H. A. Nathans,

Piano Attachment,

No. 18,857 Patented Dec. 15, 1857.

Fig. 1.

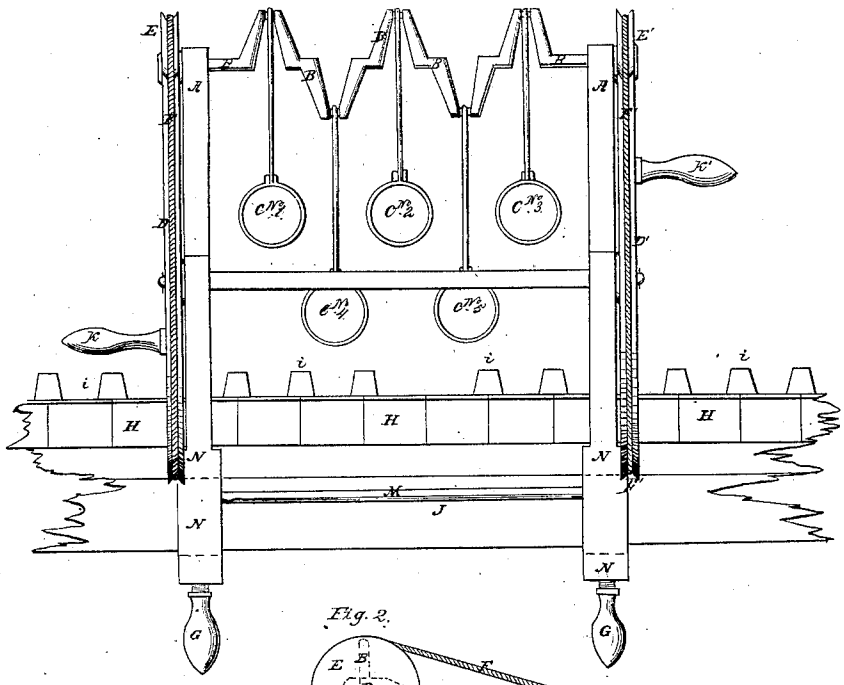
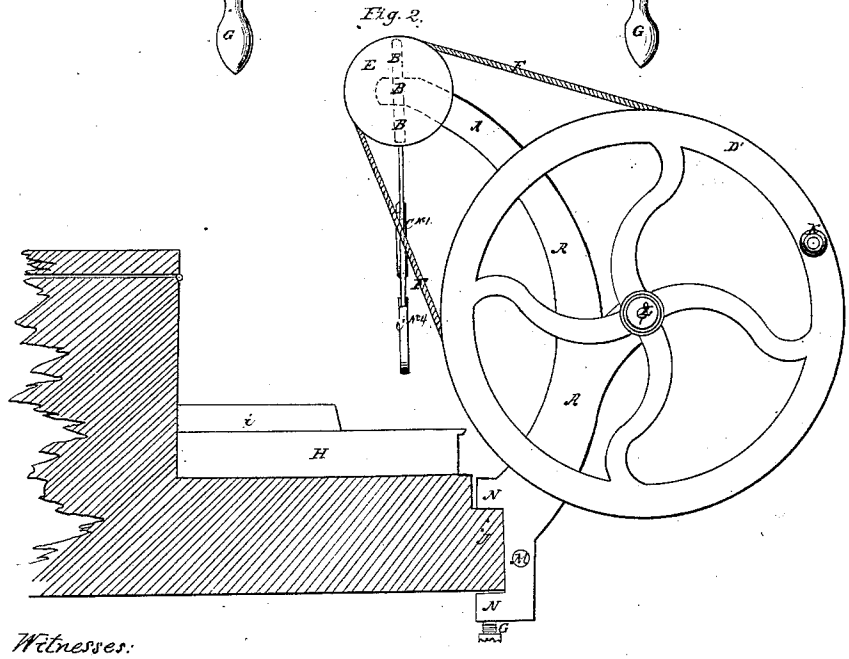


Fig. 2.



Witnesses:

Moses Kartus
H. M. Nathans
C. Bruce

Inventor:
Horace A. Nathans

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HORACE A. NATHAN, OF PHILADELPHIA, PENNSYLVANIA.

FLEXOMANUS.

Specification of Letters Patent No. 18,857, dated December 15, 1857.

To all whom it may concern:

Be it known that I, HORACE A. NATHAN, of the city of Philadelphia, State of Pennsylvania, have invented a new and useful machine for imparting flexibility to the muscles required in performing on the piano, to be known as "Nathan's Flexomanus"; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawing, making a part of the specification, in which—

Figure 1 is a front view and Fig. 2 a side view of the said machine.

A represents the frame of the machine; B B B B B, five successive cranks; E E′, pulleys on either ends of shaft B B which is revolved by means of cords F F around the grooved pulleys D D′ and E E′; C^1 C^2 C^3 C^4 C^5, rings attached to crank B B B B B by means of a wire; G G, thumb screws for attaching the machine to the piano; H I, the keys of the piano; J, frame of the piano; K K, handles for turning pulleys D D′; L, a bar for supporting the wrist, also for keeping the machine at a proper distance apart, and serves as a shaft for pulleys D D to revolve on; M, a bar for the purpose of keeping the frame at a proper distance apart; N N, two projecting pieces for attaching the machine to the piano.

The operation of my new machine is as follows: The performer after having attached the machine to the piano, rests the wrist of his left hand on the bar (L) and places his fingers in the five rings (represented by C^1 C^2 C^3 C^4 C^5) and then by turning the handle (K) with his right hand he causes the cranks (B B B B B) to revolve, which will necessarily lower the fingers in rings (C^1 C^2 C^3) and raise those in rings (C^4 C^5). After having practiced this for some time, remove the left hand and perform the same operation with the right hand in the rings, turning the handle with the left hand.

Without this machine the raising of the first and third (keeping down the thumb, second and fourth) and afterward raising the thumb, second and fourth (keeping down the two others) would be found exceedingly difficult and if attempted rapidly would be an impossibility by any other than a first class pianist. Therefore we find that the said invention is for causing a flexibility of the fingers for the purpose of performing on the piano which if practiced otherwise would require unremitted time to become as perfect as we could with this invention in the shortest possible time. I may add that the trill may be performed by using only two of the rings, namely either C^1 and C^4, or C^2 and C^5.

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

The combination of a series of cranks B B B B B and rings C^1 C^2 C^3 C^4 C^5 arranged and operating substantially as above described together with the bar for supporting the wrist.

HORACE A. NATHAN.

Witnesses:

C. BRAZER,

MOSES NATHAN,

I. M. NATHAN.