

(No Model.)

2 Sheets—Sheet 1.

H. ZIEGLER.
STRING FRAME FOR UPRIGHT PIANOS.

No. 509,110.

Patented Nov. 21, 1893.

Fig: 1.

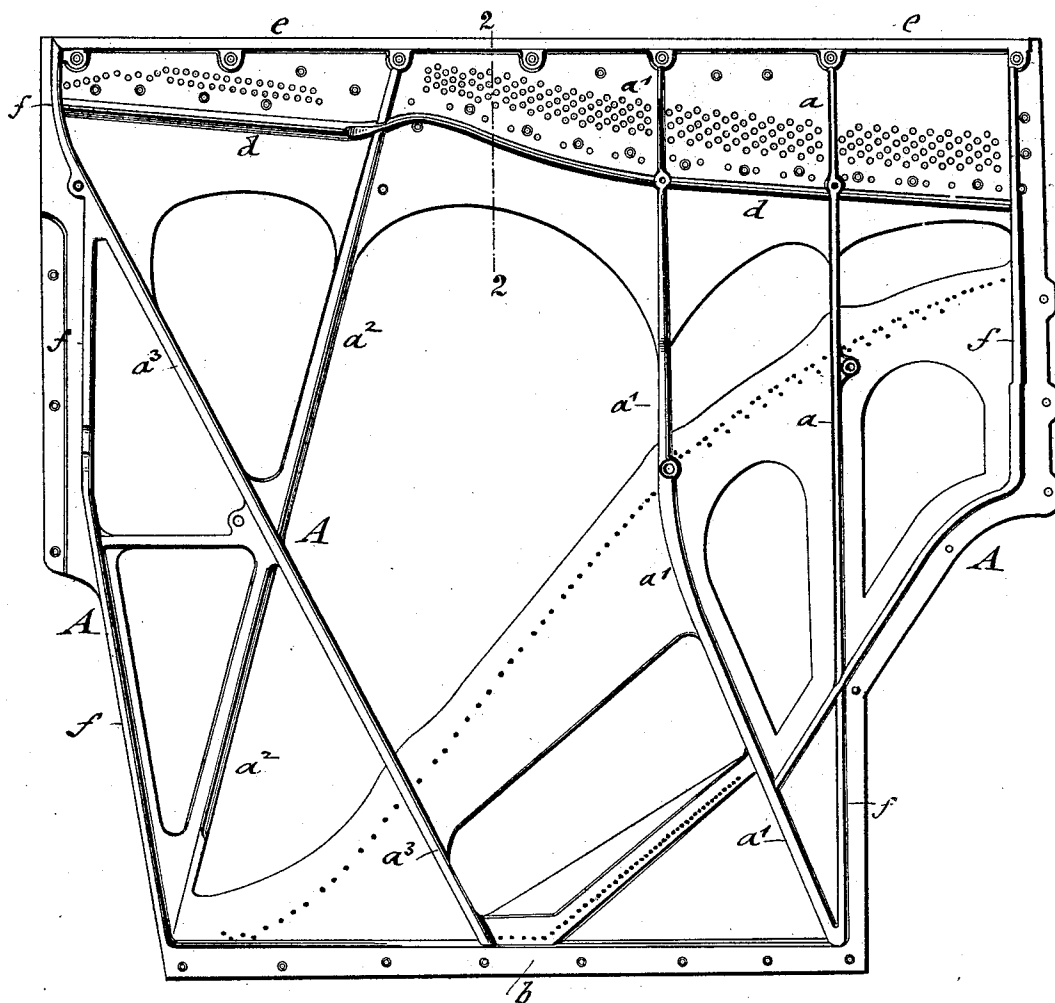
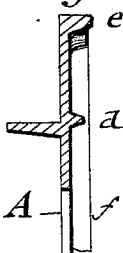


Fig: 2.



WITNESSES:

Charles Schroeder.
Adolph Scherer.

INVENTOR

Henry Ziegler
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(No Model.)

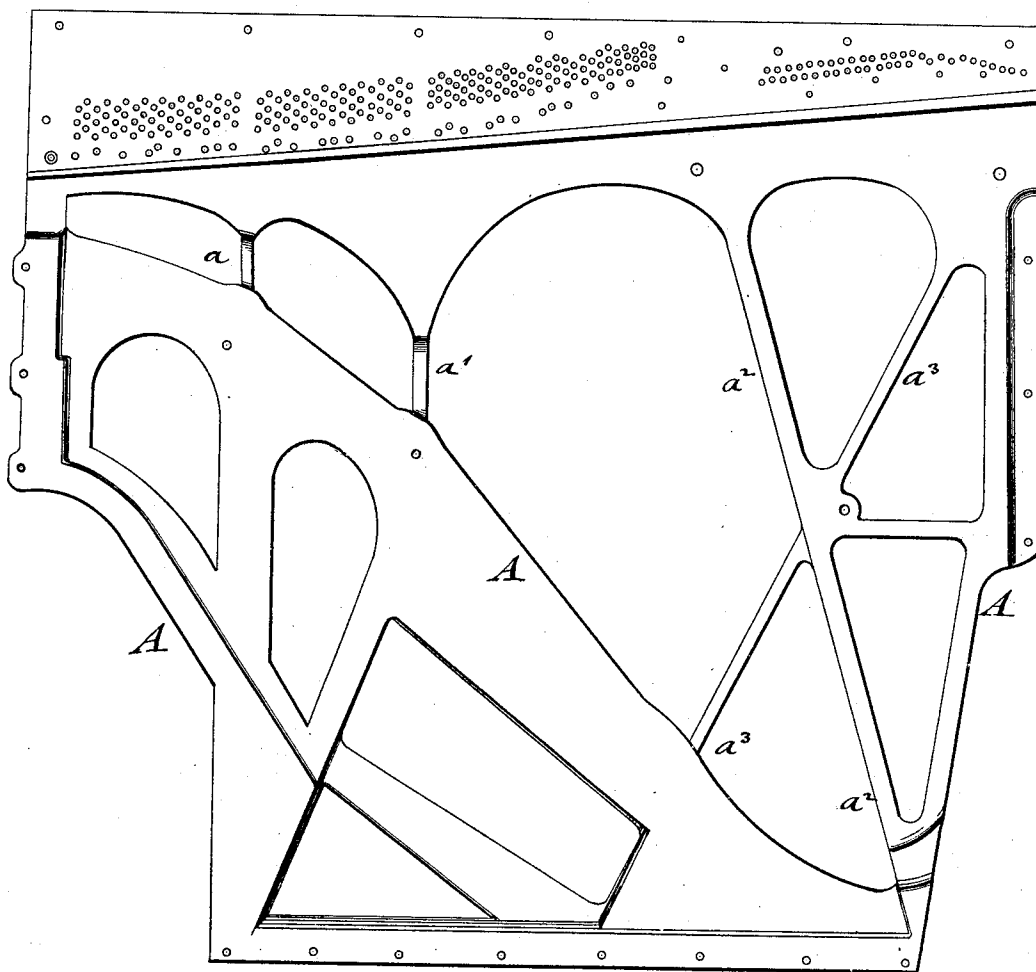
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Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY ZIEGLER, OF NEW YORK, N. Y.

STRING-FRAME FOR UPRIGHT PIANOS.

SPECIFICATION forming part of Letters Patent No. 509,110, dated November 21, 1893.

Application filed April 22, 1893. Serial No. 471,439. (No model.)

To all whom it may concern:

Be it known that I, HENRY ZIEGLER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in String-Frames for Upright Pianos, of which the following is a specification.

This invention relates to certain improvements in string-frames for upright pianos by which additional strength combined with lightness is imparted to the string-frame, so that the same resists more effectively the tension of the strings on the same, while the different groups of strings, such as the treble strings, the middle strings and the bass strings are separately braced in a more effective manner.

The invention consists of a string-frame for upright pianos, which is provided with a scale-rib extending from the treble to the bass of the frame and with strengthening brace-ribs which are extended from the bottom of the frame across the scale-rib to the top of the frame.

The invention consists further of a string-frame for upright pianos which is provided with an exterior rib extending around the string-frame, a scale-rib extending from the treble to the bass of the frame, and strengthening brace-ribs that extend from the bottom-rib across the scale-rib to the top-rib of the frame.

In the accompanying drawings, Figure 1, represents a front-view of my improved string-frame for upright pianos. Fig. 2, is a detail vertical transverse section on line 2 2, Fig. 1, and Fig. 3, is a rear-elevation of the string-frame.

Similar letters of reference indicate corresponding parts.

Referring to the drawings A represents a string-frame for upright pianos, which is preferably made of cast steel or other suitable metal, the string-frame being of that class in which the wrestplank portion and the hitch-pin portion are cast in one integral piece. The string frame A is provided with number of strengthening brace-ribs a, a', a^2, a^3 , which extend from the bottom-rib b beyond the scale-rib d to the top-rib e of the

frame as shown clearly in Fig. 1. The extension of the brace-ribs beyond the scale-rib not only increases the strength of the wrestplank portion of the frame, but also serves to support the individual groups of strings, namely the upper and lower treble-strings, the middle-strings and overstrung bass-strings in a more reliable manner, so as to furnish thereby the increased resistance to the tension of the strings.

The string-frame A is further provided with side-ribs ff that extend from the bottom-rib to the top-rib, so as to form with said bottom and top-ribs, a continuous rib around the entire web of the frame. The exterior ribs, b, c, ff , add to the strength of the string-frame together with the connecting brace-ribs. The scale-rib b extends in one continuous piece from one side-rib to the other and intersects the strengthening brace-ribs a, a', a^2, a^3 . By the extension of the brace-ribs beyond the scale-rib the thickness of the webs of the string frame between the brace-ribs can be decreased, so that the frame can be made much lighter whereby the vibratory quality of the string-frame is augmented. As each group of strings is confined by an exterior rib and interior brace ribs, each group of strings is supported by a self-containing portion of the frame, which portion is adapted to resist the strain of the group of strings stretched on the same. A superior string-frame for upright pianos is thereby produced, which has great tensile strength, less weight and an increased resistance to the strain of the strings, so that it partakes in a higher degree of the qualities of the string-frames used in grand pianos.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A string-frame for upright pianos, provided with a scale-rib extending from the treble to the bass of the frame, and with strengthening brace-ribs which are extended from the bottom of the frame across the scale-rib to the top of the frame, substantially as set forth.

2. A string-frame for upright pianos, provided with an exterior-rib extending around

the string-frame, a scale-rib extending from
the treble side of the frame to the bass-side
of the same, and strengthening brace-ribs ex-
tending from the bottom-rib across the scale-
5 rib to the top-rib of the frame, substantially
as set forth.

In testimony that I claim the foregoing as

my invention I have signed my name in pres-
ence of two subscribing witnesses.

HENRY ZIEGLER.

Witnesses:

JULIUS BRAND,

FRED C. RATHGEBER.