

No. 654,914.

Patented July 31, 1900.

C. M. McQUILKIN.
PIANOFORTE HAMMER.

(Application filed Feb. 18, 1900.)

(No Model.)

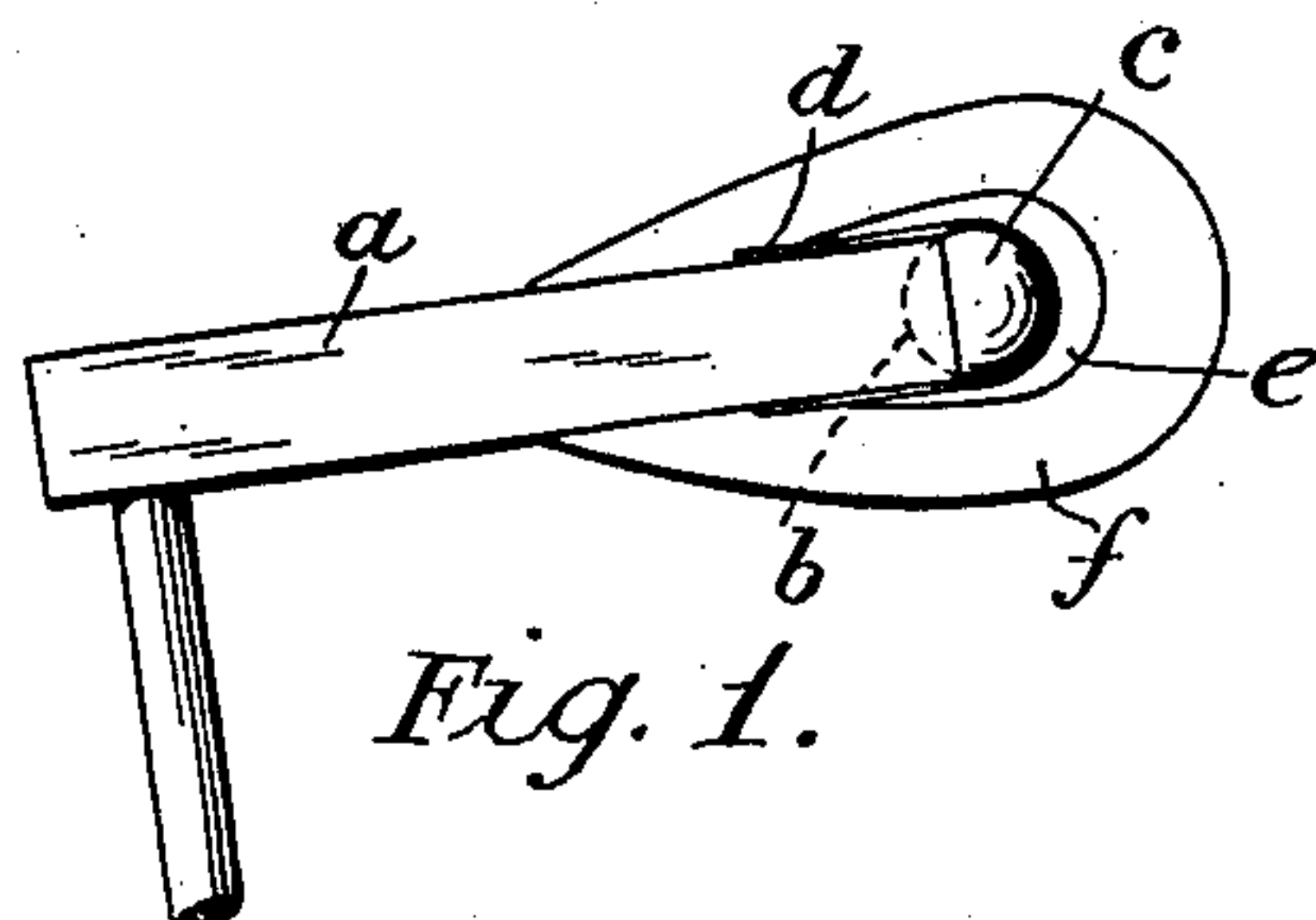


Fig. 1.

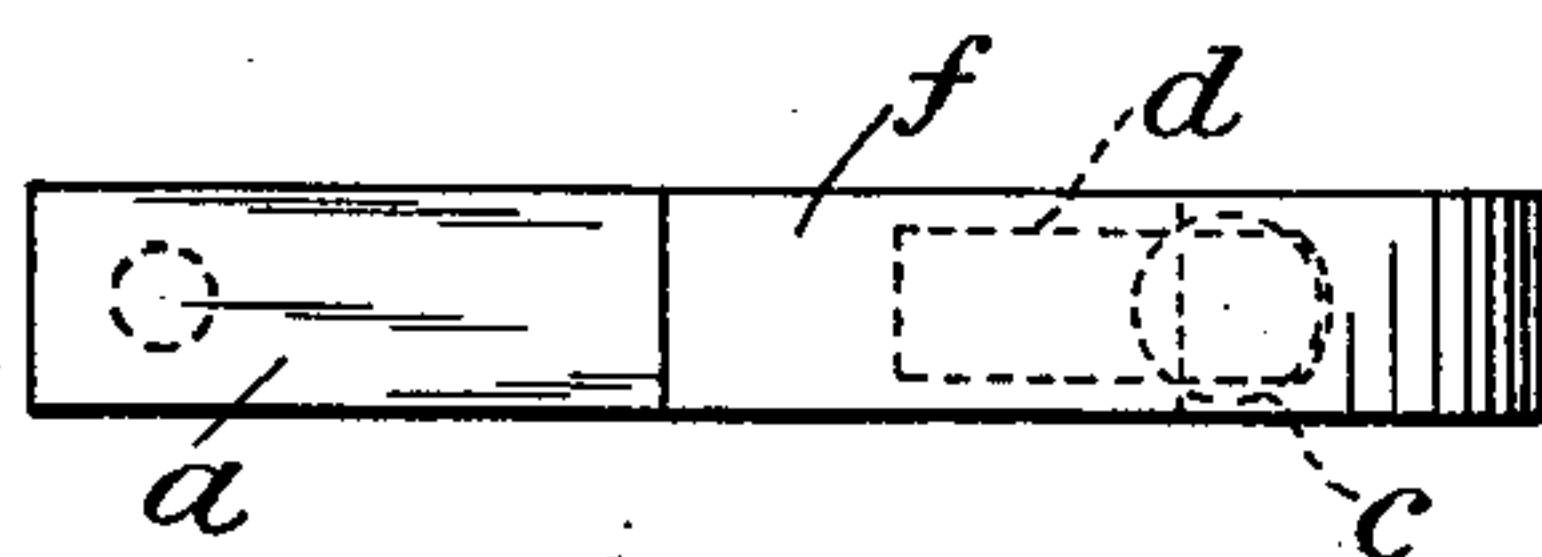


Fig. 2.

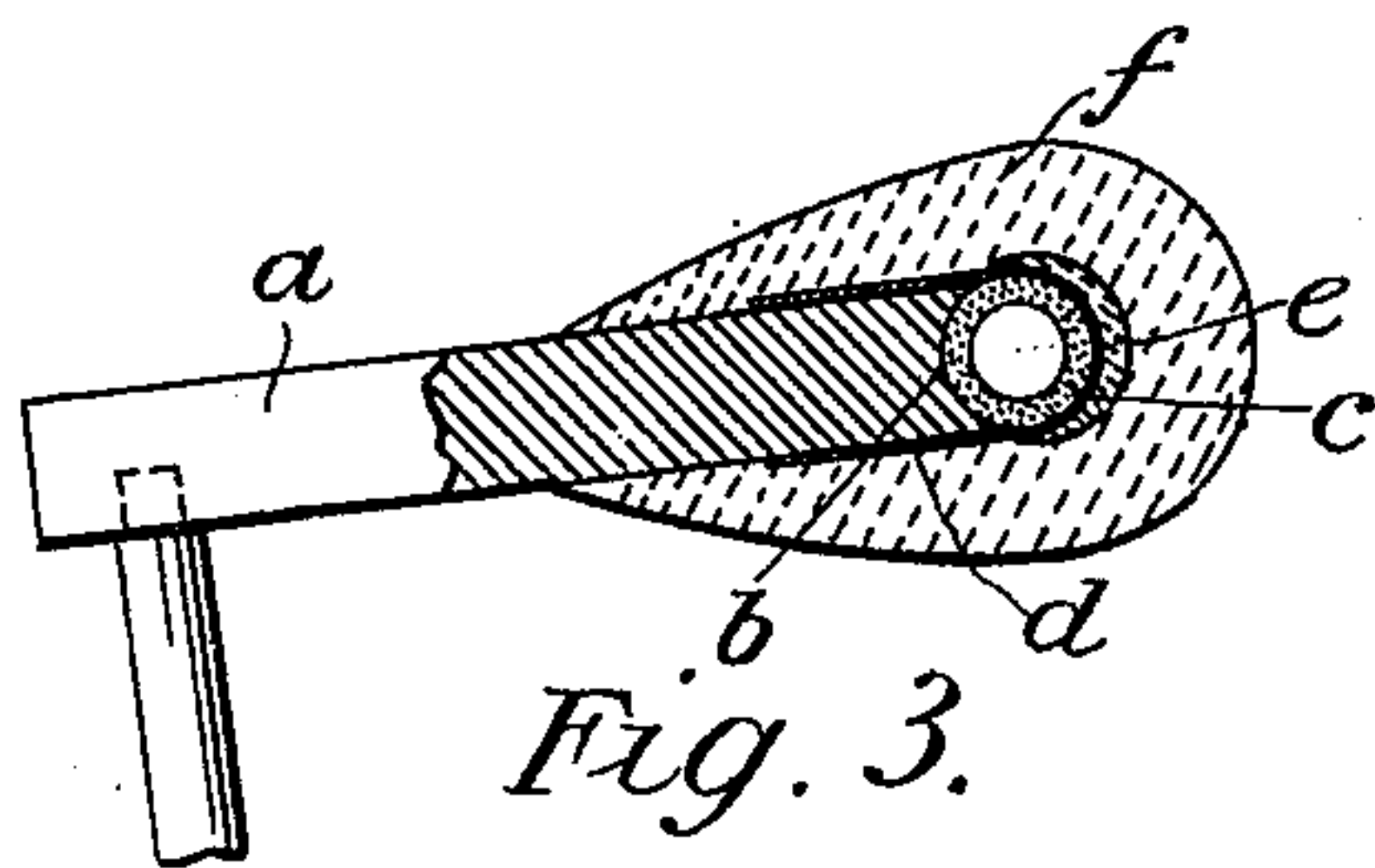


Fig. 3.



Fig. 4.

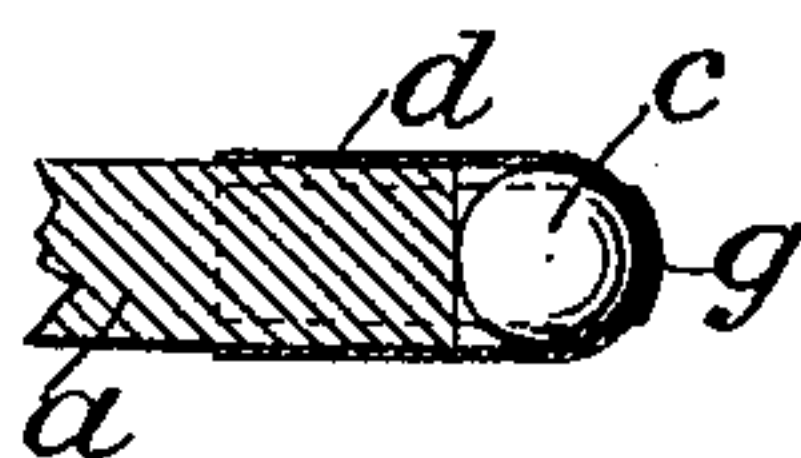


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES MERRY McQUILKIN, OF DENISON, VICTORIA.

PIANOFORTE-HAMMER.

SPECIFICATION forming part of Letters Patent No. 654,914, dated July 31, 1900.

Application filed February 19, 1900. Serial No. 5,684. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MERRY McQUILKIN, a subject of the Queen of Great Britain, and a resident of Denison, via Heyfield, Gippsland, in the Colony of Victoria, have invented certain new and useful Improvements in Pianoforte-Hammers, of which the following is a specification.

In pianoforte-hammers commonly in use the felt-covered end which strikes the wires to produce the note becomes hardened and "dead," and the tone of the note is thus rendered defective. I provide at the end of the hammer a resilient cushion of peculiar construction in which this objection is obviated.

In describing the invention I will make reference to the accompanying sheet of drawings, in which—

Figure 1 shows a side view of a hammer to which my invention has been applied; Fig. 2, a plan of same; Fig. 3, a longitudinal vertical section of same. Fig. 4 shows an end view of hammer with felt removed, and Fig. 5 a corresponding side sectional view. In these views, Figs. 4 and 5, an extra strip, to be hereinafter described, is shown.

a represents the rigid arm or head of a pianoforte, in the end of which I form a recess *b*, and in such recess I set a ball *c* of rubber. This ball is preferably of the form of a hollow sphere, spheroid, or the like and is set in the recess to a depth of about one-third the diameter of the ball and glued or solutioned into position. A strip of rubber *d* passes around the said ball and has its ends secured to the top and bottom faces of the hammer, and upon the said band are mounted strips of felt *e f*, secured to the top and bottom faces of the hammer. The felting is preferably of increased thickness at end of hammer, and for this purpose it may be specially built up by means of insertion-strips. The cushioning material *e f* may correspond with and be secured in the manner commonly known and in use at the present time upon pianoforte-hammers. The employment of the elastic ball will maintain the cushion in a "live" condition.

The band *d* aforesaid, which holds the ball in position, is preferably formed of rubber upon a base of textile fabric, the fabric side being placed next to the wood of the hammer and receiving the glue or solution by which it is affixed in position. The band is, however, not solutioned to the ball. In thus se-

curing the ball in its recess and also in securing the felting to the rubber band a gutta-percha cement may be used instead of glue.

If desired, an extra cross-band *g*, Figs. 4 and 5, might be employed to pass over the ball and be secured to the sides of a hammer. In this case no recess for the ball would be required; but this in practice would not be employed if the recess were employed and formed sufficiently deep to hold the ball in place.

In applying my invention to a pianoforte the sizes of the spheres or the like would vary upon the different hammers. Thus the hammer at the extreme bass end of the piano would be provided with the largest ball, and the balls would gradually decrease in size, the smallest being at the extreme treble end of the piano, and similarly the amount of felt covering might be varied. The drawings show approximately the average size of ball to be employed.

It will be seen that the ball *c* bears or is seated directly upon the rigid part *a* of the hammer and constitutes a resilient backing-spring for the entire thickness of the cushion *e f*.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A pianoforte-hammer having an elastic hollow ball seated on the rigid portion of the hammer, and bearing against the inner side of the cushioning material of the hammer.

2. A pianoforte-hammer having a recess at one end in which is placed a hollow elastic ball said ball being held in position by an elastic strip solutioned to the wood of hammer but not to the ball, and having coverings of felt or like material substantially as and for the purposes described.

3. A pianoforte-hammer having a hollow elastic ball placed at one end and held in position by elastic strips as *d* and *g*—solutioned to hammer—and having coverings of felt or like material substantially as and for the purposes described.

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

CHARLES MERRY McQUILKIN.

Witnesses:

A. HARKER,

A. O. SACHSE: