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VELOCITY INDICATING TOY

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Fig. 1

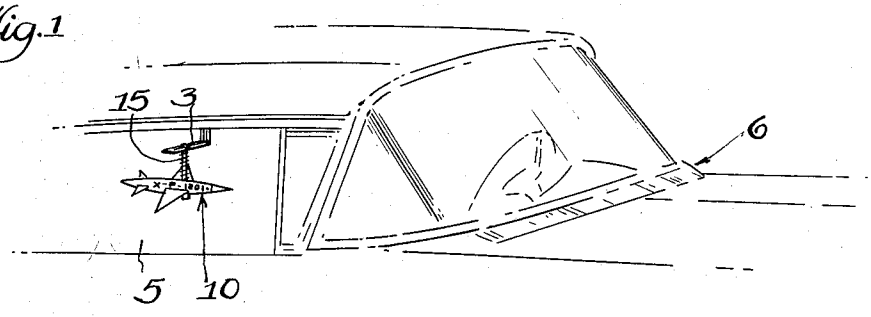
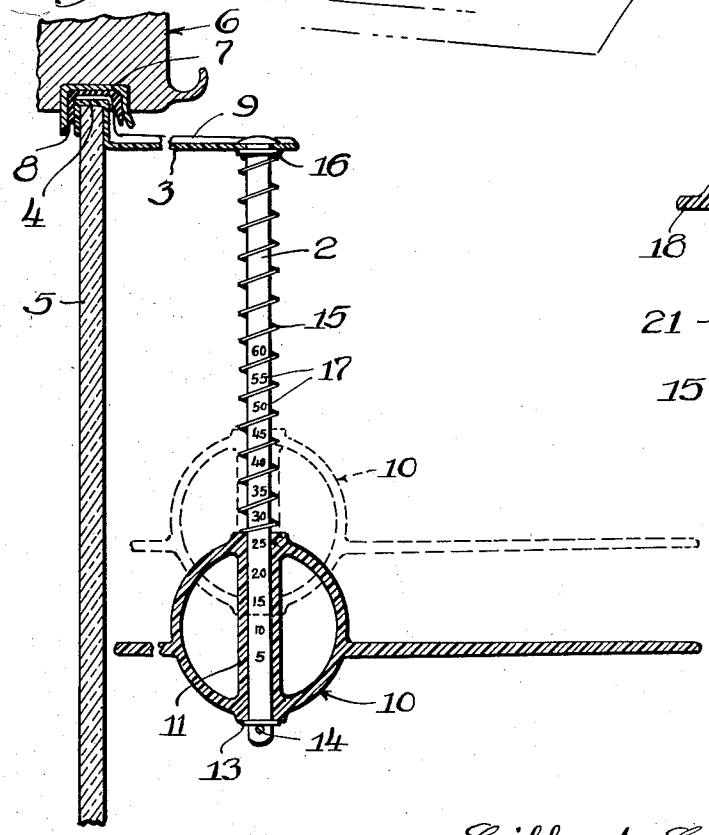


Fig. 2



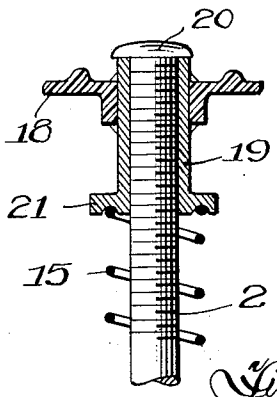


Fig. 3

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VELOCITY INDICATING TOY

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5 Claims. (Cl. 73—181)

This invention relates to a toy adapted to be detachably mounted on the window of an automobile or other vehicle and extending outside the automobile to attract and hold the interest of a child riding in the automobile.

The device comprises a toy airplane rotatably mounted on a rod supported in spaced relation to the car window by an arm mounted on the upper edge of a car window and projecting outwardly therefrom. The toy plane and the rod are preferably made of plastic or thin sheet metal, but may be made of any suitable material. The toy may be readily mounted on the car window, or removed therefrom, without defacing or marring any portion of the car. When the toy is being operated it is securely held in place without requiring any attention from either the child or an adult.

The toy plane is adapted to move vertically on the rod in response to the changes in the velocity of the wind blowing against it as the car travels along the road. The wind velocity is proportional to the speed of the moving car, and therefore the vertical position of the plane on the rod at any time is indicative of the speed of the car at that time, provided the plane is not abutting the upper end of the rod.

The toy appeals to children through a considerable range of ages because of its motion. It will attract the attention of babies and young children to whom the speed indicia has no significance. Children who are too old to be attracted by a moving toy will be entranced by the visual indication of the varying speed of the car as it travels along the road.

It has been found that if the vertical movement of the plane is not restrained in some suitable manner it will move upwardly to abut the upper end of the rod and stay there whenever the car is traveling at about twenty miles per hour. Accordingly, a coiled compression spring or other suitable restraining means is positioned on the rod between the top of the plane and the upper end of the rod. The spring resists the upward movement of the plane so that it will not abut the upper end of the rod until the car is traveling about sixty miles per hour.

If desired, the spring may be replaced by a suitable weight positioned on the rod above the plane to resist the upward movement of the plane on the rod. It is also possible to provide the rod with a movable sleeve to compress the spring to regulate the resistance against the upward movement of the plane. The rod is preferably calibrated to provide visual indication of the speed of the car as indicated by the vertical position of the plane on the rod.

The structure by means of which the above mentioned and other advantages of the invention are attained will be described in the following specification, taken in conjunction with the accompanying drawings, showing two preferred illustrative embodiments of the invention, in which:

Figure 1 is a perspective view showing the toy embodying the invention secured to the window of a car;

Fig. 2 is a fragmentary cross sectional view showing one embodiment of the invention; and

Fig. 3 is a fragmentary cross sectional view showing another embodiment of the structure.

In the drawings, the upper end of a rod 2 is rigidly secured to an arm 3 extending at right angles thereto. The free end of the arm 3 is bent, as indicated at 4, to form a channel adapted to fit over the upper edge of the window 5 of an automobile 6. The upper edge of the window opening of the car is provided with a channel 7 having a felt lining 8 to receive the upper edge of the window when the window is in its closed position. The channel 4 preferably fits snugly around the upper edge of the window, and the felt lining 8 has sufficient resilience to permit the window 5 to be substantially closed with the arm 3 securely held in place by the interengagement of the upper edge of the window and the channel 7.

It should be understood that although it is preferred to have the window closed to hold the arm 3 with maximum security, the interengagement of the channel 4 with the upper edge of the window is sufficient to hold the arm 3 in place under ordinary conditions. The arm 3 may be made of thin sheet metal to provide a close fit on the upper edge of the window, and may be provided with a reinforcing rib 9 along the longitudinal edges of the arm to provide the required rigidity for the arm which extends outwardly at right angles to the window 5.

A toy airplane 10 is preferably provided with a centrally disposed sleeve 11 which fits loosely on the rod 2. As shown, the plane is molded of suitable plastic material, and the sleeve 11 is integral therewith. If the plane is made of thin sheet metal the center portion may have a sleeve, similar to the sleeve 11, secured thereto in any suitable manner. Although it is preferred to make the member 10 in the form of a toy airplane, it should be understood that the invention is not limited to such configuration. The member 10 may be in the form of a toy automobile, a rocket, a flying saucer, a space ship, an earth satellite, or any other shape that will attract a child.

A washer 13 secured to the bottom of rod 2 by a pin 14 supports the plane and prevents separation of the plane from the rod. A coiled compression spring 15 is positioned on the rod 2 between the top of the plane 10 and the upper end of the rod. Preferably a washer 16 is positioned on the rod below the arm 3. The washer serves as a seat for the upper end of the spring 15 and also may help secure the upper end of the rod 2 to the arm 3. The arm 3 must be long enough to space the rod 2 far enough from the window to permit the plane to rotate.

If desired, the spring 15 may be concealed within the rod 2, instead of being coiled around it as shown in the drawings. In such case the rod would be tubular and would be provided with a longitudinal slot. The plane 10 would have a lug projecting into the slot to engage the bottom of the spring.

As the car 6 moves, the force of the wind to which the plane is exposed causes it to rotate into alignment with the direction of the wind, and also to rise on the rod 2. The spring 15 resists the upward movement of the plane, but does not prevent it. The spring, or other resistance, such as a weight riding on the rod 2 above the top of the plane, limits the upward movement of the plane so that the car must move at a rate of about sixty miles per hour before the top of the plane abuts the upper end of the rod 2. The upward movement of the plane is approximately proportional to the velocity of the wind to which the plane is exposed, and therefore the rod 2 can

be calibrated to indicate the approximate rate of speed of the car. Numerals **17** are marked on the rod to visually indicate the speed of the car by reference to the highest numeral exposed on the rod below the bottom of the plane as the car is moving.

In the embodiment of Fig. 3 the arm **18** is provided with an aperture, and a sleeve **19** is secured in said aperture. The rod **2** is threaded through the sleeve and is provided with an enlarged end **20** to prevent it from passing out of the sleeve. The plane **10** is mounted on the rod in the same manner as in the embodiment of Fig. 2. The sleeve **19** is provided at its lower end with a lateral flange **21** wider than the spring **15** to provide a seat for the upper end of the spring. The resistance of the spring **15** to the upward movement of the plane may be increased by screwing the rod **2** upwardly, or may be decreased by screwing it downwardly.

While I have described a few preferred embodiments of my invention in considerable detail, it will be understood that the description thereof is illustrative rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of my invention. Accordingly, I do not desire to be restricted to the exact structure described.

I claim:

1. A toy comprising an arm, means for rigidly securing said arm to a vehicle, a rod supported by said arm at right angles to said arm in spaced relationship to said means, a member mounted for vertical movement on said rod in response to wind velocity to which said member is exposed, and means on said rod exerting a continuous pressure against said member for resisting the upward vertical movement of said member.

2. A toy comprising an arm, means for rigidly securing said arm to a vehicle with said arm extending outwardly from said vehicle, a rod having its upper end rigidly secured to said arm, a member mounted on said rod, said member being movable vertically on said rod by the force of wind to which it is exposed, and resilient means mounted on said rod between said member and the upper end of said rod and exerting a continuous pressure against the top of said member to resist the upward vertical movement of said member.

3. A toy adapted to be mounted outside the window of an automobile, said toy comprising an arm, means for rigidly securing said arm to an automobile window with said arm extending outwardly therefrom, a rod mounted on said arm at right angles thereto in spaced relationship to said window, means mounted on said rod and movable thereon in response to the velocity of wind to which it is exposed upon movement of said automobile, resilient means exerting a continuous pressure against said first mentioned means to resist its movement in response to the velocity of wind to which it is exposed, and indicia on said rod to indicate speed variations of said automobile.

4. A toy adapted to be mounted outside the window of an automobile, said toy comprising an arm, means for securing said arm to an automobile window with said arm extending outwardly therefrom, a rod mounted in vertical position on said arm in spaced relationship to said window when said arm is secured to said window, a member mounted on said rod for rotational movement to align itself with the direction of the wind and vertical movement relative to said rod in response to the velocity of wind to which it is exposed upon movement of said automobile, a coiled compression spring positioned on said rod above said member and continuously pressing thereon, and indicia on said rod to indicate the relative speed of said automobile upon visual reference to the vertical position of said member upon said rod.

5. A toy adapted to be mounted outside the window of an automobile, said toy comprising an arm, means for rigidly securing said arm to an automobile window with said arm extending outwardly therefrom, a rod depending vertically from said arm, a member mounted on said rod for vertical movement relative to said arm in response to the velocity of wind to which it is exposed upon movement of said automobile, and a spring confined between said arm and said member to exert a continuous pressure against said member to resist the upward movement of said member.

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