

No. 744,104.

PATENTED NOV. 17, 1903.

J. A. RATH.
HARP.

APPLICATION FILED APR. 25, 1903.

NO MODEL.

Fig. 1.

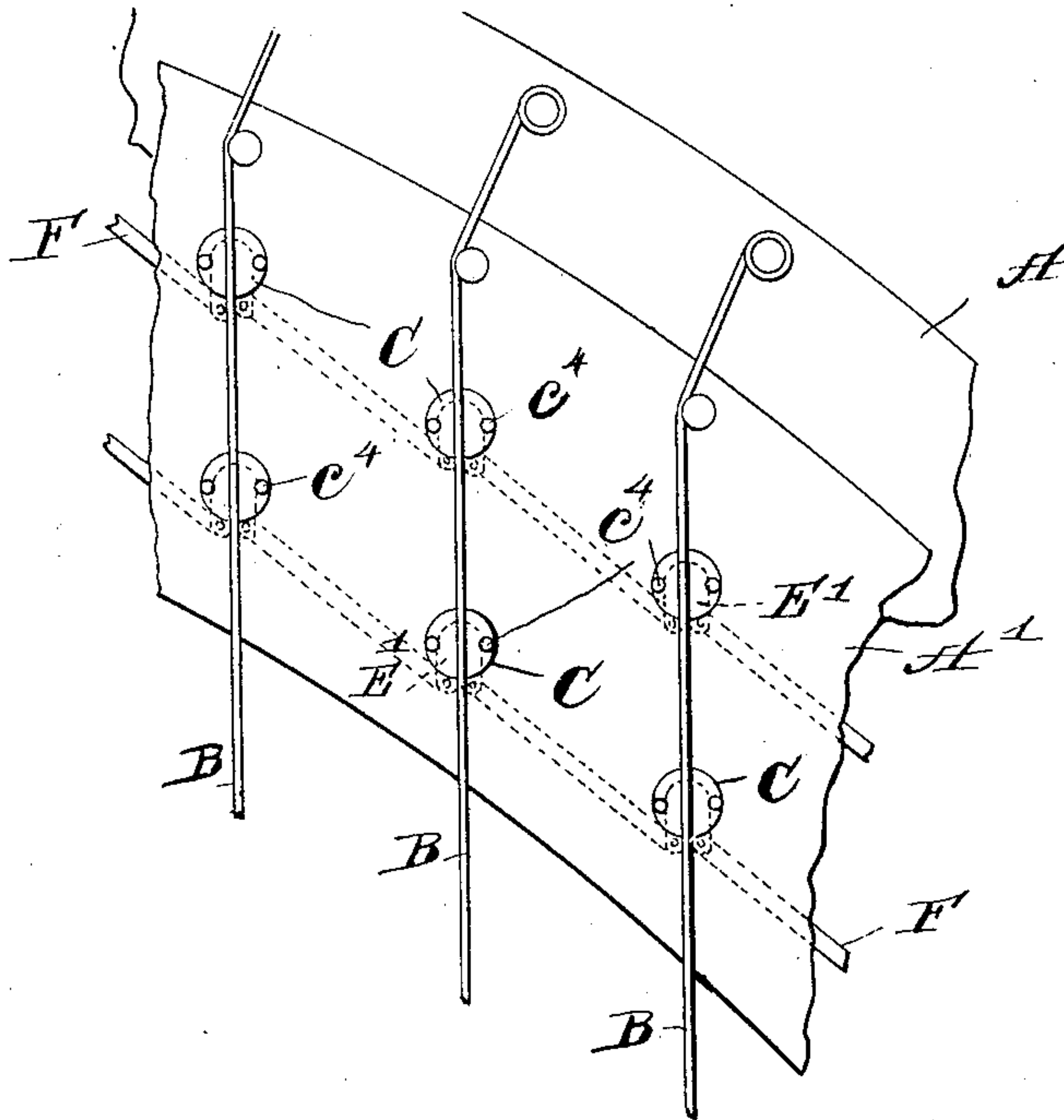
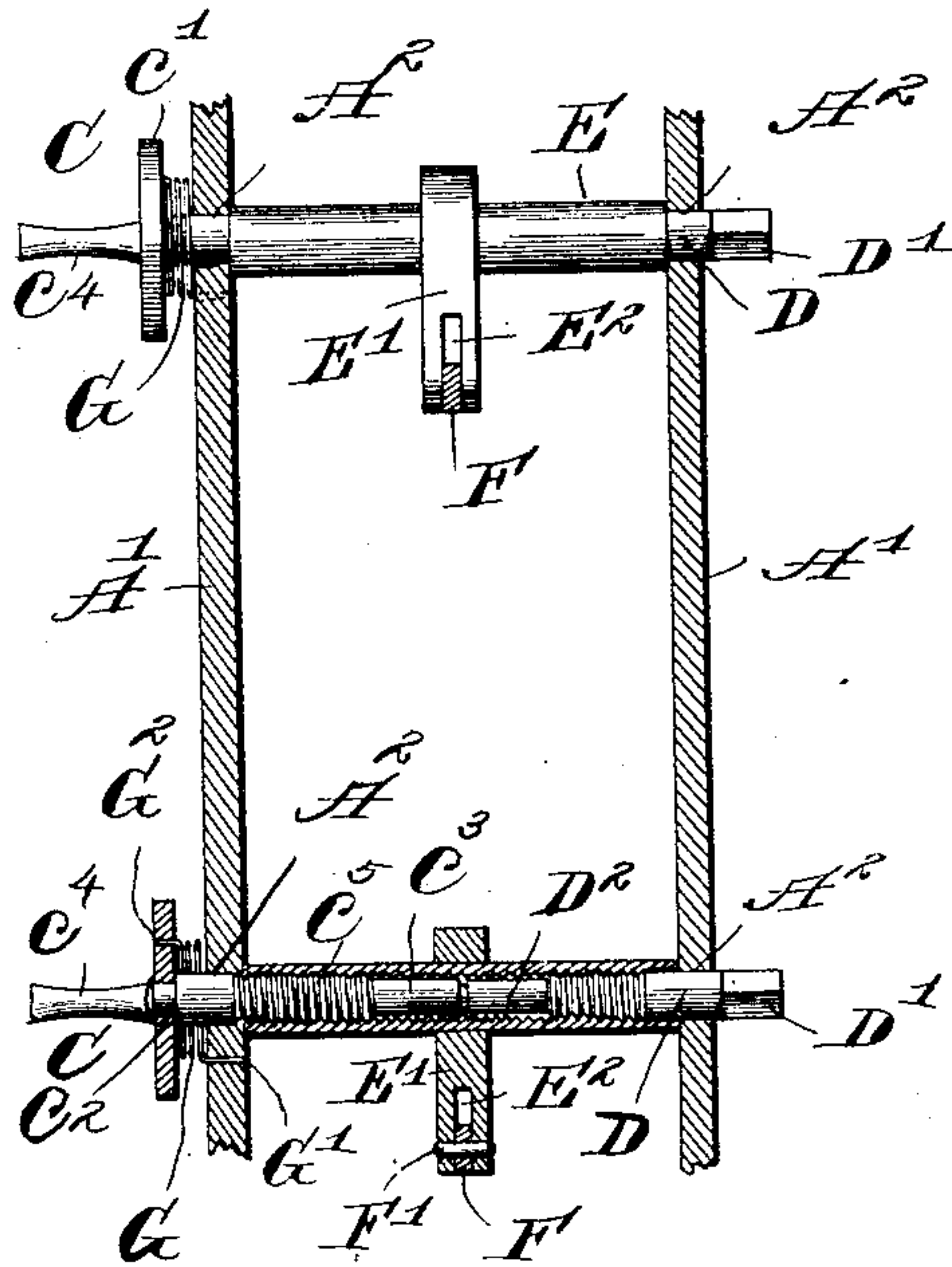


Fig. 2.



WITNESSES.

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HARP.

SPECIFICATION forming part of Letters Patent No. 744,104, dated November 17, 1903.

Application filed April 25, 1903. Serial No. 154,259. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. RATH, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Harps, of which the following is a specification.

This invention relates to the mechanical construction of a harp, and refers particularly to an improved device for "sharpening" the strings of the instrument.

One of the objects of the invention is the production of a sharpening mechanism wherein the sharpening-forks, though readily adjustable in position relatively to their respective strings, are not easily displaced.

A further object of the invention is the provision of an improved means for taking up all vibration of the parts of the sharpening mechanism and for automatically restoring said mechanism to a position of rest when it is released from action.

A further object of the invention is the improvement of the sharpening device in general construction and in detail.

In the accompanying drawings, Figure 1 is a detail view, in side elevation, of the neck of a harp, showing the harp-strings and the sharpening-forks. Fig. 2 is a transverse sectional view through the side plates of said neck, showing the means for locking said sharpening-forks to their rotative sleeves and for automatically restoring said forks to a normal position and preventing vibration of the parts.

In the embodiment herein shown of this invention, having reference to the drawings, A refers to the neck of a harp of common construction, having the side plates A' provided with coinciding openings A² at suitable intervals throughout the length of said side plates.

The strings B are secured to the harp in the usual manner and near their upper ends pass through the sharpening-forks, as will next be more fully explained. These sharpening-forks C comprise a disk C', having a central opening C² for receiving a stem C³, fixed with relation to said disk, also having two pins C⁴ extending from the face of said disk, from diametrically opposite points thereof. The stem C³ is provided with the screw-threads C⁵ and at its outer end is reduced in diameter.

A locking-screw D is provided with a squared head D' to receive a key or wrench (not shown) and has a point D² of reduced diameter. An internally-screw-threaded sleeve E is adapted to lie between the side plates A' and receives in its opposite ends the stem C³ of the sharpening-fork C and said locking-screw D, respectively. About midway of its length the internally-screw-threaded sleeve E is provided with a crank-arm E', fixed to said sleeve, which crank-arm has a slot E² at its outer end. The crank-arm on each sleeve provides means for connecting adjacent sharpening devices together in a simultaneously-operated series, and to this end I have provided the links F, which links enter the slots E² of said crank-arms and are pivotally connected with said arms by means of the pivot-pins F', passing through suitable openings in said links and said crank-arms.

A coil-spring G surrounds the stem C³, the ends of said spring lying in the openings G' and G² in one of the side plates A' and the disk C', respectively, to hold said spring from displacement, also to impart a rotative tendency to the disk C' to restore said sharpening device to a normal position.

In practice the harp-neck is provided with the usual double series of sharpening-disks, the supporting-sleeves E of the sharpening devices of each series being rotatively interconnected by means of the links F. The sharpening-disks of each series are rotated in any suitable manner, as by a pedal (not shown) at the base of the harp, and the pins C⁴ are thereby brought into contact with opposite sides of the strings B, reducing the effective length of said strings and raising their musical tone accordingly. The tension of the spring G returns the sharpening devices to their normal position, wherein the pins C⁴ are removed from contact with the strings B.

To put the sharpening-fork C in place, the spring G is slipped over the stem C³ of said fork and said stem inserted through one of the openings A² in the side plate A' into the end of the internally-screw-threaded sleeve E. By rotating the sleeve E on its axis the screw-threads on the body of the stem C³ are caused to engage with the corresponding screw-threads of the sleeve E, and the fork C is thus drawn into its proper position. As

the disk C' is caused to approach the plate A' the ends of the spring G are guided into the openings G' and G². The locking-screw D is next turned into the opposite end of the sleeve E until the forward end of said screw engages the corresponding end of the stem C³, frictionally locking said stem C³, the sleeve E, and the locking-screw D together.

To adjust the position of the sharpening-fork C with relation to the crank-arms E', the locking-screw D is unscrewed and the stem C³ turned within the sleeve E. When the stem C³ has been placed in the desired position with reference to said sleeve, it may be locked in such position by tightening the locking-screw D. As hereinbefore stated and as will be readily seen, the tension of the coil-spring G tends not only to oscillate the sharpening-fork C to its normal position out of engagement with the strings B, but also tends to prevent any rattle caused by a vibration of the harp-frame between the sharpening device and the plates A'.

It is apparent that many changes may be resorted to in the embodiment of this invention without departing from the spirit and scope thereof. Wherefore I desire to have it understood that I do not limit myself to the form here shown.

I claim as my invention—

1. In a sharpening device for harps, in combination, a sharpening-fork; means for oscillating said fork; and a spring directly connected with said fork and adapted to restore the fork to its normal position.

2. In a sharpening device for harps, in combination, a sharpening-fork comprising a disk carrying two string-engaging pins; means for supporting said fork; means for oscillating said fork; and a spring having an engagement with said disk and said supporting means, adapted to restore the fork to its normal position.

3. In a harp, in combination, a harp-neck; a sharpening-fork comprising a stem, a disk and two string-engaging pins, said stem being rotatably supported in said harp-neck; means for oscillating said fork; and a spring connected with the sharpening-fork adapted to restore said fork to its normal position.

4. In a sharpening device for harps, in combination, a sharpening-fork having a screw-threaded stem; an internally-screw-threaded sleeve for said stem; and a locking-screw for frictionally holding said stem and said sleeve together.

5. In a harp, in combination, a harp-neck comprising two side plates; a sharpening-fork having a screw-threaded stem, which fork is rotatably supported in one of said side plates; an internally-screw-threaded sleeve for the stem of said fork; and a locking-screw for frictionally holding said stem and said sleeve together, said screw being rotatably supported in the other of said side plates.

6. In a sharpening device for harps, in combination, a sharpening-fork having a screw-threaded stem; an internally-screw-threaded sleeve for said stem; a locking-screw for frictionally holding said stem and said sleeve together; and a crank-arm fixed to said sleeve for oscillating said sleeve.

7. In a sharpening device for harps, in combination, a sharpening-fork having a screw-threaded stem; an internally-screw-threaded sleeve for said stem; a locking-screw for frictionally holding said stem and said sleeve together; a crank-arm on said sleeve for oscillating the same; and a spring having a direct engagement with said fork to restore it to its normal position.

JOHN A. RATH.

Witnesses:

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M. J. KNIGHT.