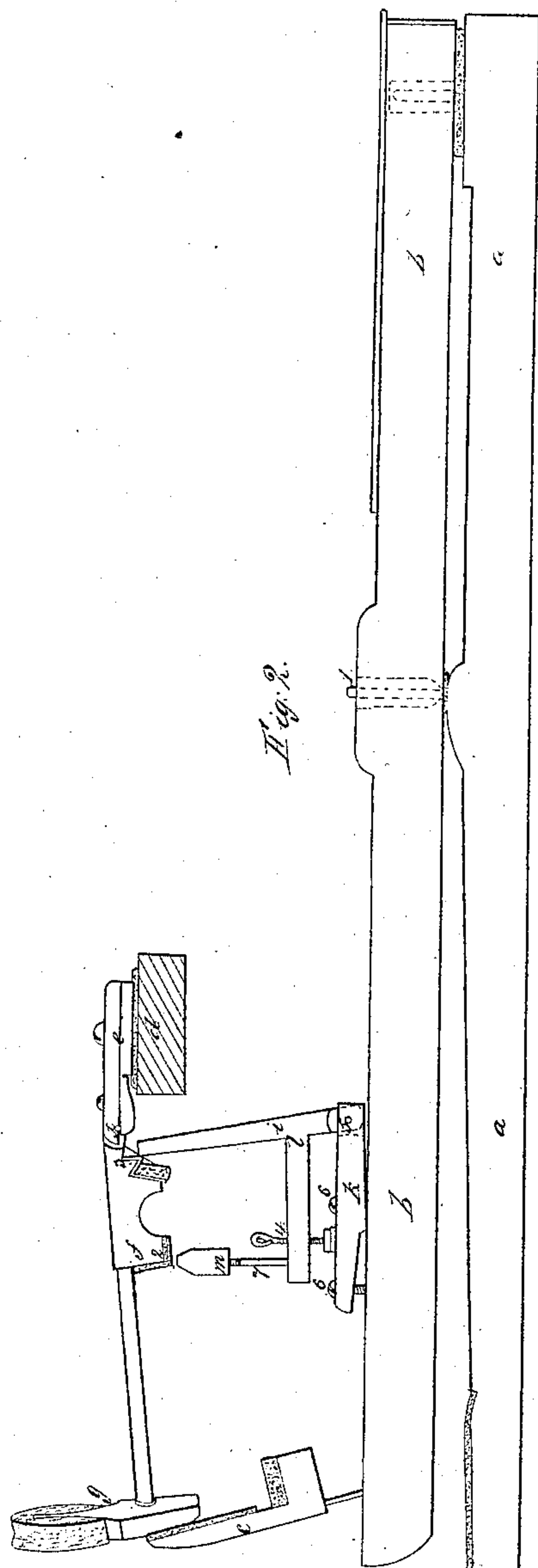
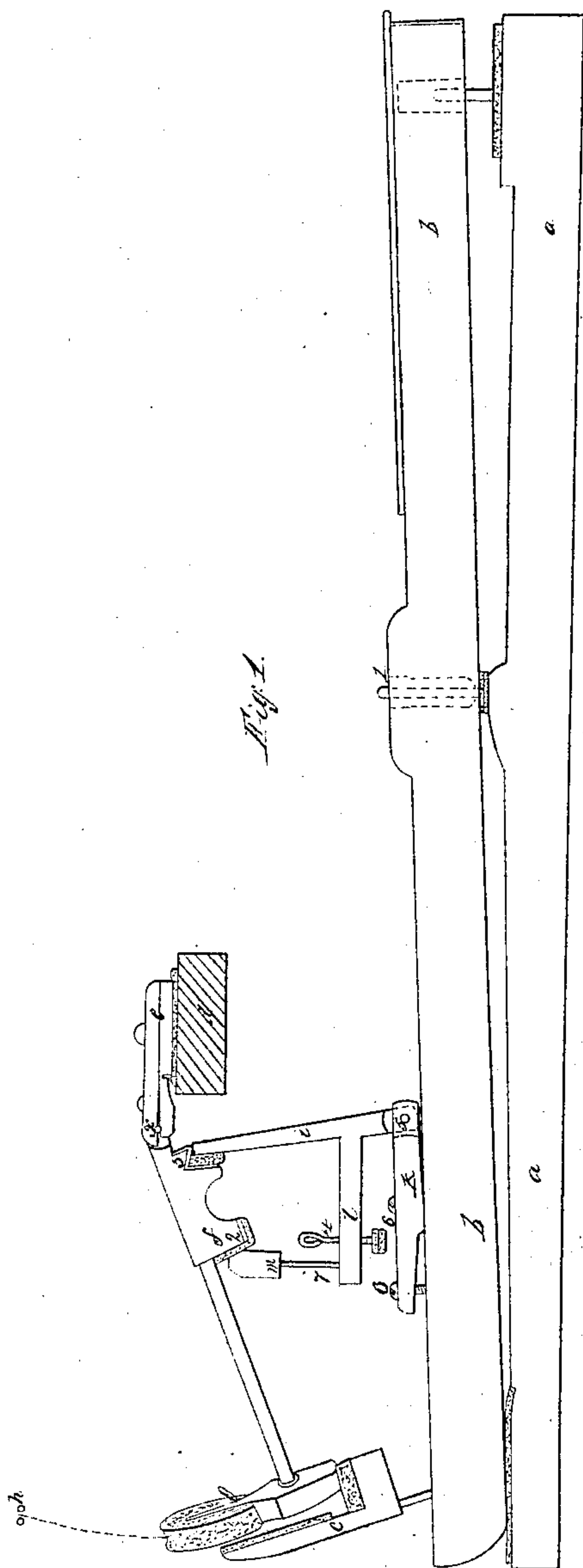


F. Taylor,
Piano Action.

N^o 13924.

Patented Dec. 11, 1855.



Witnesses:
Samuel W. Barrett
Thomas C. Barrett

Inventor:
Francis Taylor.

UNITED STATES PATENT OFFICE.

FRANCIS TAYLOR, OF NEW YORK, N. Y.

PIANOFORTE-ACTION.

Specification of Letters Patent No. 13,924, dated December 11, 1855.

To all whom it may concern:

Be it known that I, FRANCIS TAYLOR, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in Pianoforte-Actions; 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 annexed drawing, making part of this specification, wherein—

Figure 1, is a side elevation of the key and other parts of the action, and Fig. 2, is a view of the same parts after the note has been struck, and from which position a repeating blow can be given if required.

Similar marks of reference indicate the same parts.

In almost if not all the piano forte actions which have heretofore been devised a spring is made use of to return the jack beneath the knuckle of the hammer butt, and in cases of repeating actions two or more springs have been made use of in connection with the jack. These springs have to be delicately adjusted and are always apt to become weak and inefficient.

The nature of my invention consists in so constructing the jack and applying a regulating button thereto, that the weight of the hammer shall cause the jack to pass under the knuckle of the hammer, and said regulating button hold the same to the said knuckle until the blow or impulse is given to the hammer, thereby dispensing with springs and also furnishing by a very simple construction a repeating action that is not liable to wear or derangement of any kind.

In the drawing the bottom *a*, of the key board is fitted with the ordinary center pin 1, key *b*, and check *c*. *d*, is the hammer rail; *e*, the hammer flanch; *f* the butt carrying the hammer shank and hammer, *g*. *h*, are the strings of the given note. These parts thus far are of any usual character or method of construction, with the exception that the butt *f*, is made longer and fitted with an additional knuckle 2, to act as hereafter described.

i, is the jack set on a center pin on the lever bottom *l*, which is attached and adjusted by screws 6, 6, as usual.

l, is an arm extending out from the back of the jack and carrying the regulating screw and button 4, and also a square regu-

lating button *m*, set on a screw rod or wire 7, and formed both sides alike so that it can be raised or lowered and regulated to half a turn of said button *m*.

The parts being in the position shown in Fig. 1, the operation, on striking the key *b*, is as follows: The jack *i*, is thrown up which acting on the knuckle 3, of the butt *f* strikes the hammer *g* up against the strings *h*; but when the hammer commences to lift, the jack *i*, cannot be disengaged from the knuckle 3, because the knuckle or stop 2, being between the bottom *m*, and jack *i* the said hammer and knuckle 2, must first be lifted above the upper end of the regulating button *m*. When by the motion of the parts this point is arrived at, the regulating screw button 4, (in consequence of the motion of the jack on its center 5, caused by its upper end being held to the knuckle 3 as said knuckle moves toward the back of the piano in consequence of the hammer rising) comes in contact with the lever bottom *l*, and carries the jack as a fixture to the key until the divergence of the arcs of circles described by the motion of the key on the center pin 1, and the hammer on its center pin (*x*) separates the point or end of the jack from the knuckle 3, and when the blow of the hammer is given on the string the same falls onto the check *c*, which catches the hammer *g* preventing any rebound. If now the key (*b*) be released the check leaves the hammer, and the hammer resting on the button *m*, first draws the jack *i* beneath the knuckle 3, and then in the farther descent of the back end of the key (*b*) and the hammer, the knuckle 2 passes down in front of the regulating button *m*, and the parts assume the position shown in Fig. 1. If on the contrary the key be held onto and suddenly released and struck so as to give a repeated blow, the knuckle 2, by the slight descent of the hammer acting on the button *m*, replaces the jack *i* beneath the knuckle 3, so as to give the repeat blow, and that before the hammer reaches the foot of the check or the key (*b*) is fully raised, the same only being allowed to raise sufficient to give the repeat blow.

In the foregoing description the term "jack" is applied to that part only which takes the knuckle 3, sometimes called the "fly of the jack" to distinguish this part from the other parts that are attached to the key and act on the hammer and which are

often called as a whole "the jack." As there is no point of novelty in the regulating screw 4, to produce the let off motion the same or any other let off motion might be applied to the fly of the jack in any other suitable manner.

This repeating action is very cheap in its construction and is very durable and permanent, not having any springs, and it is also entirely noiseless because the jack cannot be thrown sufficiently away from the knuckle to return with a blow.

I do not claim the button *m*, taking the second knuckle of the hammer butt, as this has been used as an attachment to the key; but I am not aware that this button *m*, has ever before been made as a permanent attachment to and moving with the fly of the jack in the manner and as specified, whereby the fly of the jack is held to the knuckle 3, by the button *m*, until the hammer is suf-

ficiently raised for said button *m*, to clear the knuckle 2, and also replaces the said fly of the jack beneath said knuckle 3, immediately that the key is released and the hammer descends but a short distance, producing an instantaneous and uniform repeating action. Therefore

What I claim and desire to secure by Letters Patent is—

The regulating button *m*, permanently connected to, moving with, and governing the fly of the jack, in its action on the butt of the hammer, the whole arranged and operating substantially as specified.

In witness whereof I have hereunto set my signature this tenth day of October 1855.

FRANCIS TAYLOR.

Witnesses:

LEMUEL W. SERRELL,
THOMAS G. HAROLD.