No. 896,382. PATENTED AUG. 18, 1908.

A. B. HANSON.

PIANO STOOL.

APPLICATION FILED JUNE 3, 1907.

FIG. 1.

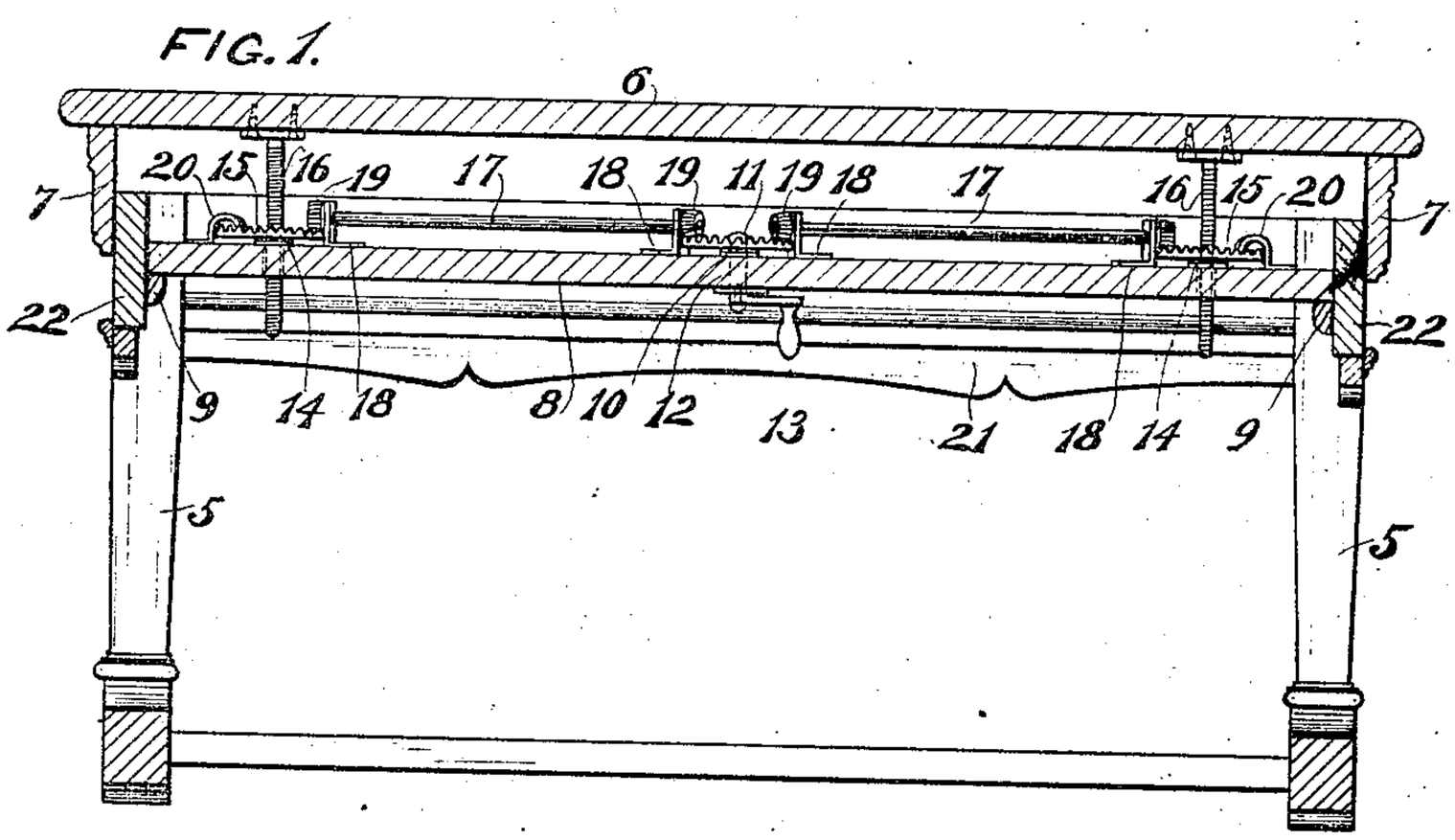


FIG. 2.

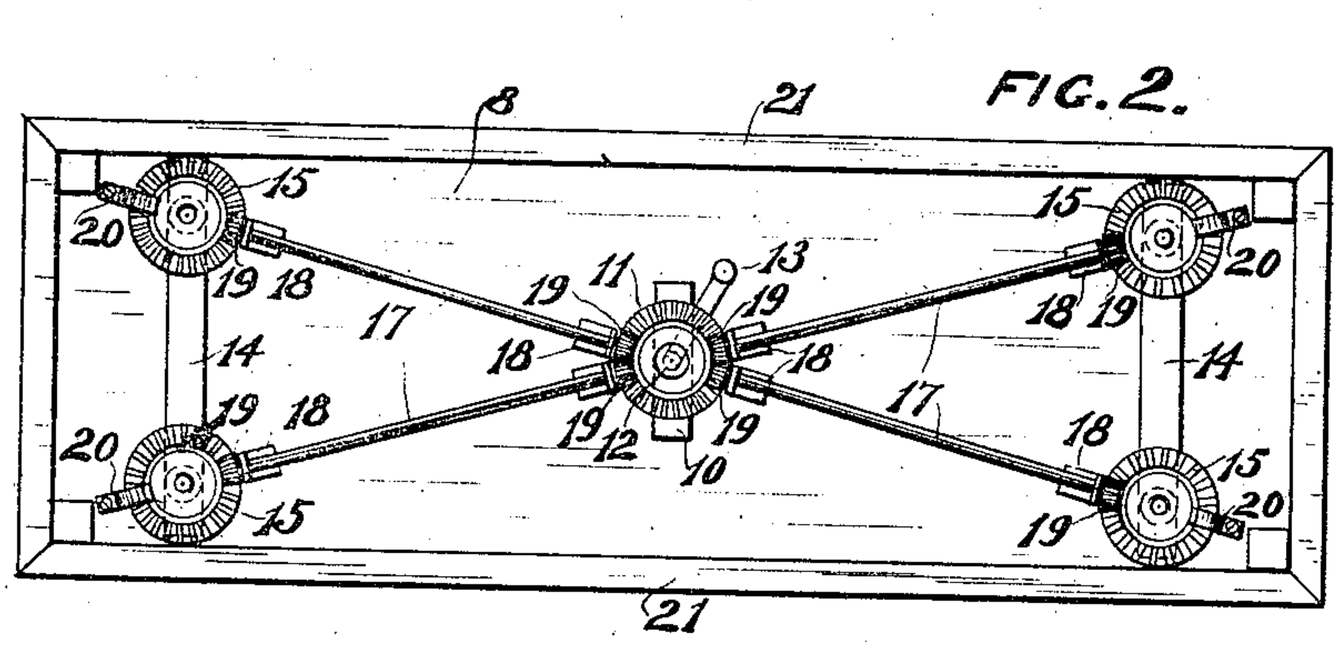
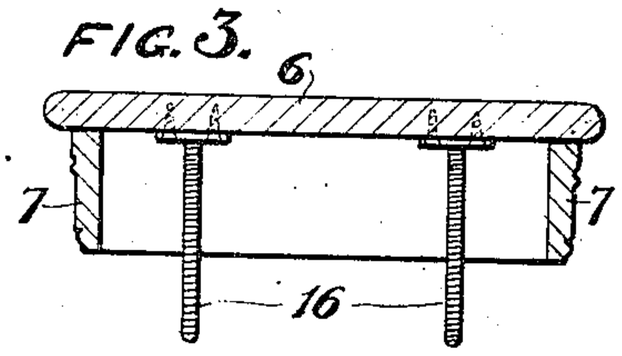


FIG. 3.



WITNESSES.

L. C. Spencer

Anna F. Schmidbauer

INVENTOR

Anna B. Hanson,

By Benedict, Morsell & Caldwell.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ANNA B. HANSON, OF MILWAUKEE, WISCONSIN.

PIANO-STOOL.

No. 896,382. Specification of Letters Patent. Patented Aug. 18, 1908.

Application filed June 3, 1907. Serial No. 376,914.

To all whom it may concern:

Be it known that I, ANNA B. HANSON, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Piano-Stools, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide a piano stool of the bench type which may be easily adjusted in height to suit the comfort of the performer.

Another object of the invention is to accomplish the above by means of a mechanism simple in its construction, durable in use and efficient in its operation, and one which will not detract from the ornamental appearance of the piano stool.

With the above and other objects in view the invention consists in the piano stool as herein claimed, its parts and combinations of parts and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the several views; Figure 1 is a central sectional elevation of a piano stool constructed in accordance with this invention; Fig. 2 is a plan view of the base section thereof; and, Fig. 3 is a transverse sectional view of the seat section thereof.

In these drawings 5 represents a base section of a piano stool of the bench type which is of the usual construction, except that instead of a permanent cover being attached thereto it has a vertically adjustable separate cover member 6 slidably mounted or telescoping thereon by means of the surrounding flange or skirt 7 fitting on the outside of the base section, there being a seat support 8 forming the top of the base section and mounted some distance below the upper edge thereof by resting on bearing strips 9.

At the center of the seat support is secured a bearing plate 10 on which bears a bevel gear 11 mounted on a stud 12 which is journaled through the bearing plate and extends through the seat support with a crank handle 13 at its lower end. At the ends of the seat support are similar bearing strips 14 on which are seated bevel gears 15 which are threaded to serve as nuts turning upon screw stems 16 mounted on the under side of the seat member 6. Shafts 17 extend from the central bevel gear 11 to each of the bevel gears 15 and are journaled in angle brackets 18 mounted on the seat support and carry bevel pinions 19 at their ends meshing with the bevel gear 11 and the bevel gears 15 respectively. By this construction the movements imparted to the bevel gear 11 by turning the crank handle 13 are transmitted by means of the shafts 17 to the bevel gear nuts 15 so as to cause said beveled gear nuts to all turn in the same direction and be fed on the screw stems 16 nearer to or farther from the seat portion.

Guard plates 20 are mounted on the seat support and are arched over the toothed portions of the beveled gear nuts 15 and bear on their central portions to hold them in place, thus preventing the beveled gear nuts from being forced out of place when the stool is moved or lifted by means of the seat section. These guards 20 also resist the tendency of the pinions 19 to tilt the bevel gear nuts 15 so as to loosen the screw stems 16 and cause a binding of the seat elevating mechanism, and a similar function is performed by the location of the bevel pinions 19 at points directly opposite each other on the bevel gear 11. The latter arrangement equally distributes the resistance to the movements of the bevel gear 11 on its opposite sides so that the tendency to tilt the bevel gear to one side is exactly equaled and opposed by the pinions on the other side, and thus the stress is equalized and there is no tendency for the bevel gear to tilt to one side, which would in time cause it to slip from its engagement with the bevel pinions, as might be the case if this diametrically opposite arragement of the pinions were not provided.

In operation, the adjustment of the piano stool to a higher elevation is accomplished by turning the crank handle 13 in one direction, and by reversing this direction of movement the seat may be lowered, the turning of the crank serving to turn the bevel gear nuts 15 through the shaft connection 17 as above described, and as they all turn in the same direction and to the same extent there is no greater change at one part of the seat than at another and consequently the seat portion remains level in all of its adjustments. The crank handle 13 and the projecting lower ends of the screw stems 16 are hidden from view by the ornamental side pieces 21 and end pieces 22 of the base section so that the adjustable feature does not

detract from the appearance of the stool and is entirely out of the way and unnoticeable.

What I claim as my invention is:

1. A piano stool of the bench type, comprising an elongated base section, an elongated seat section, screw stems at each of the four corners of the seat section, bevel gear nuts threaded on the screw stems and bearing on the base section, a crank handle mounted at the center of the base section, a bevel gear thereon, shafts journaled on the base section and extending radially from the bevel gear to the respective bevel gear nuts, and pinions on the shaft meshing with the bevel gear and with the bevel gear nuts respectively, each pinion in mesh with the bevel gear being located diametrically opposite another.

2. A piano stool of the bench type, comprising an elongated base section, an elongated seat section, screw stems at each of the four corners of the seat section, bevel gear nuts threaded on the screw stems and bearing on the base section, a crank handle mounted at the center of the base section, a bevel gear thereon, shafts journaled on the base section, pinions on the shafts meshing with the bevel gear and with the gear nuts respectively, and guards secured to the base section and engaging the bevel gear nuts opposite the pinions to hold the bevel gear nuts in place.

3. A piano stool, comprising a base section, a seat section vertically slidable thereon, screw stems mounted on the seat section, bevel gear nuts threaded on the screw stems and bearing on the base section, a centrally located crank handle mounted on the base member, a bevel gear carried thereby, brackets on the base member, shafts journaled in the brackets and extending from the bevel gear to the bevel gear nuts, bevel pinions on the ends of the shafts meshing with the bevel gear and with the bevel gear nuts respectively, and guards secured to the base section and engaging the bevel gear nuts opposite the pinions to hold the bevel gear nuts in place.

4. A piano stool, comprising a base section, a seat section vertically slidable thereon, screw stems mounted on the seat section, bevel gear nuts threaded on the screw stems and bearing on the base section, a centrally located crank handle mounted on the base member, a bevel gear carried thereby, brackets on the base member on opposite sides of the bevel gear and near the bevel gear nuts, shafts journaled in the brackets and extending from the bevel gear to the bevel gear nuts, and bevel pinions on the ends of the shafts meshing with the bevel gear and with the bevel gear nuts respectively.

5. A piano stool, comprising a base section, a seat section vertically slidable thereon, screw stems mounted on the seat section, bearing strips on the base section, bevel gear nuts threaded on the screw stems and bearing on the bearing strips, a centrally located crank handle mounted on the base member, a bevel gear carried thereby, brackets on the base member, shafts journaled in the brackets and extending from the bevel gear to the bevel gear nuts, bevel pinions on the ends of the shafts meshing with the bevel gear and with the bevel gear nuts respectively, and guards secured to the base section and engaging the bevel gear nuts opposite the pinions to hold the bevel gear nuts in place.

6. A piano stool, comprising a base section having ornamental side and end pieces, a seat section provided with a surrounding flange telescoping with the side and end pieces of the base section, screw stems mounted on the seat section and passing through the base section, bevel gear nuts threaded on the screw stems and bearing on the base section, a centrally located crank handle mounted on the base member, a bevel gear carried thereby above the base member, and shafts journaled upon the base member having pinions meshing with the bevel gear and the bevel gear nuts to constitute therewith and with the screw stems a seat member elevating mechanism hidden from view in all positions of the seat member by the telescoping parts.

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

ANNA B. HANSON.

Witnesses:
R. S. C. CALDWELL,
ANNA F. SCHMIDTBAUER.