

**IMPROVEMENT IN KEY-BOARDS.**

Instrumental music forms one of the charms of life, and many an evening is deliciously passed listening to the strains of a piano, which, were it not for that attraction, would be, perchance, worse employed. Indeed, so universal has the love of music become, that it is now regarded as a necessary branch of education in all female colleges and seminaries; and we hope the time will come when we of the rougher sex will find it general in our own schools. Those of us who have acquired this accomplishment know how hard and difficult it was for us

part A of the case. C is the "gamut-board," having engraved or otherwise delineated upon it, or faced with paper or other material having engraved, printed or otherwise inscribed upon it, the treble and bass staffs, and such a system of vertical lines, c c (Fig. 1), as will point to or meet the keys of the natural notes on the key-board, and having each of such lines indicated on the staff by the proper letter, and being marked upon it, in the proper horizontal spaces between such lines with the letters and signs which will indicate the sharp and flat keys below such spaces, as will be readily understood

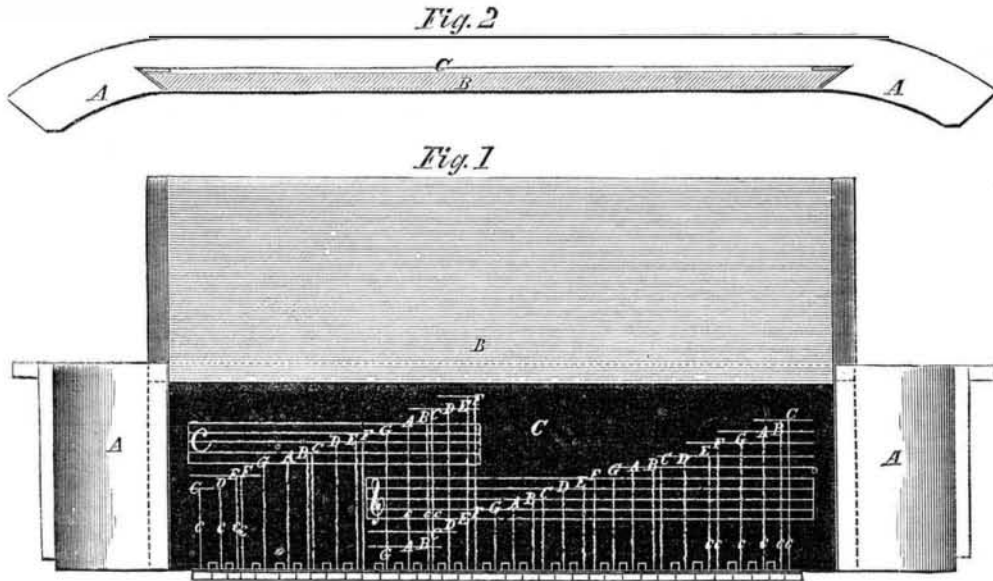
change (S. A. Heath & Co.), 37 Park-row, New York, who will forward the device by express, upon receipt of one dollar.

**IRON RAILROAD BRIDGES.**

In a letter to the *North American and U. S. Gazette*, M. H. Wilson, resident engineer of the Pennsylvania Railroad, states that he is replacing the wooden bridges of the company, as they become defective, by structures of stone or iron. The spans of the iron bridges range from 40 to 110 feet, and are constructed at the workshops of the company, upon plans designed during the construction of the road, but modified and improved upon by the several engineers who have successively had charge of the road. The iron bridges of spans of less than 40 feet are composed of compound beams from the Phoenix Works, arranged in a very simple and effective manner. "For short spans," he says, "these beams constitute an excellent bridge and are worthy of the attention of engineers generally." We recommend this subject to all the railroad companies in our country.

**THE OHIO LIFE AND TRUST CO.**—In the month of August, 1857, this old-established company failed, and in the partial development of its condition made at that time, it was evidently a corrupt concern. Public confidence had, previous to that time, been very strong in this company, and not long before this event its stock commanded a premium in Wall-street. Instances have come to our knowledge of persons in humble circumstances who had invested their little all in this stock, the value of which was swept out of their grasp as by the blast of a tornado. The failure of this company, and the rottenness of its condition, coming thus suddenly to public view, was but the first breeze of a financial whirlwind which extended over the whole civilized world. The *Cincinnati Gazette* states that the trustees are about to declare a dividend of ten per cent. to the creditors of this institution. There is no hope, however, that the stockholders will ever get a penny in return for their investment.

**STEAM PLOWING.**—Fawkes' steam plow is now in the State of Illinois, exhibiting before the Agricultural Society of that State, but it is to be exhibited in this city at the Agricultural Show of the American Institute, to commence on the 21st of September next. This steam plow will be operated on a field near Harlem, and it is expected that a large concourse of farmers will be present to witness the operations.



**MERRILL'S IMPROVED KEY-BOARD.**

to acquire a knowledge of the key-board, and recollect the many weary hours that were spent over the first lessons. But this is no longer the case, as will be seen by reference to our engravings, which represent the invention of H. T. Merrill, of Galena, Ill.

Fig. 1 is a front view of the name-board and adjacent parts of a pianoforte, and Fig. 2 is a horizontal section of the name-board and a top view of the front portion of the case of a pianoforte.

A represents the solid front portion of the case behind the key-board. B is the name-board, upon which the name of the maker of the instrument is ordinarily inscribed; this board being of the whole length of the key-board, fitted to slide in dove-tailed grooves, in the

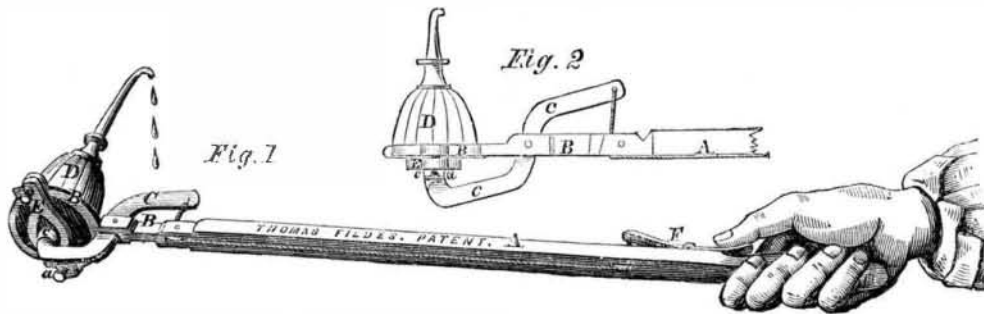
by reference to Fig. 1, where the keys are represented in black outline. A cavity is left between the name-board and the staff-board, to prevent the latter being chafed by the sliding of the name-board over it.

It will be seen that, with this invention, the piano may be quickly learned, as it is always before the player; and, indeed, any person having first a theoretical knowledge of music can play on a piano which is provided with this invention. It was patented June 14, 1859, and a notice of it was published on page 346 of the last volume of the *SCIENTIFIC AMERICAN*. The inventor will be happy to furnish any further information, upon being addressed as above.

**IMPROVED LUBRICATING DEVICE.**

Much oil is wasted in the lubricating of machinery with the present oil-cans, and there are many parts of a machine which place the attendant's life in jeopardy each time he places oil in their bearings, from the number of parts through which his arm has to be passed to get at the desired spot. All this is prevented by the use of the subject of our engraving, which is the invention

placed in the clamp, so as to hold the oil-can perfectly secure in the clamp. This bar, E, has an opening in its center, through which a small stop, c, on the end of a lever or bar, C, projects, so that it touches the bottom of the can, and the other end of this lever is attached to a cord that passes under a pulley at one end of A, and under another on the handle end to a trigger, F. The device is used as follows: The can is filled with oil and



of Thomas Fildes, of Medina, Pa., and which we will now describe.

Fig. 1 is a perspective view, and Fig. 2 is a side elevation. A represents a handle, which may be of wood and of any desired length, and B is a clamp of metal secured to A, and constructed as follows: It is rather more than a semi-circle, which is beveled to conform to the conical shape of the ordinary oil-can, D. About the center of B two small ears project, to which, by screws, a, a small bar, E, is attached, when the oil-can has been the attendant grasps the handle, A, and places the ori-

fice of the lubricating-can at the desired spot; then, by pressing with his thumbs upon the trigger, he actuates, by the cord, the lever, C, and so presses the end, c, against the bottom of the can, compressing the air and forcing the oil out, drop by drop, or in a continuous stream, as may be desired, just as if the thumb were applied to the bottom directly. By the use of this invention tall machinery may be lubricated without a ladder, as the handle can be of any length.

The patent is dated April 12, 1859, and any further information may be obtained from the Inventors' Ex-

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