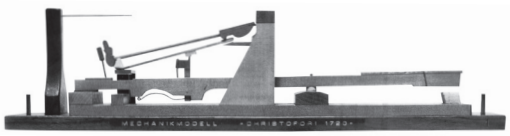
# THE TOUCH

## THE DEVELOPMENT OF ACTION MECHANISMS

*1720*

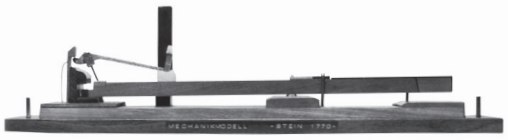


### PIANOFORTE ACTION CIRCA 1720 BY BARTOLOMEO CRISTOFORI, FLORENCE

*This action shows a remarkable degree of perfection for its time.*

When striking the key, the fly is automatically released, so that the hammer hits the string with full force and falls back into place, with a backcheck as brake.

*1770*

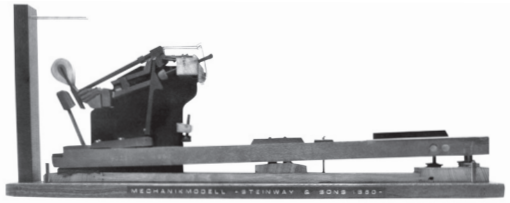


### VIENNESE ACTION CIRCA 1770 BY JOHANN ANDREAS STEIN, AUGSBURG

*This action held a dominant position in piano-making for more than a century.*

The hammer sits in a cradle attached to the end of the key and is mobile. When the key is pressed, the hammershank tail is released by an escapement tongue, and a fixed tab forces the hammershank to swing upward whereupon the hammer hits the string. While the key moves back into normal rest position, the hammershank tail glides back into its initial position.

*1860*



### PATENT GRAND ACTION BY HENRY STEINWAY JR., NEW YORK

*This action introduces a wippen or flanged repetition support.*

This action has its own wippen or repetition support fixed to the frame with a flange and driven upwards from the key by a connected piece. While the key returns to its normal rest position, the spring-mounted balancier assists the repetition action of the fly. The spring-mounted fly is separately linked to the repetition support.

*1865*

### FRENCH-STYLE GRAND ACTION BY HENRY STEINWAY JR., NEW YORK

*This action marks the introduction of the double-escapement action.*

This action incorporates the "Erard System" (Strasbourg) with the improved double spring for fly and balancier by Henri Herz (Paris). The fly allows fortissimo blows, while the adjustable balancier allows pianissimo playing. Repetition is possible without the key having to return to its rest position. Escapement, a clock-making term, is defined as a controlled mechanical release.

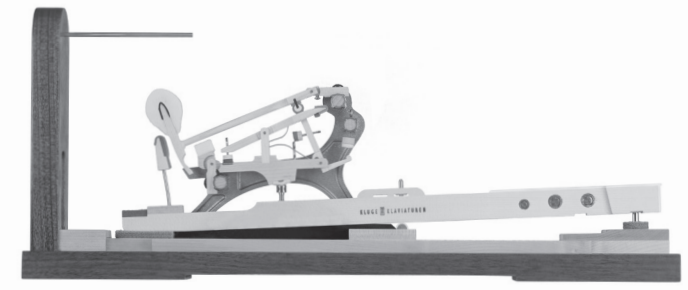
*1869*

### GRAND ACTION BY C. F. THEODORE STEINWAY, NEW YORK

*This action features the world's first metallic action frame.*

The patented brass "Tubular Metallic Action Frame" with rosette-shaped rails and flanges, bronze action brackets, as well as the let-off regulating screw loop, appeared for the first time in this model. The metallic frame resists climate changes, while the rosette rails and flanges automatically align the action parts upon tightening of the flange screws.

*TODAY*



### GRAND ACTION BY C. F. THEODORE STEINWAY, NEW YORK

*This action features the patented capstan screw and marks the beginning of the modern grand piano action.*

The repetition support and hammer can be regulated by turning the capstan screw. Due to the capstan screw, the entire action stack can easily be removed to allow service to the keys. This principle is still being adhered to today.

1875 / Introduction of the capstan screw.

1911 / Fly-regulating screw and button are added.

1931 / "New Action" (abbreviated N.A.), now known as Accelerated Action, incorporates a rounded fulcrum or balance rail bearing under the key for a more sensitive touch and faster repetition. Tests prove that the action speed increases by 14% faster fortissimo and 6% faster pianissimo.

1983 / "Permafree-II" action centers (Emralon-impregnated center-pin bushings). Emralon, the liquid version of Teflon, reduces wear and eliminates friction.

1992 / "New York Improved" action geometry (improved leverage as well as improved manufacturing precision).

2006 / Ecsaine (synthetic leather) introduced on backchecks, knuckles, and balanciers for quieter operation of action parts.

2008 / Climate control and daily computer measurement of tolerances in the Action Department for making the world's finest piano action parts.

STEINWAY & SONS