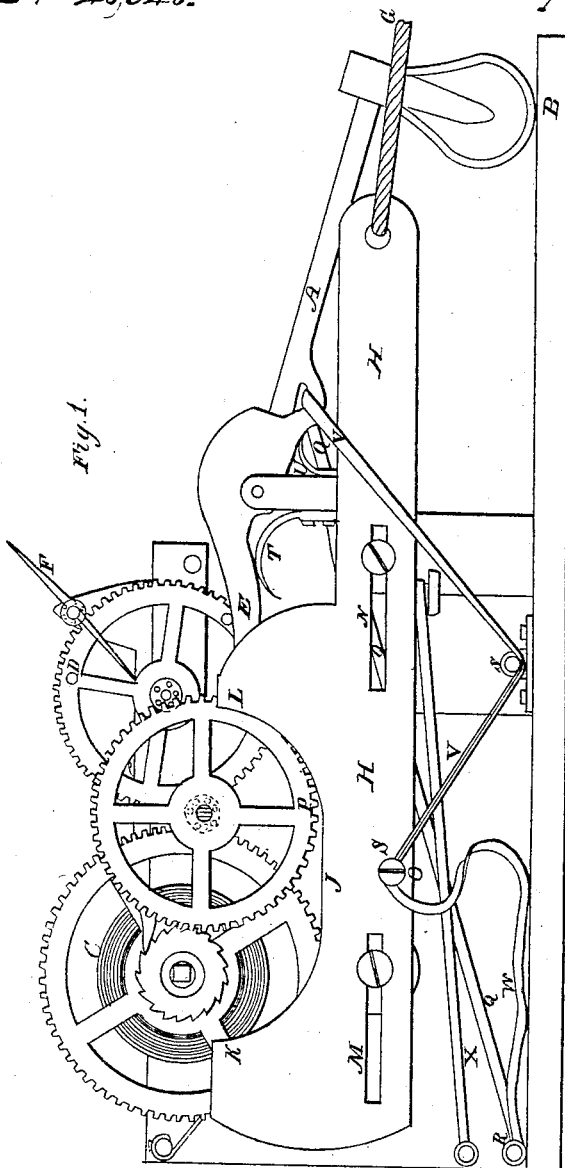


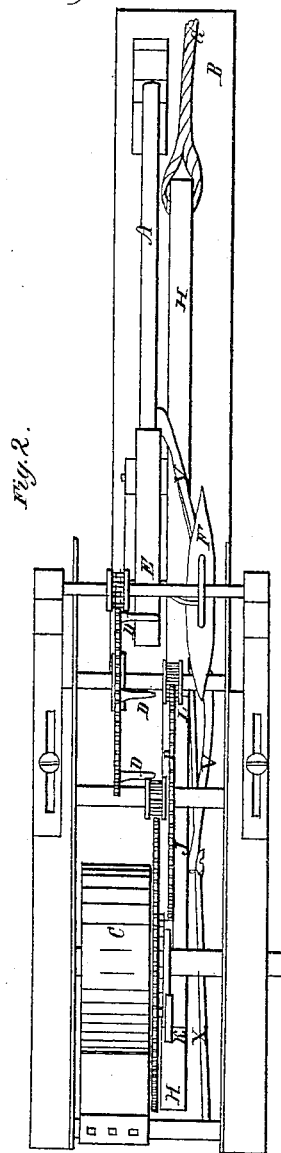
M. Vergnes
Piano Attachment

N^o 45,943.

Patented Jan. 17, 1865.



Witnesses:
A. Vergnes
Allen E. Warren



Inventor:
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UNITED STATES PATENT OFFICE.

MAURICE VERGNES, OF NEW YORK, N. Y.

IMPROVEMENT IN PIANO-FORTES.

Specification forming part of Letters Patent No. **45,943**, dated January 17, 1865; antedated January 2, 1865.

To all whom it may concern:

Be it known that I, MAURICE VERGNES, of the city, county, and State of New York, have invented a new and useful Improvement in Piano-Fortes, by which a drum attachment is applied; and I hereby declare that the following is a full and exact description thereof.

To enable others skilled in the business to make and use my invention, I proceed to describe its construction and operation, reference being had to the drawings hereunto annexed and making part of this specification.

Figure 1 is a section of the mechanism which multiplies the speed of the blows upon the drum, acting by the force of a spring, like that of a clock; Fig. 2, a plan showing the same.

The same letters refer to the same things in both the figures.

A is the hammer; B, the place of the drum. The sounding-board alone can be substituted for the drum and produce the effect. C is a coiled spring to operate the mechanism; D, cams or pins on the side of the wheel, that strike the heel of the hammer and produce either the roll of the drum or the sudden blow; E, the heel of the hammer; F, a fly to regulate the motion; G, a cord reaching to the pedal, which draws the slide and operates the work; H, the slide; J, the level part of the valley, in the upper side; K, the rear shoulder; L, the forward shoulder; M and N, two slats with screws to hold the slide; O, the middle space; P, the center wheel, against which the shoulders K and L of the slide H are pressed to make the friction necessary to hold the mechanism still; Q, part of the curb-strap; R, the point on the frame where it is fastened; S, the fastening upon the slide; T, a spring under the heel of the hammer, to give force to its blow on the drum; U, the spring which lifts the hammer from the drum during the roll movement; V, the curb-strap, holding the hammer firmly upon the drum until by the action of the pedal upon the slide it is loosed so that the hammer can strike; W, the loose end, drawn tight by the pedal, and limiting the movement of the slide; X, the elastic strap beneath the slide, which brings it to its place when the pedal releases it.

The purpose of this invention is to place within or connected with a piano-forte or any clavichord instrument a piece of simple machinery operating a trip-hammer which shall,

at the will of the performer, strike a drum or any sonorous thing.

The machine shown in the drawings is intended to be set in a piano-forte upon the frame-work or on the sounding-board, and to connect with the pedal by means of a wire or cord, G, which shall set the works free at the touch of the foot upon the pedal, and thus strike one blow or a rapid succession of blows, like the roll of a drum. The manner in which all this can be done is obvious, and there are many ways in which the machinery can be arranged.

I propose to make the apparatus substantially as shown, using a clock-spring for power as the most compact and manageable, and multiplying the motion upon the last wheel in so much that a strong spring may be used, and its operation last through an evening or more.

The drum, or rather tambourine, as it would be if placed in the instrument, would best be put beneath the sounding-board, through which a hole would permit the hammer to strike; or the skin may be stretched on a hoop, and that united firmly to the sounding-board, upon the top, and this is the simplest way, and admits of its application to many instruments in use and not constructed with reference to this device.

A separate pedal is required to operate the hammer, and a string or wire, G, reaches to a slide, H, setting against the cogs of one of the wheels P, and held there by a spring, X. Then as long as the pedal is pressed by the foot the hammer will repeat its blows upon the drum, with a force commensurate with that of the spring, and the instant the pedal is released from the pressure of the foot the hammer ceases to strike.

To produce the roll of the drum followed and ended by a sudden blow, as in ordinary drum-playing, the foot is pressed lightly upon the pedal, so moving the slide H that it will not touch the wheel P. The strap V Q is thus loosed, and the hammer no longer curbed down upon the drum. The machinery operates to strike the heel of the hammer E and lift the hammer a little, and it strikes in rapid succession, but, being curbed, cannot strike a hard blow. To finish the roll by a heavy blow on the drum, the foot is pressed harder on the pedal and the slide drawn farther forward, thus loosening the curb V Q, and the hammer rises

higher and is enabled to strike with more force.

By the action of the slide and the curb on the hammer, any degree of force may be given to the blow, or a succession of hard blows, or a faint succession of strokes, making a general roll or a mixture of these, and any roll can be ended with a heavy blow or begin with one.

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

1. The application to a clavichord instru-

ment of a mechanism to operate a hammer upon a drum, in the manner substantially as above described.

2. The use of the slide H and the curb-strap to hold the hammer in the condition to produce the roll of the drum, in the manner substantially as above described.

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Witnesses:

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