the shaft *c*, which is made square, and turning to the right or left, the conical screw *c'* is found readily acting on the cogged rod *d*, carrying forward or backward at will, thus gradually and with ease regulating the tension of the wire string *e*, which performs the tuning in the most perfect and durable manner.

The letters *g g* designate the ordinary bridges, over which the wires pass, and are held at the other end by small iron pegs *f*, firmly fixed in the cast-iron plate. These pegs are merely a means of fastening, and perfectly perform their office.

It is also anticipated, in our invention, that the head *a*, on *b*, may be double in its construction, so as to receive two instead of one of the aforesaid rods *d*.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of the rack *d* with the conical screw *c* turning freely in the head *a b*, as and for the purpose set forth.

2. The head *a b*, having an oblique bearing for the screw *c*, as and for the purpose described.

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Witnesses:

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