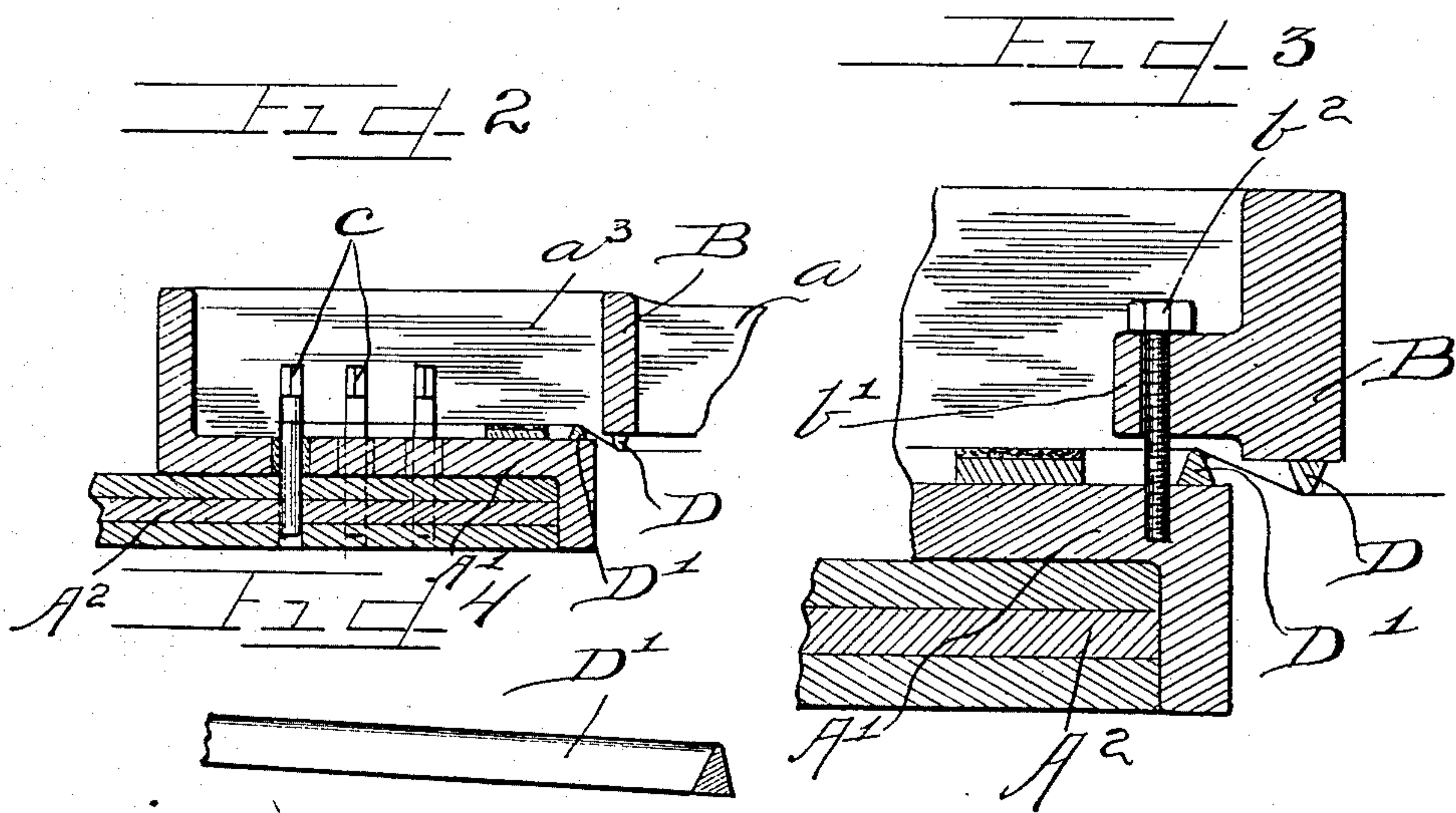
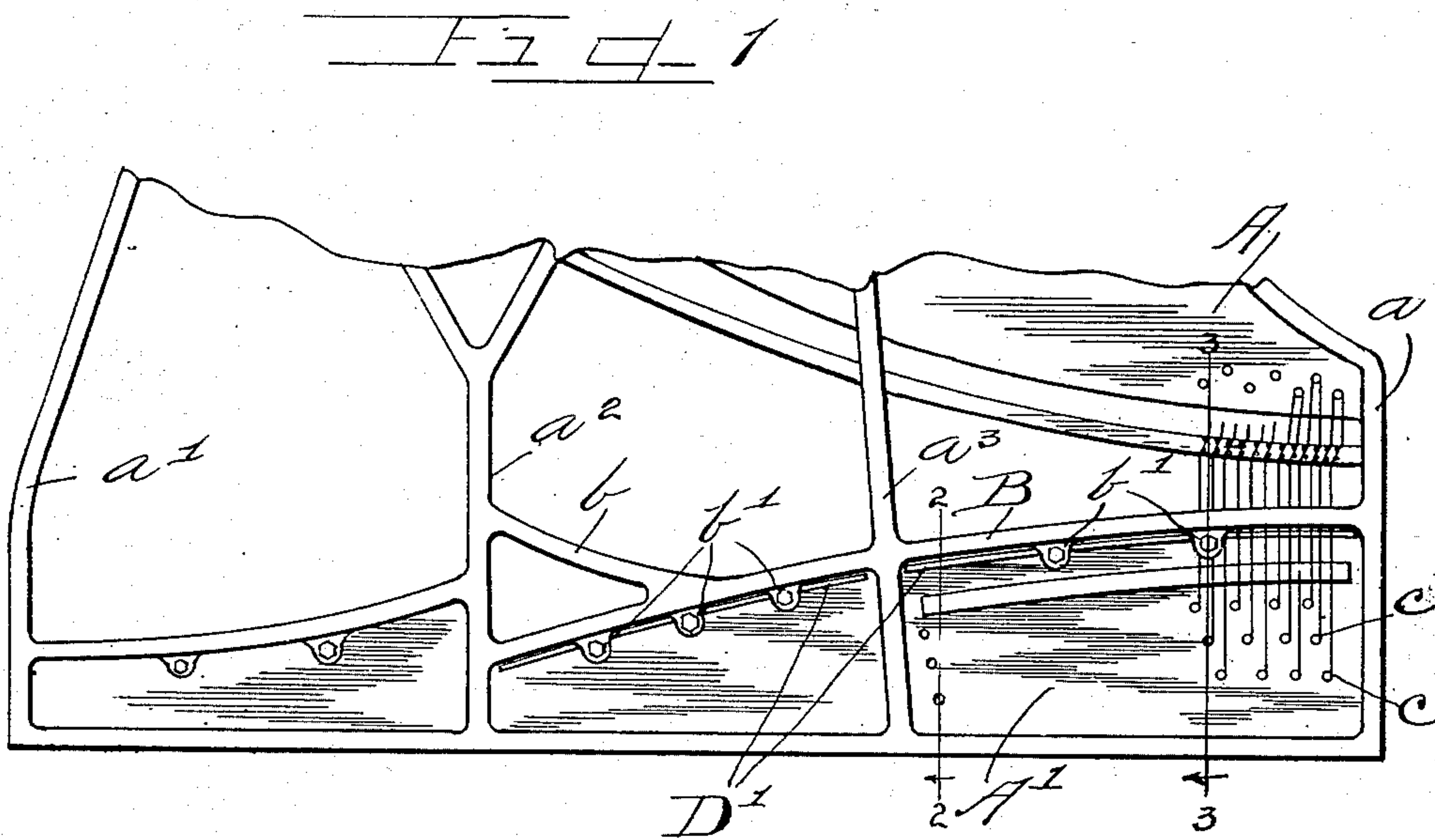


No. 888,065.

PATENTED MAY 19, 1908.

C. C. CHICKERING.
CAPO TASTO BAR FOR PIANO FRAMES.
APPLICATION FILED APR. 12, 1907.



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CLIFFORD C. CHICKERING, OF CHICAGO, ILLINOIS.

CAPO-TASTO BAR FOR PIANO-FRAMES.

No. 888,065.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed April 12, 1907. Serial No. 367,890.

To all whom it may concern:

Be it known that I, CLIFFORD C. CHICKERING, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Capo-Tasto Bars for Piano-Frames; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The iron frames for pianos are cast to the desired form to afford a support for the strings. This frame is a metallic web to which the wrest plank is secured, which, with intermediate bars and brace bars, tends to afford rigidity. Secured upon the iron frame along the inner edge of said web above the wrest plank, is an iron bar, sometimes called the capo tasto bar, which exerts pressure on the strings downward and must, therefore, sustain an upward pressure of several tons when the strings are drawn to pitch. Cast frames have often proved weak in resisting this upward tension of the strings against the capo tasto bar, and the opposite pressure exerted on the web, or face of the plate; the tendency being to spring the bar from the web, which always impairs the tune of the piano and often breaks the bar or plate. Furthermore, if constructed of cast metal or otherwise, it is important that the lower or inner edge of the bar present a somewhat rounded edge or bead under which the strings draw and that a similar bead be presented on the face of said web over which the strings are drawn between the vibrating portion of the string and the tuning pin.

Usually a somewhat rounded rib or bearing is cast on the face of said web and on the underside of the capo tasto bar and these are shaped by casting and filing for the strings to draw over. When constructed as above, sand or blow holes always are present, though frequently these are not discovered in shaping the ribs, and, in consequence, an imperfect or buzzing tone is produced when pressure is applied by the strings being drawn to pitch. This pressure may break down the thin walls of the blow holes, thereby destroying the tone character.

It is an object of this invention to provide a cast metal piano frame of great strength in which the capo tasto bar is integrally con-

nected with the frame especially with the intermediate bars and brace bar at a plurality of points and in which also said bar is provided at intervals in its length with lugs adapted to receive bolts whereby the bar is rigidly engaged to said web at short intervals, thereby equalizing the opposite pressure on web and capo tasto bar when the strings are drawn to pitch and absolutely preventing either springing away from the other.

It is a further and important object of this invention to provide on the pressure-sustaining faces of the bar and the web, ribs or bearings of steel or other suitable metal, preferably rolled, which are reduced to the exact form required before application and thus insure a perfect bearing face for the strings as against the blow holes where an attempt is made to cast these ribs or bearings on the web or the capo tasto bar.

It is finally an object of the invention to afford an exceedingly strong, simple and durable device of the class described, by the use of which a piano will usually remain longer in tune, and in which breakage or springing of parts is impossible.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a fragmentary top plan view of a frame and bar embodying my invention with most of the strings and tuning pins omitted. Fig. 2 is an enlarged section taken on line 2—2 of Fig. 1. Fig. 3 is an enlarged fragmentary section taken on line 3—3 of Fig. 1. Fig. 4 is an enlarged fragmentary view of one of the ribs on which the strings bear.

As shown in the drawings:—A indicates the string plate, and A' the web above the wrest plank A² of a cast metal piano string frame embodying my invention. Integrally connecting said string plate and web are the side bars $a-a'$ and the intermediate bars a^2 and a^3 which are integral with both the string plate and said web and may be trussed or braced in any suitable manner to afford the requisite strength. Said string plate and web are shaped on their edges as is usual or in any suitable manner, and integrally connected with the side bars $a-a'$ and the intermediate bars a^2 and a^3 is the capo tasto bar B, which as shown is also braced on the intermediate bar a^2 by means of an integral brace bar b . Said capo tasto bar projects

slightly over the inner edge of said web as shown in Fig. 2 and affords a space between the under face of the bar and the upper face of the web sufficient for the passage of the strings therethrough without contacting. Said bar is provided on its side adjacent the tuning pin *c* with a plurality of equally spaced integral lugs *b'* which are apertured to receive bolts *b''*, which extend through and thread into the web and rigidly connect said members together and prevent any tendency whatever for said bar to lift or the edge of the web to spring down under the pressure of the strings. The under face of said capo tasto bar is faced to afford a flat surface and as shown the upper inner edge of the web is similarly faced as shown in Figs. 2 and 3 and ribs or bearings D—D' each approximately triangular in cross section and having a somewhat rounded edge for contact with the strings. Said ribs or bearings are laid against said flat faces of the web and the capo tasto bar and the tension on said strings acts to rigidly engage said ribs or bearings in the position desired. Of course any number of said lugs *b'* may be used and each firmly binds said parts against spreading under the enormous pressure to which they are subjected. The ribs or bearings being true and smooth always present a perfect bearing for the strings and may be formed by rolling or in any other preferred manner.

Details of construction may be varied, I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art and the appended claims.

I claim as my invention:

1. In a piano the combination with a wrest plank of a web supported thereon, a capo tasto bar integral with the web at a plurality of points and bolted thereto intermediate said points.

2. In a piano the combination with the wrest plank of a web secured thereon, a capo tasto bar integral with the web at a plurality of points and adjustable means rigidly connecting said web and capo tasto bar at intermediate points.

3. In a piano, the combination with a wrest-plank of a web secured thereon, a capo tasto bar integral with the web at a plurality of points, lugs on said bar projecting over the web and bolts extending therethrough and engaging said web.

4. In a piano, the combination with a web of a wrest-plank supporting the web, a capo tasto bar integral with the web at a plurality of points, integral lugs on said bar and bolts passing therethrough and threaded into said web.

5. In a piano the combination with a wrest plank of a web above the same, a capo tasto bar integral with the web at its ends, lugs thereon intermediate the ends, bolts

passing therethrough and threaded into the web and independent metallic ribs or bearings having each a rounded edge for engagement by strings.

6. In a piano the combination with the wrest plank of a web supported thereby, a capo tasto bar integral with the web at its ends, apertured lugs thereon intermediate the ends, bolts extending through the lugs and secured in the web, intermediate and brace bars integral with the web and the capo tasto bar, rolled ribs each having a rounded edge and strings holding the ribs against said bar and web.

7. In a cast metal piano frame a web, a capo tasto bar integral therewith at different points provided with a flat under face, removable means for rigidly connecting the web and capo tasto bar intermediate the integrally connected parts and a rolled steel rib having a flat face bearing against the flat face of the capo tasto bar, said rib having a rounded face opposite the flat face.

8. In a piano the combination with a wrest plank, of a web secured thereon, a capo-tasto bar integral with the web at its ends and bolted thereto intermediate its ends.

9. In a piano the combination with a web of a capo tasto bar integral with the web at its ends and bolted thereto intermediate its ends, a wrest plank supporting said web, strings extending between the web and capo tasto bars, said web and said bar having flat faces and rolled steel ribs each having a flat face and caused by said strings to bear respectively against said web and said bar and the ribs having a thin rounded edge for engagement by said strings.

10. The combination with a capo tasto bar of a wrest plank, a web secured on the wrest plank, removable means rigidly connecting the web and capo-tasto bar intermediate the ends of said bar, strings extending between the bar and web, rolled steel ribs adapted to be held against the web and capo tasto bar by pressure of the strings, and each rib comprising a rod triangular in cross section and having one of its angles rounded for contact by the strings, and a flat face on each rib opposite the rounded part for bearing against the web and bar respectively.

11. In a device of the class described a capo tasto bar having a broad flat under face, a web having a broad flat upper face, apertured lugs integral with the capo tasto bar, removable means rigidly connecting the lugs and web, ribs, each having a flat face bearing against the flat face of the capo tasto bar and web and each rib having a rounded face.

12. In a device of the class described a capo tasto bar, a web apertured lugs integral with the capo tasto bar, and bolts ex-

tending through the lugs and threaded into the web to prevent springing of the bar and web.

5 13. A device of the class described embracing a web, a capo tasto bar integral therewith at different points and removable and adjustable means rigidly connecting said bar and web at points intermediate the integral connections.

10 14. A cast metal frame comprising a web, a capo tasto bar integrally connected therewith at its ends and a point intermediate its ends and removable and adjustable means rigidly connecting the web and bar.

15 15. In a device of the class described the

combination with a web having a flat upper surface, of a capo tasto bar above the plane of the same, means rigidly fastened to said bar projecting over the web, means rigidly connecting said means and web together and 20 ribs for preventing the strings from contacting the flat faces of the bar and web.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

CLIFFORD C. CHICKERING.

Witnesses:

GUY H. SHEARER,
WALTER E. FOX.