

1,015,565.

Fig. 1

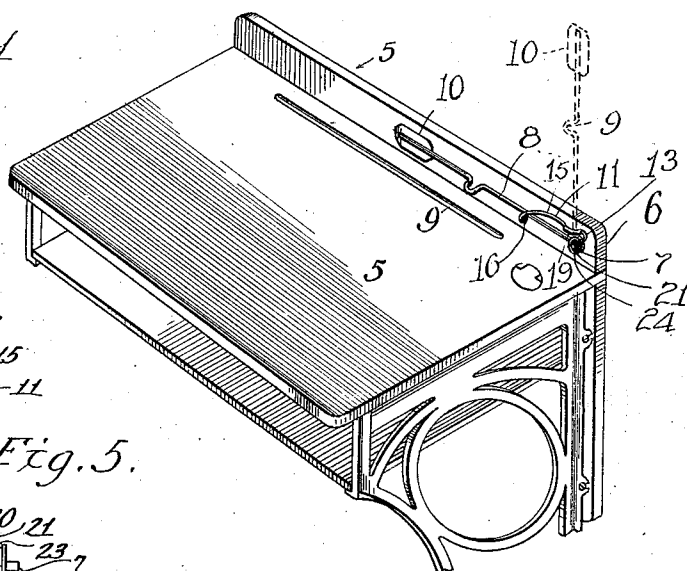


Fig. 5.

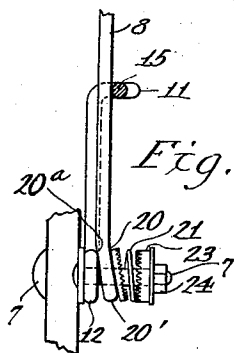


Fig. 2.

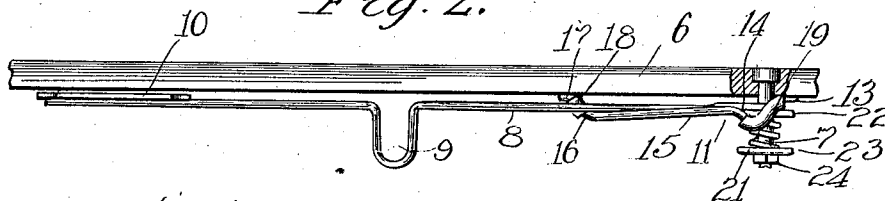


Fig. 3

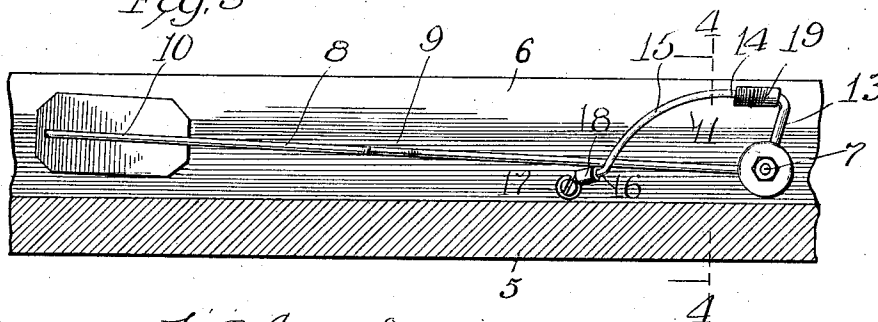
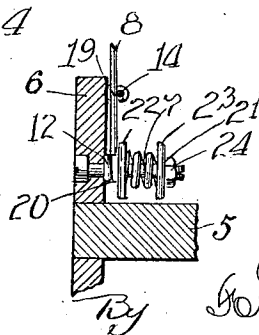


Fig. 4



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UNITED STATES PATENT OFFICE.

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VISIBLE SIGNAL.

1,015,565.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed November 8, 1909. Serial No. 526,700.

To all whom it may concern:

Be it known that I, JOSEPH C. JAMES, a citizen of the United States, residing at Antioch, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Visible Signals, of which the following is a specification.

My invention relates to improvements in visible signals, such as may be usefully employed in conjunction with school desks to attract the attention of the teacher to the needs of a pupil, or elsewhere where manually movable signals for visible indication are desired.

Among the salient objects of my invention are to provide a manually movable signaling device of simple construction, low cost, efficient operation, and great durability.

In the drawings, I have indicated the invention as embodied in a school-desk signal, and Figure 1 is a perspective view thereof; Fig. 2 a plan view; Fig. 3 a front elevation; and Fig. 4 a transverse section of such embodiment of my invention; Fig. 5 is a broken away elevation of the device showing the guide wire in section.

In general, I provide in the embodiment of my invention, a movable arm or stem, pivoted to a support projecting from a suitable base, and carrying a target for readily attracting attention, said stem having a range of movement between positions determined by the construction of a guiding surface and being provided with resilient means of such character as to tend to hold the signal arm in contact with the guiding surface in any of its determinate positions against accidental displacement, while not materially interfering with intentional manual displacement thereof.

In the specific construction shown, 5 indicates a school desk, whereof 6 is the back rail, having a vertical front surface, serving as a base on which is mounted a supporting bolt 7, acting as a pivot for a signal arm, 8, provided with a bend, 9, to serve as a handle, and carrying at its extremity a suitable target, 10, for readily attracting attention. In the construction shown, the arm is intended to lie in substantially horizontal position when the signal is not in attention-attracting position, so that the target will be practically concealed behind the desk rail 6, and to stand in vertical position when attention is desired. The terminal positions are defined and an intermediate

guide is provided, in the present specific construction, by a structure, 11, formed of a wire having one end, as at 12, bent into an eye around the pivotal support 7, thence extending upward, as at 13, in contact with the base, then bent outward and formed into an outwardly projecting kink, 14, to provide an upper terminal position in which the arm 8 may rest; the wire thence curved downward, as at 15, to about the level of the pivot 7 and then bent inward, as at 16, to form a lower terminal stop, and secured at its lower extremity, as by a screw 17 to the base. When the arm 8 is depressed, it rests upon a rubber sleeve or buffer, 18, on the inwardly-bent stop portion 16 of the guide, and when at its upper position it rests in contact with a similar sleeve, 19, within the position-determining kink 14. Throughout the intermediate portion 15 of the guide between the terminal positions, the wire is spaced apart somewhat from the base to provide a free path for the movement of the arm 8, and in conjunction with the arm 8 I preferably provide means for maintaining a pressure upon the arm to tend to prevent its displacement from either terminal position to which it may be moved. To this end, the pivoted extremity of the arm 8 is formed into an eye 20 surrounding the pivot 7, said eye preferably lying at a slight angle, as at 20', to the axis of the arm, so that when the loop is brought flatwise against the adjacent bearing surface,—in this instance the eye 12 of the guide wire,—it tends to throw the arm 8 away from the base or into contact with the guide structure. A spring 21 is arranged to exert a pressure upon the heel 20^a of the eye, 20, of the arm, tending to press it into flat contact with the adjacent surface, thereby to maintain the arm under pressure against the guide 11, the spring 21, to this end, surrounding the pivot bolt 7 and being interposed between two washers 22 and 23, respectively adjacent to and remote from the eye 20, the washer 23 forming a relatively stationary rear abutment which in turn abuts against the movable adjusting element, such as a nut, 24, threaded upon the supporting bolt 7, and locked in adjusted position, as by the splitting of the extremity of the said bolt. Now, it will be apparent that the expansion of spring 21, pressing the washer 22 forcibly against the eye 20, tends to force said eye acting upon the heel 20^a into flat contact with the adjacent eye 12,

thereby tending to throw the stem or arm 8 of the signal outward toward the guide 11. In consequence, the arm in its pivotal movement makes contact throughout with said guide 11, so that it never rattles and may not inadvertently be jostled around, and so that when in raised position it enters the kink 14 under spring pressure and tends to stay there until forcibly removed. Any wear in the parts is likewise taken up by the constant maintenance of the spring pressure and the movement of the arm under all conditions is sufficiently retarded, so that the arm never falls with a jar.

15 The construction is practical, serviceable, has no parts liable to get out of order, and may be very cheaply made and marketed.

While I have herein described, in some detail, a particular embodiment of my invention, it will be understood that numerous changes in detail might be made without departure from the spirit of my invention and within the scope of the appended claims.

What I claim is:

25 1. The combination of a base, a pivotal supporting stud secured thereto, a signal arm pivoted on said stud, a portion thereof surrounding said stud, and laterally deflected to form a heel or fulcrum on one side of said stud, a wire guide structure for said arm secured on the base, bent to provide arm-receiving kinks, and a spring member exerting tension on said laterally deflected portion and said heel of said arm constantly to press
30 said arm toward said guide structure.

2. The combination of a suitable base, a guide structure projecting from said base, a pivot structure projecting from said base, a signal arm having a part laterally deflected to provide a fulcrum and mounted for rotation upon said pivot structure, and a spring coil surrounding said pivot structure exerting its tension upon said deflected portion of said arm, constantly to press said signal arm
40 toward the guide.

3. The combination of a suitable base, a curved wire guide secured at its ends to said base, a signal arm provided with an eye a portion of which is laterally deflected to produce a fulcrum heel, a pivotal support therefor connected to said base, and a coil spring surrounding the support exerting pressure upon the deflected portion and heel provided thereby of the pivotal end of the signal arm
50 tending constantly to force the arm into frictional engagement with the guide.

4. The combination of a suitable base, a guide secured thereto defining an arcuate path and terminal position, a signal arm pivotally movable between the base and guide, an eye in the pivoted end of said arm,
60

the free end of which is axially deflected, a pivot for said arm, and a spring coil acting upon the deflected portion of the pivoted end of the arm in line with its pivotal axis to press said arm toward said guide.

5. The combination with a suitable base, of a pivot structure, a signal arm having an eye at its pivot end deflected laterally from the plane of said arm mounted pivotally on said structure, a spring surrounding said pivot structure and acting upon the deflected portion of the pivoted end of the arm to tend laterally to displace the free end of said arm, a curved guide wire mounted on the base at its ends, said guide receiving the arm in frictional contact therewith and providing portions adjacent its ends to limit the arc of movement of the arm.

6. The combination with a suitable base, of a pivot structure, mounted thereon, a signal arm having an eye deflected from its normal plane mounted upon said pivot, an abutment upon said pivot at its end remote from said arm; a spring interposed between said abutment and said arm bearing upon said deflected portion upon the pivoted end of said arm laterally to displace the free end of said arm, and a curved wire guide having one extremity secured to said pivot structure and its other extremity secured to the base, said arm providing adjacent its extremities stop portions which limit the arc of movement of the arm, and between said stop portions providing a portion parallel to the base, receiving the arm in frictional contact therewith when said arm is between said
85 limitational positions.

7. The combination with a suitable base, of a guide structure having portions near its ends projecting outwardly from said base, and an intermediate portion paralleling said base, cushioning sleeves on said guide at said projecting portions, a pivot structure projecting from said base, an abutment on the free ends of the pivot structure, a signal arm arranged between the guide and base, having at its end a pivot eye engaging said pivot structure said eye laterally deflected at a slight angle to the plane of said arm, and a spring coil interposed between said deflected eye portion of said signal arm and the abutment exerting pressure eccentrically upon said deflected eye portion, tending to throw the arm away from the base toward the guide.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

JOSEPH C. JAMES.

In the presence of—

W. LINN ALLEN,

MARY F. ALLEN.