

No. 630,166.

Patented Aug. 1, 1899.

J. F. BATCHELOR.  
SOUND DEFLECTOR.

(Application filed June 10, 1898.)

(No Model.)

Fig. 1.

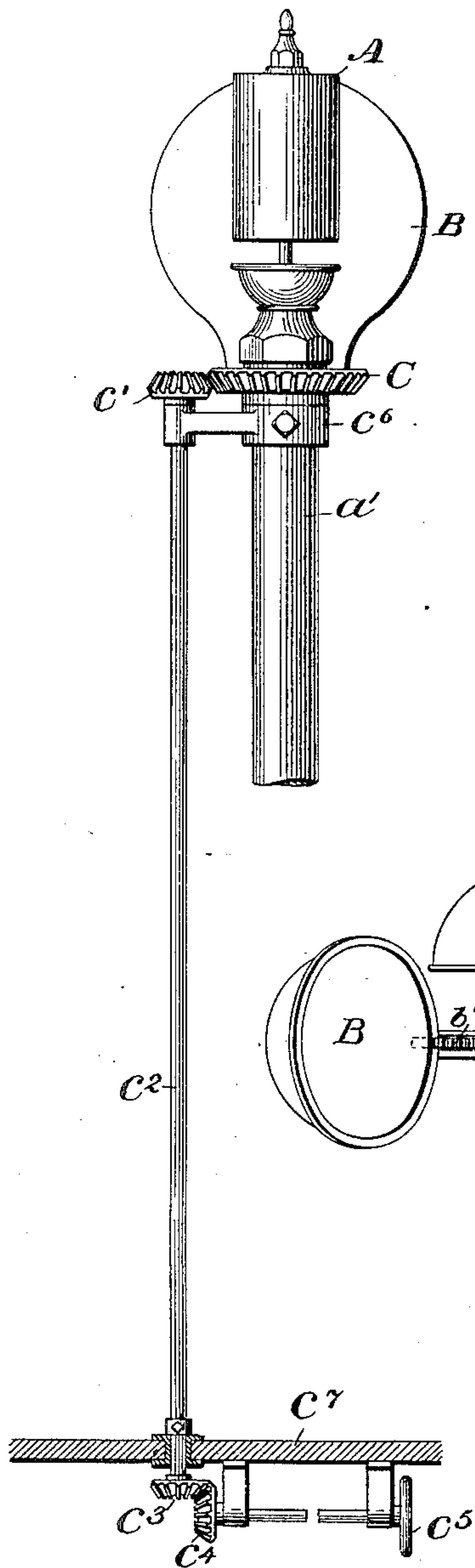


Fig. 2.

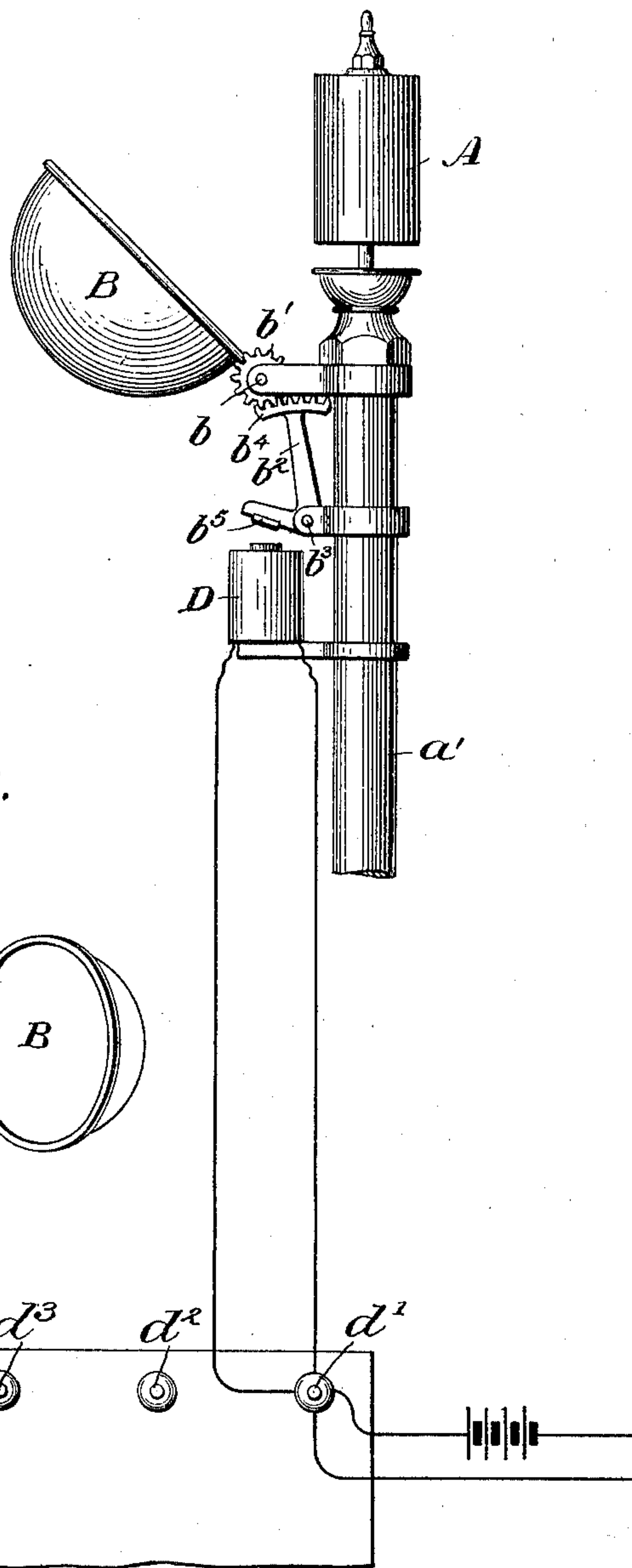
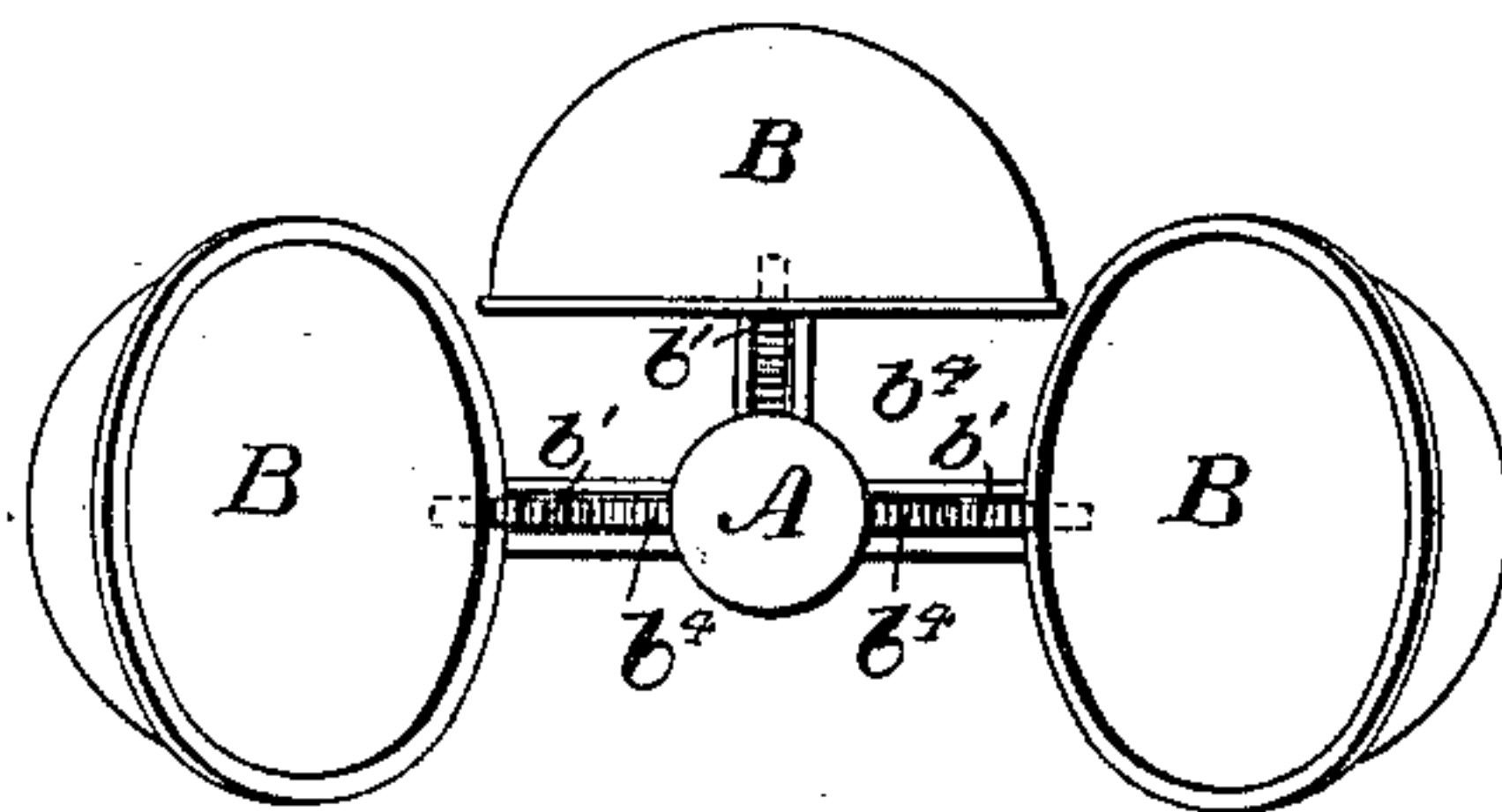


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH F. BATCHELOR, OF NEW YORK, N. Y., ASSIGNOR TO ELIZA J. BOYDEN, OF NEWARK, NEW JERSEY.

## SOUND-DEFLECTOR.

SPECIFICATION forming part of Letters Patent No. 630,166, dated August 1, 1899.

Application filed June 10, 1898. Serial No. 683,150. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH F. BATCHELOR, a citizen of the United States, and a resident of New York, (Brooklyn,) county of Kings, and State of New York, have invented certain new and useful Improvements in Sound-Deflectors, of which the following is a specification.

My invention relates to an improvement in sound-deflectors and means for adjusting the same in relation to a sound-producer.

I have illustrated my invention in the accompanying drawings, in which like letters refer to like parts.

Figure 1 is an elevation showing a whistle as a sound-producer and a sound-deflector, with means to adjust the deflector in relation to the whistle manually. Fig. 2 is an elevation of a whistle as a sound-producer, showing means to adjust the sound-deflector in relation to the whistle electrically. Fig. 3 is a diagram showing three deflectors arranged about the whistle to throw the sound in different directions.

A represents a steam-whistle.  $a'$  is a supply-pipe thereto. B is a sound-deflector. C is a beveled gear suitably journaled on the supply-pipe  $a'$ . The sound-deflector B is secured to this beveled gear-wheel.  $c'$ ,  $c^3$ , and  $c^4$  are a train of beveled gear connected with the beveled gear C by the rod  $c^2$ , the said rod  $c^2$  being suitably supported by the bracket  $c^6$ , secured to the supply-pipe  $a'$ .  $c^7$  is intended to represent the top of the pilot-house of a ship or other suitable support.  $c^5$  is a hand-wheel controlling the train of gear. The operation of this device is as follows: When it is desired to throw the sound produced by the whistle in any particular direction, the hand-wheel  $c^5$  is moved to operate the train of gear-wheels controlling the gear-wheel C, to which the sound-deflector is secured, thus causing the deflector B to be revolved about the whistle and adjusted to any desired position with relation thereto.

In Fig. 2 I have illustrated a means of operating the sound-deflector controlled electrically. A is the whistle, and  $a'$  the supply-pipe thereto. B is the deflector, pivoted at  $b$  in bracket secured to the supply-pipe  $a'$  and provided with the pinion  $b'$ .  $b^2$  is a crank-arm pivoted at  $b^3$  in a bracket secured to the

supply-pipe  $a'$  and provided at one end with a segment  $b^4$  and at the other end with an armature  $b^5$ . D is an electromagnet for said armature  $b^5$ , suitably mounted and in circuit.  $d'$  is a circuit-controller in said circuit. The operation of this device is as follows: Normally the deflector B is in the position shown in Fig. 2. When I close the circuit by means of the controller  $d'$ , the electromagnet D is energized, the armature  $b^5$  is attracted thereto, and through the segment  $b^4$  and pinion  $b'$  the deflector B is raised behind the whistle in position to deflect the sound in a direction before the deflector.

In Fig. 3 I have shown a diagram of an arrangement wherein I employ three or more deflectors, operated electrically, as described. In this case I provide three circuit-controllers, as  $d'$ ,  $d^2$ , and  $d^3$ , controlling three electromagnets to operate the deflectors, which are preferably located on the three sides of the whistle and adapted to throw the sound in three different directions. In the electrical arrangement shown I may cause the circuit-controllers  $d'$ ,  $d^2$ , and  $d^3$  to control also the circuit to electrically-controlled whistle-operating devices, to the end that when I close the circuit with any one of the circuit-controllers it not only operates the deflector, but also the whistle-controlling device to blow the whistle. As such devices are known in the art, it is unnecessary for me to more than refer to them here. The circuit-controlling devices referred to may also control devices for recording the blast of the whistle, as in my application filed May 2, 1894, Serial No. 509,766.

What I claim is—

1. The combination of a sound-producer and a substantially cup-shaped sound-deflector mounted below and to one side of the sound-producer and means to adjust the position of the sound producer and deflector with relation to each other, substantially as described.

2. The combination of a sound-producer and support therefor, a sound-deflector pivoted to the said support, a bell-crank lever also pivoted to said support, gearing operatively connecting the lever to the deflector, and means for operating the lever, substantially as described.



3. The combination of a sound-producer and a substantially cup-shaped sound-deflector pivotally mounted below and to one side of the sound-producer, and means to adjust  
5 the sound-deflector with relation to the sound-producer, substantially as described.

4. The combination of a sound-producer and a sound-deflector mounted below and to one side of the sound-producer, and a gear-  
10 ing operatively connected to the said deflector to adjust the same with relation to the sound-producer, substantially as described.

5. The combination of a sound-producer and a substantially cup-shaped sound-deflector mounted below and to one side of the  
15 sound-producer, and a gearing operatively connected to the said deflector to adjust the same with relation to the sound-producer, substantially as described.

20 6. The combination of a sound-producer and a substantially cup-shaped sound-deflector, and a gearing operatively connected to

the said deflector to adjust the same into and out of operative relation to the sound-producer, substantially as described. 25

7. The combination of a sound-producer and a series of pivotally-mounted sound-deflectors, and means to adjust each deflector into and out of operative relation to the sound-producer, substantially as described. 30

8. In a sound-producer, the combination of a whistle, a sound-deflector mounted below and to one side of said whistle, and means for adjusting said deflector into and out of operative relation with respect to the whistle, 35 substantially as described.

Signed at Utica, in the county of Oneida and State of New York, this 21st day of May, 1898.

JOSEPH F. BATCHELOR.

Witnesses:

R. LAZARUS,  
G. W. NEWTH.