

No. 646,749.

Patented Apr. 3, 1900.

C. W. & A. METTLER.

ALARM HANDLE.

(Application filed July 27, 1899.)

(No Model.)

Fig. 1

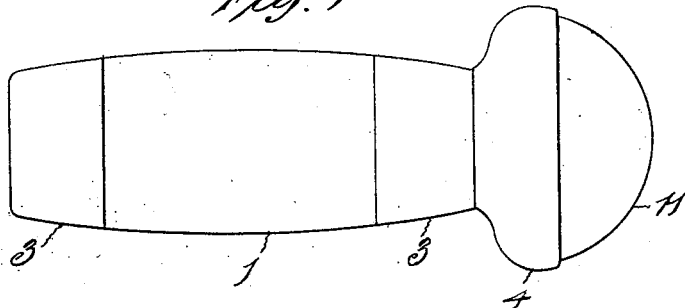


Fig. 2

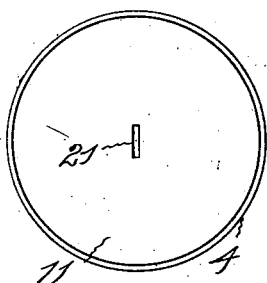


Fig. 3

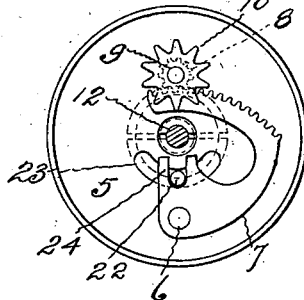


Fig. 4

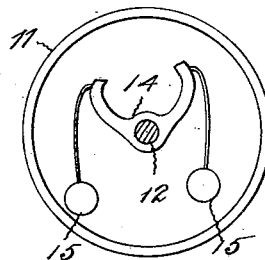
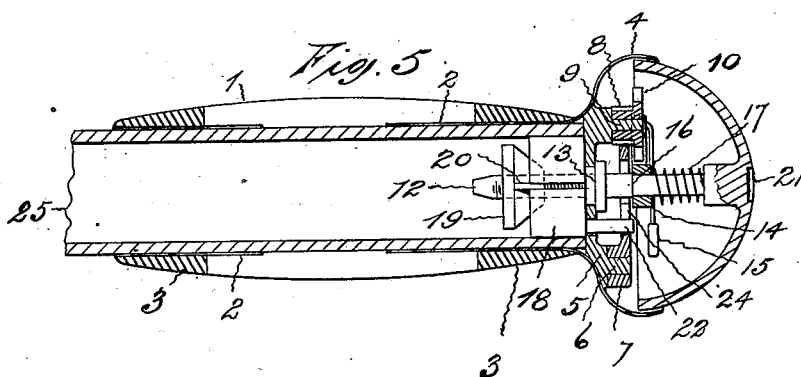


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

CASPAR W. METTLER AND ADOLF METTLER, OF HARTFORD, CONNECTICUT,
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ALARM-HANDLE.

SPECIFICATION forming part of Letters Patent No. 646,749, dated April 3, 1900.

Application filed July 27, 1899. Serial No. 725,270. (No model.)

To all whom it may concern:

Be it known that we, CASPAR W. METTLER and ADOLF METTLER, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Alarm-Handles, of which the following is a specification.

This invention relates to a handle which is provided with a bell and with means whereby it may be applied to the handle-bar of a bicycle, tricycle, or similar velocipede or to the controlling-lever of an automobile.

The object of the invention is to provide a simple, inexpensive, durable, and attractive handle which can be easily applied to the tubular handle-bar of the vehicle and which can be quickly and conveniently manipulated for ringing an alarm without releasing the force of the grip of the hand upon the handle.

The handle that is illustrated as embodying the invention has a tubular grip of comfortable material with the usual reinforcing-tips at the ends and a cup that extends outwardly from one of the tips. This cup has a swinging segment and a star-wheel that is attached to a pinion which meshes with the segment. In the open end of the cup is a bell-dome, and in the dome is an escape-anchor, the pallets of which bear striking-hammers and are arranged to be thrown back and forth by the teeth of the star-wheel when the latter is rotated. The stem of the dome is provided with clamping means which are employed for rigidly attaching the dome and movably holding the grip and cup to a tubular handle-bar, the fixed clamping means having a pin that engages the segment, so that when the grip and cup bearing the segment are turned on the handle-bar the segment will be oscillated and cause the star-wheel to rotate and throw the anchor in such manner that the hammers will strike the inside of the dome.

Figure 1 of the illustrations is a side view of a handle that embodies the invention. Fig. 2 is a view looking at the bell end of this handle. Fig. 3 is a view looking into the cup. Fig. 4 is a view looking into the dome, and Fig. 5 is a longitudinal section taken through the center of the handle.

The tubular grip 1 may be formed of cork,

corkaline, or any other suitable material that is comfortable for the hand. This grip is placed upon the metallic sleeves 2, on which the usual tips 3 of any desired composition are molded. The sleeve at one end is provided with a cup 4. Projecting from the bottom of the cup is a stud 6, and upon this stud the segment-plate 7 is loosely mounted. The teeth of this segment are arranged to mesh with the teeth of the pinion 8, that is placed upon a stud 9, which projects from the bottom of the cup. A star-wheel 10 is secured to this pinion.

The dome 11 is cast to suitable shape of bell-metal in the usual manner. Connected with the stem of the dome is a spindle 12, that is provided with a collar 13 and inside of the collar is screw-threaded. Loosely mounted upon the spindle is an escape-anchor 14, and fastened to the pallets of this anchor are wires with hammers 15. This anchor is so shaped that the pallets will be alternately engaged by the teeth of the star-wheel when the latter is rotated and oscillated in such manner that the hammers will be vibrated against the inside of the dome. The anchor is held from inward movement on the spindle by the shoulder 16, and from outward movement it is retained by the spring 17. A split bushing 18 surrounds the spindle inside the bottom of the cup, and this bushing in one end has a tapering recess. Turning upon the threaded end of the spindle is a nut 19, that is provided with a tapering face for engaging the tapering recess in the split bushing on the spindle. This nut is preferably provided with a wing 20, arranged to enter the split in the bushing, so as to keep the nut from rotating. The dome is desirably provided with a slot 21 for the reception of a screw-driver. With the nut loose upon the spindle the split bushing is inserted into the opening in the tubular handle-bar, while the grip is slipped upon the outside of the tube. Then when the spindle is screwed into the nut, so as to draw the nut outwardly into the tapering recess in the split bushing, the latter is expanded against the inner walls of the tube. This clamps the dome rigidly in place at the end of the handle-bar. When the bushing is expanded, so as to clamp the dome, the bot-

tom of the cup is loosely held between the collar on the spindle and the bushing, so that the cup and grip cannot be removed longitudinally from the tube, but may be rotated thereon. A pin 22 projects from the bushing, through a slot 23 in the bottom of the cup, into the fork 24 that is made in the segment-plate. The pin is held fixed when the bushing is expanded and clamped against the inside of the handle-bar 25, and when the grip, with the cup bearing the segment-plate, is given a rotary movement first in one direction and then in the other through the engagement of the movable fork with the pin the segment-plate is caused to oscillate upon its pivotal stud and rotate the pinion and star-wheel first one way and then the other. This drives the pallets and oscillates the anchor, causing the hammers to strike the inner walls of the bell-dome.

By turning the bell-dome so as to unscrew the nut and loosen the clamping-bushing the entire handle may be removed from the handle-bar. After placing the assembled parts upon the end of the tube turning the dome and screwing up the nut will securely clamp the handle in position, so that it cannot be accidentally removed.

When the handle is in use, it may be turned back and forth by the movement of the wrist of the hand that is holding it without releasing the force of the grip of the hand. This handle can be quickly attached to the tubular bar of any vehicle for which it is made, and it is comfortable to hold, convenient to operate, and attractive in appearance. The parts are protected from accidental damage and from the weather.

These handles can be made so small that they form an attractive ornamentation for the end of the handle-bar, and when in use the alarm is practically concealed from sight by the hand. The grip, which is complete for one hand, does not make an entire rotation on the bar, and as it has but a slight movement it affords a firm hold for the rider when extra power is exerted upon the handle, as when climbing a hill.

We claim as our invention—

1. A handle consisting of a complete grip with a perforation adapted to fit the outside of a tube, an outwardly-opening cup fixed to the end of the grip, a dome, means for clamping the dome to the inside of the tube and movably connecting the dome and cup, hammers movably mounted upon one part, and mechanisms mounted on the other part whereby the movement of one part in relation to the other vibrates the hammers against the inside of the dome, substantially as specified.

2. A handle consisting of a complete grip with a perforation adapted to loosely fit the outside of a tube, an outwardly-opening cup fixed to the end of the grip, a dome, means

for clamping the dome to the tube and movably connecting the dome and cup, hammers movably connected with the inside wall of the dome, mechanism attached to the inside wall of the cup for vibrating the hammers, and a connection between the mechanisms in the cup and a part fixed to the dome, substantially as specified.

3. A handle consisting of a grip, a cup fixed to the grip, a dome movably connected with the cup and grip, a spindle extending inwardly from the dome, a split bushing loosely surrounding the spindle, a nut threaded upon the spindle and adapted to expand the bushing, an anchor loosely mounted upon the spindle in the dome, hammers attached to the anchor, a segment pivotally mounted in the cup, a star-wheel adapted to be rotated by the movement of the segment, and a connection between the bushing and the segment, substantially as specified.

4. A handle consisting of a grip, a cup fixed to the grip, a segment-plate supported by the bottom of the cup, a pinion meshing with the segment supported by the bottom of the cup, a star-wheel connected with the pinion, a dome movably connected with the cup, an anchor loosely mounted in the dome and adapted to be oscillated by the teeth of the star-wheel, hammers attached to the anchor, and a pin fixed with relation to the dome and engaging a fork formed on the segment-plate, substantially as specified.

5. A handle consisting of a grip, a cup fixed to the grip, a segment-plate loosely mounted upon the bottom of the cup, a pinion loosely mounted upon the bottom of the cup and meshing with the segment-teeth, a star-wheel connected with the pinion, a dome, a spindle projecting from the dome through the bottom of the cup, a collar formed on the spindle and engaging with the outside of the bottom of the cup, a split bushing surrounding the spindle on the inside of the bottom of the cup, a nut threaded upon the spindle inside the split bushing, an anchor mounted upon the spindle and adapted to be oscillated by the teeth of the star-wheel, and hammers attached to the anchor, substantially as specified.

6. A handle consisting of a grip, an imperforate dome, means for clamping the dome to the end of a handle-bar, means for holding the grip upon the end of a handle-bar so that it may make a partial rotation thereon, hammers loosely connected with the inside wall of the dome, and mechanisms connected with the grip for vibrating the hammers as the grip is given a partial rotation, substantially as specified.

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Witnesses:

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