(No Model.)

F. SMITH.

STAFF BELL.

No. 513,152. Patented Jan. 23, 1894.

Fig. 1.

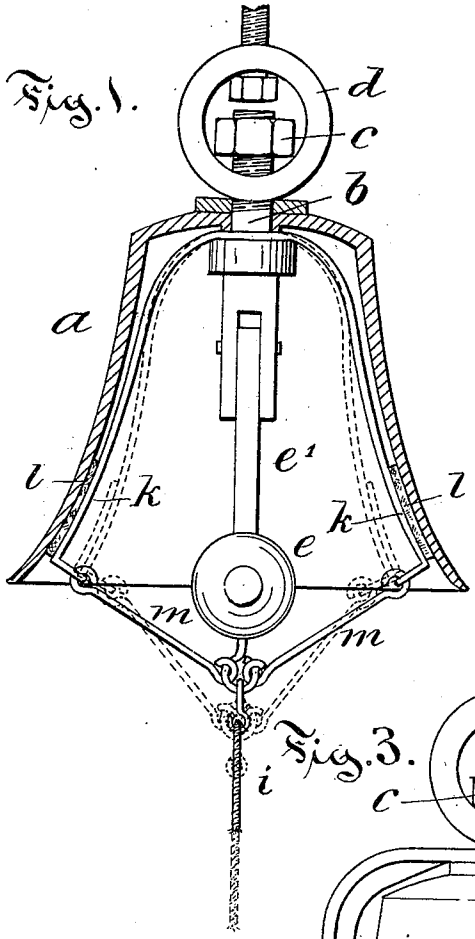


Fig. 2.

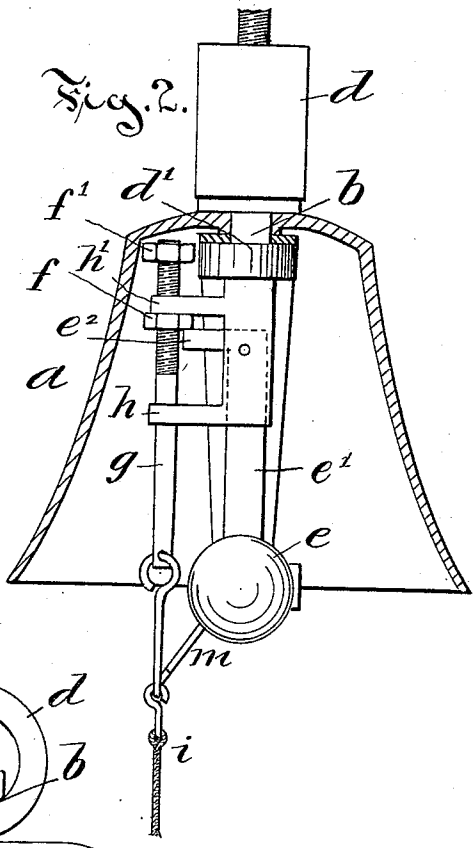
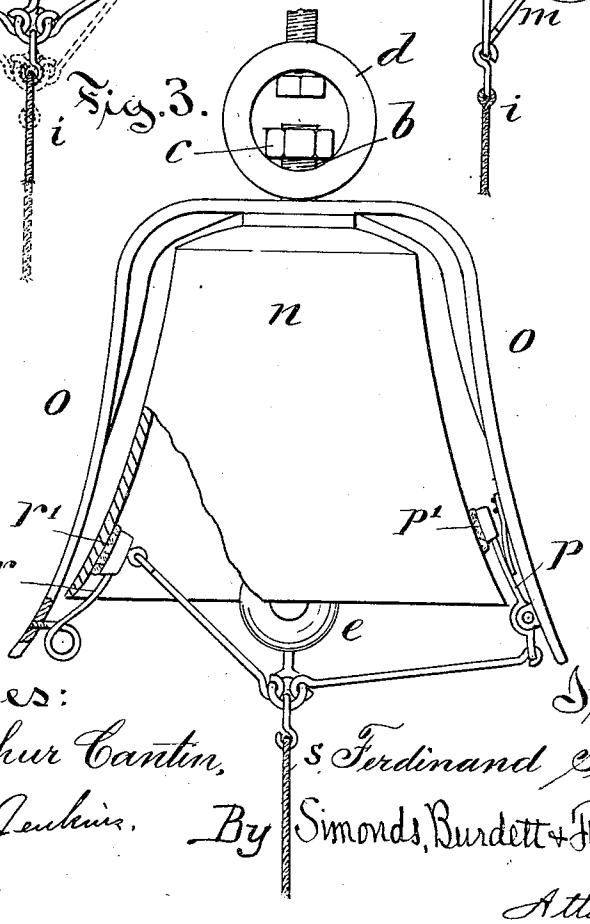


Fig. 3.



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STAFF-BELL.

SPECIFICATION forming part of Letters Patent No. 513,152, dated January 23, 1894.

Application filed November 3, 1893. Serial No. 489,949. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND SMITH, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Staff-Bells, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates to the class of bells which are used for producing musical sounds and for playing tunes, and more particularly to such bells as are known as staff bells, that is, those which are held on a rigid frame and the bell played by means of a hammer or tongue.

The object of my invention is to provide a device for controlling the duration of the note sounded as by a pull upon a cord which operates the striking device; and to this end my invention consists in the details of the several parts making up the striking and muffling devices and in the combination of such parts with a bell as more particularly hereinafter described and pointed out in the claims.

Referring to the drawings: Figure 1 is a detail view in central vertical section of a bell embodying my invention. Fig. 2 is a detail view in central section of the bell showing the operative parts in a plane at right angles to the plane of view of Fig. 1. Fig. 3 is a detail view in side elevation of a bell showing modified forms of muffling devices.

In the accompanying drawings the letter *a* denotes a bell of ordinary form and construction, *b* a stem which is preferably a casting having a shoulder *d'*, the threaded end of the stem extending through a hole in the bell, and a nut *c* serving to secure the bell to a support *d*. The stem extends within the bell and supports a hammer *e*, the lever *e'* of which is pivoted to the stem and has an arm e^2 projecting into the path of movement of a nut *f* which rests on the arm so that a downward movement of the rod *g* will cause the hammer to be swung outward by the lever which rocks on its pivot and causes the hammer to strike the sounding shell of the bell. The reciprocating rod *g* is supported in the arms *h*, *h'*, on the stem and it has a limited lengthwise movement. The extent of movement may be controlled by the nuts *f* and *f'* which may be moved on the threaded stem to the proper position to determine the length of throw of the rod. To the lower end of the rod *g* a pull cord *i* is connected.

If the bell is struck by pulling on the cord *i* and the cord then released the hammer dropping back from the sounding shell allows the musical note to be prolonged and to diminish gradually until it dies away. It is desirable in using a line of bells on a fixed support, called the staff, to be able to control the duration of this sound of any note to prevent a discord. To accomplish this a muffler *k* is arranged with its felt *l* normally pressing against the sounding shell.

The pull cord *i* is connected by links *m*, which are jointed or otherwise flexible, to the muffler lever or spring so that when the cord is pulled the muffler felts *l* are withdrawn from contact with the sounding shell allowing the note sounded by the hammer to be prolonged. By slackening the cord *i* the mufflers are at once pressed again upon the shell by the spring and the note dampened or completely smothered, depending on the force or degree of the contact.

In Fig. 3 of the drawings modified forms of mufflers are shown, the bell *n* having a frame *o* secured to the stem and extending downward on opposite sides of the shell. On the lower ends of these arms of the frame the muffler *p* is arranged so that its felt *p'* is applied to the exterior of the shell, the muffler *r* on the other arm of the frame being arranged to press its felt *r'* against the interior surface of the shell. Both mufflers depend for their dampening effect upon the pressure of the spring which holds them normally in contact with the shell.

The pull cord *s* is connected to the mufflers so that when the cord is used to sound a note by striking the hammer against the shell the mufflers are withdrawn and held out of contact until the pulling strain is relaxed.

The several forms shown are only a part of those in which my invention may be embodied and it is present whenever the combination of parts is present which permits and compels in use the effects and results described in such an arrangement of mechanisms.

I claim as my invention—

1. In combination, a bell, a tongue lever and hammer, a muffler, means for sounding the bell and flexible or jointed connections between such means and the muffler, all substantially as described.

2. In combination, a bell, a tongue and hammer, a spring depressed muffler, a flexible pull cord attached to the tongue and to the muffler, all substantially as described.

3. In combination, a bell, a stem supporting a swinging tongue, a sliding rod supported on the stem, an adjustable nut borne on said rod and arranged to engage an arm on the tongue, a muffler having a felt normally held in contact with the surface of the bell, a pull cord attached to the tongue and to the muffler, all substantially as described.

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Witnesses:
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