(No Model.)

W. FISCHER.

PIANO FORTE.

No. 275,759. Patented Apr. 10, 1883.

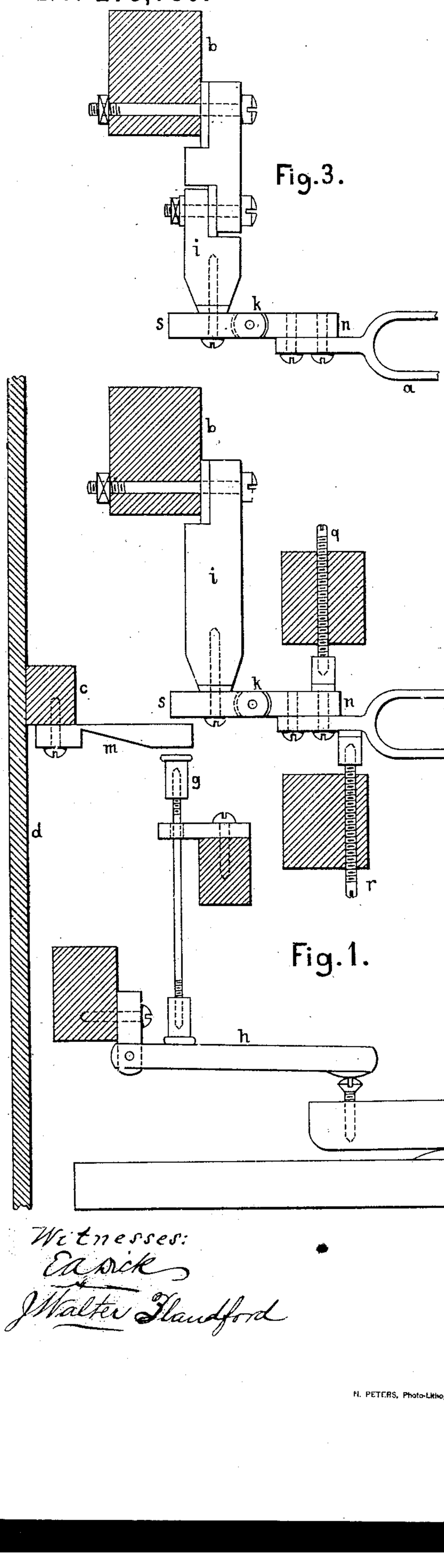

Fig. 1.

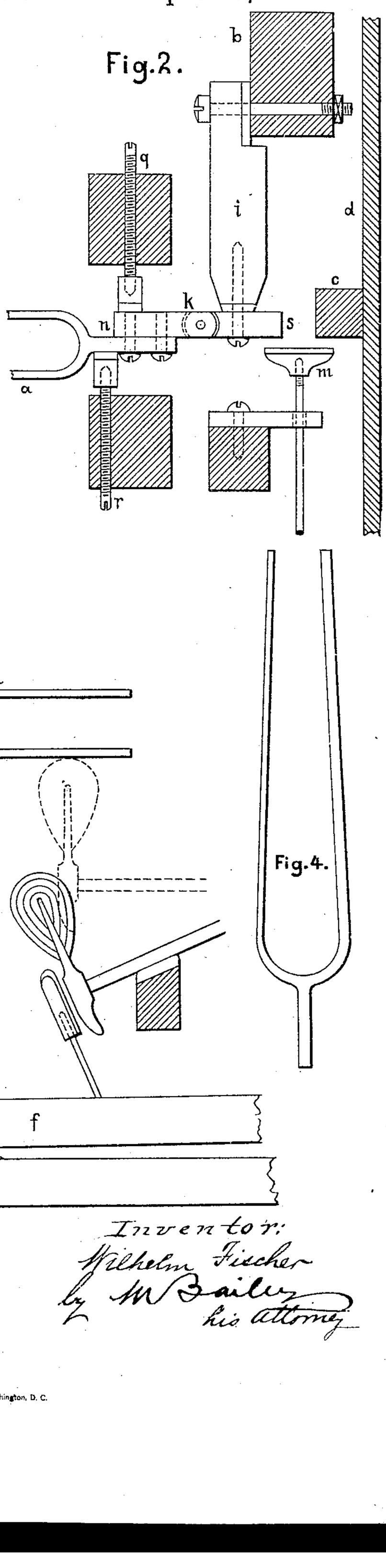

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILHELM FISCHER, OF LEIPSIC, SAXONY, GERMANY.

PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 275,759, dated April 10, 1883.

Application filed December 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILHELM FISCHER, instrument maker, residing in Leipsic, Kingdom of Saxony, German Empire, have invented new and useful Improvements in Piano-Fortes, of which the following is a specification.

My invention consists in improvements in the pianos described in the specification of my application for United States Letters Patent No. 50,496, of the 19th January, 1882, and in which the notes are produced by sounding-forks. By continued experiments I have found that the forks, when they are fixed to the sounding-board, have a prejudicial influence on each other, inasmuch as their sound, however full and sonorous it may be when there are but few forks in the instrument, will be considerably reduced in strength when the whole series is secured to the board. In order to remove this inconvenience, I at present attach the forks to an independent bar, and I establish their connection with the sounding-board separately for each fork at the moment it is struck by the hammer, and for the time only that its sound is desired to be heard. This connection is obtained by means of a piece which I have called the "transmitter," and which is operated by the key and adapted to convey the vibrations of the fork to the sounding-board.

The invention is represented on the annexed sheet of drawings in Figures 1 and 2 in two different arrangements. Fig. 3 shows a modification of a part thereof, while Fig. 4 is a fork embodying an improvement by which greater purity of tone is attained.

The forks *a* are carried by a bar, *b*, consisting of lead strengthened by a core of iron, or of any other suitable material being a bad conductor of sound. To this bar the forks may be fixed directly with their stem; but by preference the attachment is made by means of a hinge, *k*, and an arm, *i*, as shown in Figs. 1 and 2, the fork being at the same time held between two screws, *q* and *r*, having knobs faced with soft material, or in other convenient manner. In order to reduce the transmission of vibrations from the forks to the bar *b*, the arms *i* are, with advantage, made of two parts, between which a piece of india-rubber or felt, &c., is inserted, as represented by Fig. 3.

m is the intermediate piece or transmitter, by which the temporary contact between a fork struck by its hammer, and the sounding-board *d* is established. The same is fixed, according to Fig. 1, with one end to the ledge *c* of the said board *d*. In its position of rest this piece does not touch the fork or the hinge part *s*; but it is sufficiently elastic so that, when the key *f* is depressed, the pin or lifter *g* will press its free end against the stem of the fork, or the part *s*, as the case may be, and thus produce the contact requisite for the transmission of the vibrations. This contact is maintained as long as the key is depressed, and is broken when the latter is released. If preferred, the transmitter may be attached to or form one piece with the hinge part *s*, while it is arranged to be brought in and out of contact with the ledge *c*.

According to the drawings, the lifter *g* is operated by a lever, *h*, acted upon by the key *f*. The purpose of this lever is to reduce the stroke of the lifter, which would be disadvantageously great if the latter were connected to the end of the key.

In the modification represented by Fig. 2 the transmitter forms the head of the lifter *g*, and is so arranged that, when raised by the key, it will simultaneously touch the ledge *c* and the fork-stem or the hinge part *s*.

According to my aforesaid former specification, the secondary or harmonic note of sounding-forks is suppressed by means of an elastic ring placed around one of the prongs of the fork. The same effect may be obtained by making one prong of the fork thicker than the other one, as is shown in Fig. 4.

I claim as my invention—

1. In a piano, the sounding-forks *a*, secured to a bar, *b*, independently of the sounding-board, in combination with the transmitters *m* and means connecting said transmitters with the keys *f*, whereby a transmitter establishes contact between the fork and the sounding-board upon the depression of a key, substantially as and for the purpose described.

2. In a sounding-fork piano, sounding-forks having one prong thicker than the other, as and for the purpose hereinbefore set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILHELM FISCHER.

Witnesses:

G. W. FISCHER,

FRED. P. WISKIE.