

H. Goldsmith,

Piano,

N^o 18, 810,

Patented Dec. 8, 1857.

Fig. 1.

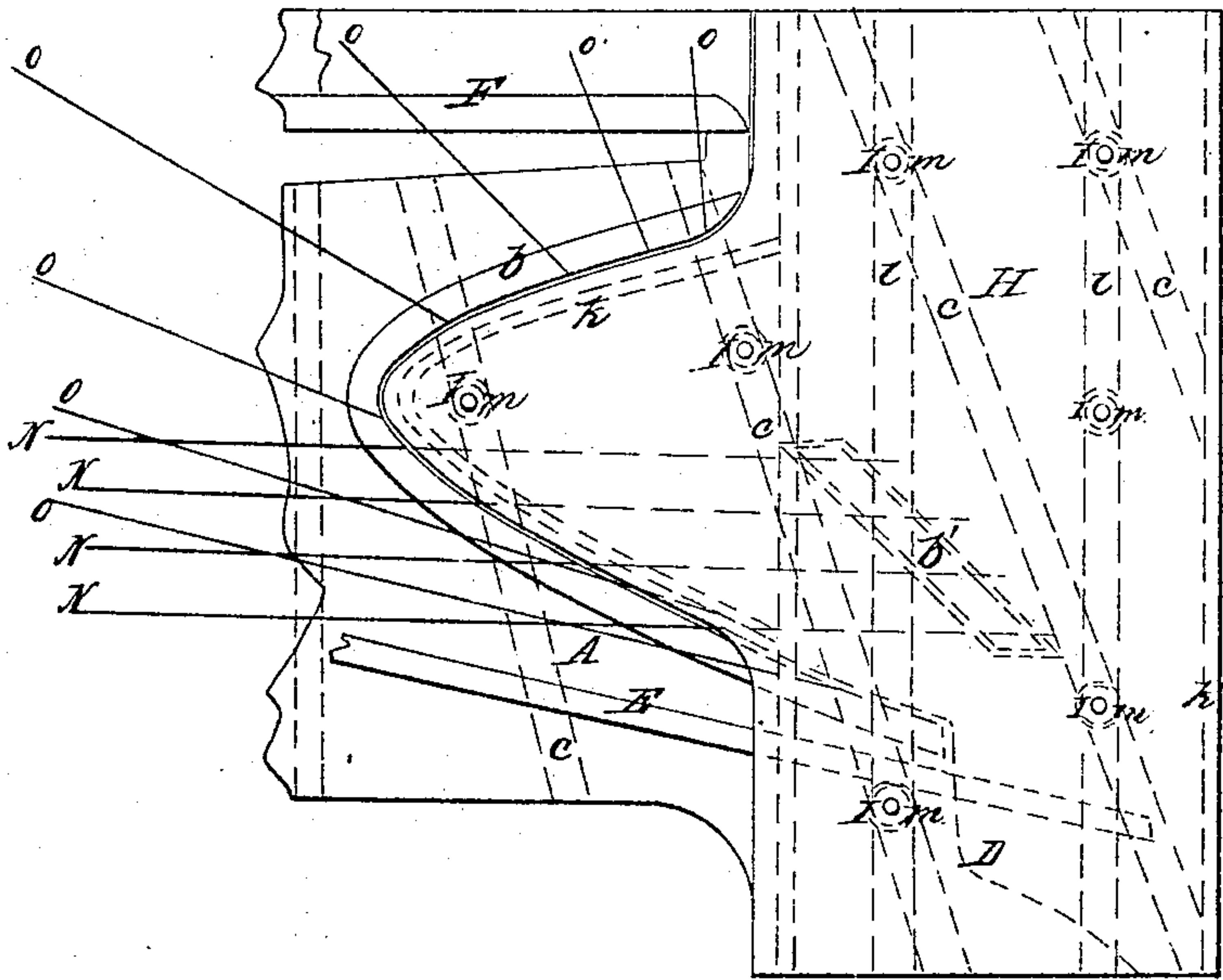
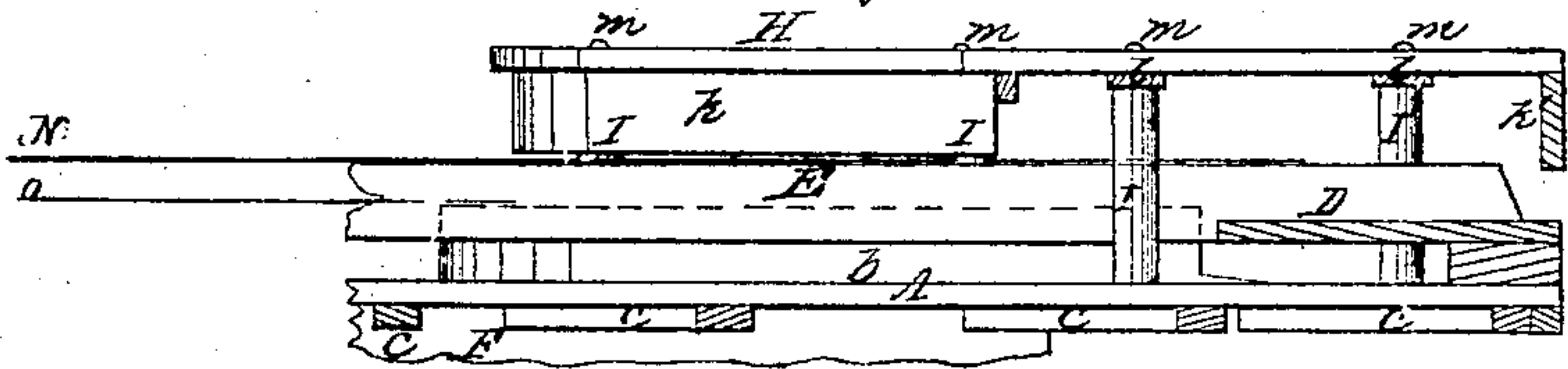


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

H. GOLDSMITH, OF PHILADELPHIA, PENNSYLVANIA.

PIANOFORTE.

Specification of Letters Patent No. 18,810, dated December 8, 1857.

To all whom it may concern:

Be it known that I, H. GOLDSMITH, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Pianofortes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the improvement applied, and Fig. 2, a side view of the same, like letters in the different figures indicating the same objects.

In the construction of pianofortes at the present time, the manufacturers consider it necessary to make the case at least six feet and ten inches long, and three feet and about two inches wide, in order to allow of the admission of a sounding-board of sufficient length and width to produce the depth and fullness of tone required; but the consequent expensiveness in the construction, together with their unwieldiness, from size and weight, and their occupancy of much room or space, render such large pianos objectionable in most cases or instances. Hence, any mode of construction whereby the length and width of the instrument may be greatly reduced, without diminishing the said required depth and fullness of tone, is a matter of important utility, and to effect this is the object of my invention.

It consists in compensating for the reduced size of the instrument, by providing it with an additional, or short, supplemental sounding board above the usual one; and in forming the bridge, and arranging the treble and tenor strings thereon, so as to lessen the width of the usual spaces between both kinds of the said strings, at their place of rest on the bridge, without perceptibly diminishing the usual spaces between the said strings on the pin-block, or diminishing the usual width and number of the finger keys.

Referring to the drawings, A, is the usual sounding board; *b*, the bridge thereon for the tenor and treble strings; and *b'*, (dotted lines Fig. 1) the usual bridge for the bass strings.

c, c, are ribs glued across the under side of the usual sounding board (A); D, the usual iron frame or plate to which the treble and tenor strings are hitched; E, the usual brace bar, of iron, and F, the usual pin block.

H, is the additional, or supplemental sounding board.

I, I, are wooden posts by which it is connected with and supported upon the usual sounding board (A).

k, k', are stiffening ribs glued under across the ends of the said board H; and *l, l*, are ribs glued across the under side to produce a more secure means of attaching the said supplemental sound board (H) to the usual one (A) beneath, by means of the said posts (I, I) and the wood screws, *m, m*. The posts (I, I) pass through holes in the iron frame or plate (D) without contact therewith, resting perpendicularly and fixedly upon the upper side of the usual sounding board (A), and also directly over the ribs (*c, c*), and arranged as shown by the dotted lines in Fig. 1. The supplemental sounding board (H) is arranged parallel with the usual one (A), and sufficiently above it to allow the bass strings (N, N), which are placed and range in the usual manner above the others, to vibrate freely without coming in contact with its stiffening rib *k*. The bridge (*b*) is contracted in size to suit the diminished size of the instrument, and so formed that while it allows both the treble and tenor strings to be ranged upon it with much less space between each of both kinds than heretofore, it shall also produce the usual relative lengths in the said strings, between the said bridge (*b*) and the pin block F; consequently these strings radiate in their directions from the bridge (*b*) considerably more than is usual, and so as to produce the requisite spaces between them on the pin block (F) to allow of the free motion of the usual sized hammers. The red lines, *o, o*, indicate this radiating direction of the treble and tenor strings. The bass strings (N, N), are arranged above them and rest on their respective bridge (*b'*) in the usual manner.

It will be perceived that by thus contracting the bridge (*b*), and arranging the treble and tenor strings upon it more nearly together, as described, the case of the instrument can be considerably lessened in width without necessarily diminishing the spaces between the said strings on the pin block (F); and that by providing the supplemental sounding board (H) as described and represented, a proportional shortening of the length of the usual sounding board (A) can be permitted without diminishing

the depth and fullness of tone in the instrument; because the supplemental sound board (H) being connected with the diminished one (A), it must operate as a prolongation
5 of the latter, and its extent being made equal to the reduction of the diminished one, it will compensate therefor.

By the application of this invention, I am enabled to produce piano fortes of about
10 two feet less in length, and one foot narrower than those improved, modern, instruments now in general use, without in the least diminishing the depth and fullness of tone, characteristic of those instruments, at
15 about half the usual cost of the same; and of only about one-third their weight. Requiring so much less space, they are also better suited for private houses; and being also so much lighter and smaller, can be
20 easily carried from room to room, or "up stairs," by two persons only. Another advantage arising from diminished size, is that their shrinkage and expansion will neces-

sarily be less from hygrometric causes, and consequently they will keep in tune better
25 than the larger instruments.

What I claim as my invention, and desire to secure by Letters Patent, is:

1. The additional or supplemental sounding board (H), the same being constructed,
30 applied, and operating, substantially in the manner and for the purpose set forth and described.

2. I also claim, in combination with the said additional or supplemental sounding
35 board, the contracting of the bridge (b), so as to allow of the treble and tenor strings being all brought more nearly together upon the same, as and for the purpose set forth
40 and described, while they are, at the same time, permitted to retain the usual distances apart on the pin block, as described.

H. GOLDSMITH.

Witnesses:

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