J. M. Branig,

Tuning Pin.

No. 104,417. Patented June 21, 1870.

Fig. 1.

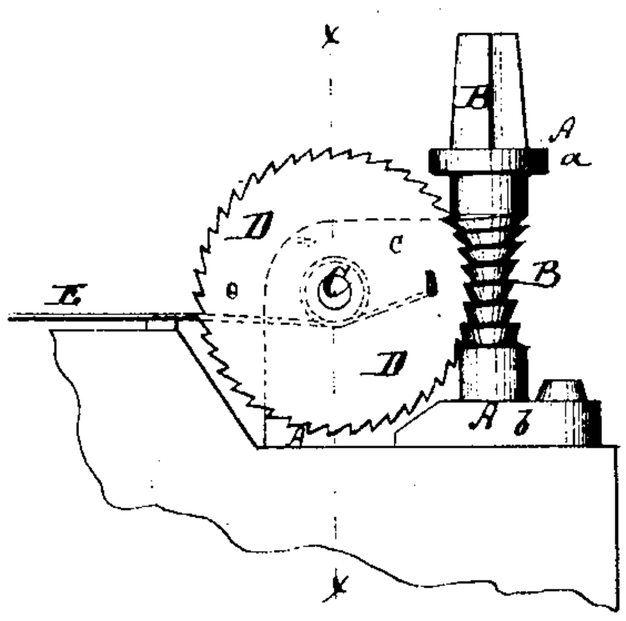


Fig. 2.

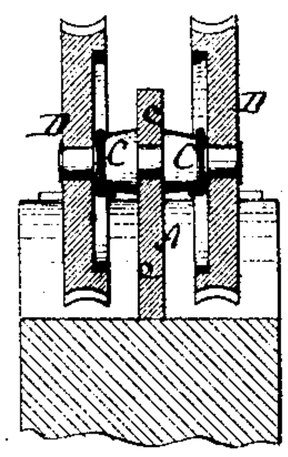
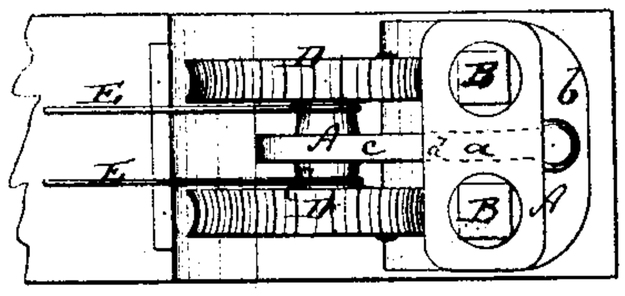


Fig. 3.



Witnesses:

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JULIUS M. BRANIG, OF NEW YORK, N. Y.

Letters Patent No. 104,417, *dated June* 21, 1870.

TUNING-PIN FOR PIANOS.

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

To all whom it may concern :

Be it known that I, JULIUS M. BRANIG, of the city, county, and State of New York, have invented a new and improved Tuning-Pin for Piano-Fortes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a side view of my improved tuning-pin.

Figure 2 is a vertical transverse section of the same taken on the plane of the line *x x*, fig. 1.

Figure 3 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention has for its object to improve that class of tuning-pins for piano-fortes which are operated by means of screws and worm-wheels, and more particularly to strengthen such pins, and to lessen the cost of their construction.

The invention consists, first, in making the screws of such form that all or most of its threads will at once be in contact with the worm-wheel, to insure strength and firmness of connection.

The invention consists, also, in so constructing the brackets or frames which hold the arbors of the worm-wheels, that two wheels and pins may be arranged on each bracket or frame.

Finally, the invention consists in making that part of the arbor which receives the cord, of conical form, so that the cord will be crowded against the wheel, to produce friction and prevent slipping.

A, in the drawing, represents the frame or bracket of the screw and worm-tuning pin.

B B are two vertical tuning-pins, hung in the frame A, which has horizontal plates, *a b*, at the ends, for holding said pins.

A forward ear, *c*, projecting from the vertical main shank, *d*, of the frame A, forms the support of a fixed horizontal arbor, C, which, at its ends, holds two worm-wheels, D D, that turn loose on the arbor.

The pins B are provided with screw-threads, meshing into the teeth of the wheels D.

The threaded portion of each screw B is of double conical form, or concave at its face, to fit snugly against a section of the wheel, and have all its threads in contact therewith. The slipping of the wheel on the screw is thus effectually prevented.

The arbor C, between the ear *c* and each wheel D, is of conical form, being smallest near the wheel, for crowding the cords E against the latter.

The end of each cord is secured to the wheel D by being inserted through an aperture of the same, or otherwise.

By turning the pin B, the wheel is turned to stretch or slacken the cord. Much material is saved by hinging two wheels to each frame A.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The screws B, provided with the concave threaded portions, to fit snugly against the edges of the worm-wheels, as set forth.

2. The frame A, so constructed with a projecting lip *c* that it will serve to support two wheels, D, substantially as herein shown and described.

3. The arbor C, made conical near each wheel D, to crowd the cord against the wheel, as specified.

The above specification of my invention signed by me this 10th day of May, 1870.

JULIUS M. BRANIG.

Witnesses:

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