(No Model.)

2 Sheets—Sheet 1.

J. O. BELKNAP.

SIGN.

No. 354,621. Patented Dec. 21, 1886.

Fig. 1.

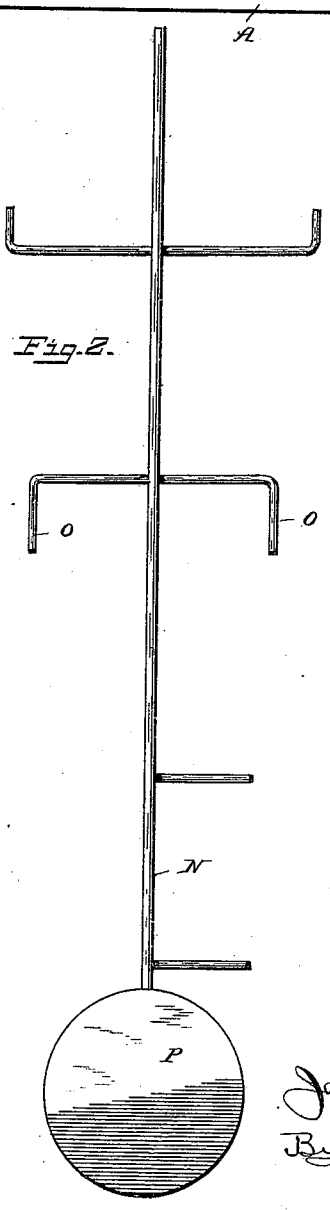

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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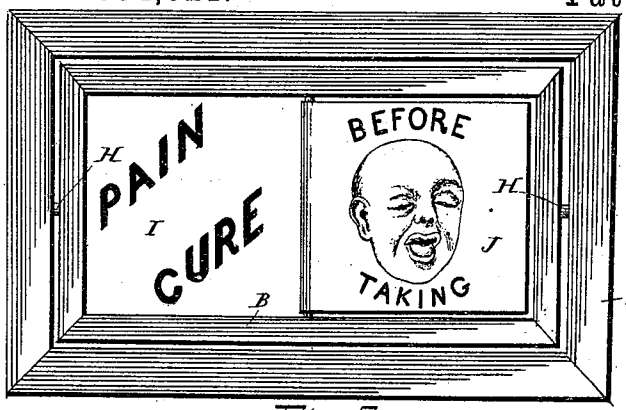

Fig. 3.

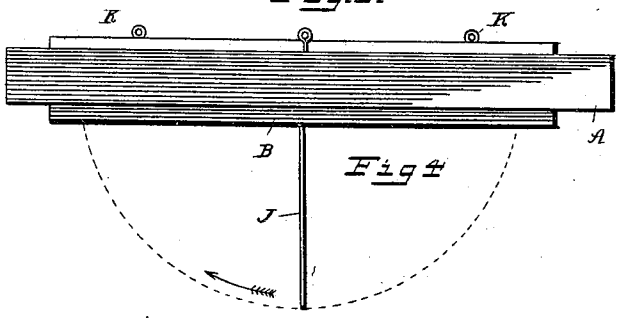

Fig 4

Fig. 5.

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UNITED STATES PATENT OFFICE.

JACKSON O. BELKNAP, OF MOBILE, ALABAMA.

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SPECIFICATION forming part of Letters Patent No. 354,621, dated December 21, 1886.

Application filed April 9, 1886. Serial No. 198,321. (No model.)

To all whom it may concern:

Be it known that I, JACKSON O. BELKNAP, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Signs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in signs; and it has for its objects, first, to provide a sign in which shall be embodied one or more moving inscription-surfaces adapted to present opposite sides to view by imparting to them or to the frame in which they are mounted a vibratory or oscillating motion; second, to provide a sign in which shall be embodied a background forming an inscription-surface, and one or more moving inscription-surfaces adapted to present opposite sides to view, and in doing so to expose a background; and, third, to provide one or more frames carrying inscription-surfaces of the character above alluded to, and to combine therewith mechanism for imparting thereto such motion as will cause the moving surfaces to present opposite sides to view.

In the accompanying drawings, forming a part of this specification, and on which similar letters of reference indicate the same or corresponding features, Figure 1 represents a perspective view of my improved sign, showing the movable surfaces in the act of changing their positions; Fig. 2, a front elevation of an actuating-rod; Fig. 3, a front view of a sign, showing one frame mounted on trunnions within another; Fig. 4, a plan view thereof with the moving surfaces standing out and in the act of swinging around; and Fig. 5, a vertical sectional view taken through a series of signs, and showing the operating mechanism in elevation.

The letter A designates a frame, constructed, preferably, of wood and of any desired form, within which is placed a supplemental frame, B, resting upon points C, which have a bearing in the outer frame and admit of the inner frame, B, being oscillated or vibrated back and forth in the manner which shall hereinafter appear. This frame B is preferably constructed of metal, and may be of tubular form, and is provided with a background, D, upon which is painted or otherwise placed the desired inscription, with the word "Jewels," in the present instance, as seen in Fig. 1. In this frame B is mounted a series of flaps or wings, E, upon pivotal points, as wires F, which extend into the body of the frame B. These wires may run the entire height of the flaps, or may consist simply of short pintles projecting from the wings in entering the frame B. These wings are constructed either of metal or of paper, and, indeed, of any desired material, and are preferably made thin and light, and may be ornamented or colored to suit individual circumstances. By preference they are connected together at some point, as at the lower outer corners, by a string or other connection, G, which keeps them properly spaced with respect to each other. Their pivotal points are so placed as to stand between the lines on the background, and they are of such width as will allow them to fit snugly within the frame and constitute an essentially flat surface or slightly overlap each other.

Both sides of each flap are supplied with inscriptions or ornamental matter. For instance, the corresponding side of each flap may be supplied with the word "Watch," as seen in Fig. 1, while the opposite side of each flap might bear the word "Rings," which surfaces, combined with the background, will present three distinct signs, the words "Watch" and "Rings" being alternately presented to view as the flaps swing from one extremity to the other, while the word "Jewels" will be seen as the flaps are moving from one extremity to the other. The manner of imparting this motion to the flaps will appear hereinafter, and instead of the supplemental frame B the flaps may be directly pivoted to the main or outer frame. The connecting-string is not a necessity, though it has the advantage of preventing liability of the wings to become displaced with respect to each other, and to keep them at the proper relative distance apart while swinging.

In Fig. 3 I have illustrated the inner frame as pivotally connected upon trunnion-pins H to the outer frame, whereby the inner frame may be rocked to and fro. In this figure the letter I indicates the exposed portion of the background, the remaining portion being behind the flap J.

In Fig. 4 the flap J is shown as swinging to

the opposite side, and eyes K are connected with the inner frame shown, the purpose of which will likewise appear hereinafter.

In Fig. 5 I have illustrated three signs, mounted so as to present an attractive combination, and have connected them with one form of operating mechanism, though as to the kind of mechanism which I may employ I desire it to be understood that I do not confine myself to any particular form.

The letter L designates a box or housing, in which I mount a train of spring-actuated gearing having a balance-wheel, to which is connected a pitman, M, at one end, the other end being pivotally connected with a rocking bar or pendulum, N, having fulcrum-points at O, and a weight, P, at its lower end, to insure a regular and uniform movement. When the gearing is put in operation, the rod N is rocked back and forth. To the upper end of the rod is mounted one of my improved signs, the flap or flaps of which swing forward as the upper end of the rod moves in the direction of the arrow, the momentum of which causes it to flap or swing past its pivotal point, whereby as the rod recedes and the frame is tipped back the flap or flaps fall back to the frame, presenting their opposite sides to view. This action is repeated as long as the rod M is kept in motion, and, as above suggested, the inscription upon the background is presented to view as the flaps swing from side to side. A second frame is mounted upon the casing L or other suitable support by pins Q, and connected at its upper side to the rod, as by a hook, R, whereby to this frame, too, is imparted a rocking or vibratory motion, causing the flap or flaps of the same to act in the manner above suggested.

The form of frame shown in Fig. 3 is secured to the casing L by hooks or otherwise, and the inner frame thereof, which swings upon the trunnions H, is connected to the rod N by a second hook, S, so that when the rod is in motion the several signs are tipped back and forth, and their flap or flaps are constantly changing position, presenting their opposite sides to view, as also the inscription upon the background.

In some instances I may omit the background, as it is not essential, though it adds an additional surface. It should also be observed that if the frames are moved longitudinally the flaps will be caused to present opposite sides to view with each change in the direction of the movement of the frame. Further than this, the flaps themselves may be actuated independently of any movement of the frame. I prefer, however, to tip the frame back and forth in the manner already described.

I would have it understood that the signs proper are intended to be sold without any mechanism to operate them, that being left to the purchasers, of which a large class have motors in their stores or factories. On the other hand, I may sell the mechanism herein shown and described, or its equivalent, with the sign.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sign, the combination, with a vibrating frame, of one or more signs or flaps hung to the frame and adapted to vibrate and to present opposite sides to view, and having ornamental or advertising matter thereon.

2. In a sign, the combination, with a vibrating frame having a background, of one or more wings or flaps hung to the frame and adapted to vibrate and present opposite sides to view, and having ornamental or advertising matter thereon.

3. In a sign, the combination, with a frame hung to move to and fro in the direction in which it is read, of one or more wings or flaps hung in the frame and caused by said frame to vibrate at right angles to the direction of the movement of the said frame, and to form an approximately flat surface when nearing the limit of vibration, whereby opposite sides are presented to view, and having ornamental or advertising matter thereon.

4. In a sign, the combination, with a frame hung to move to and fro in the direction in which it is read, and having a background, of one or more wings or flaps hung in the frame, and caused by said frame to vibrate at right angles to the direction of the movement of the said frame, and to form an approximately flat surface when nearing the limit of their vibration, whereby opposite sides are presented to view, and having ornamental or advertising matter thereon.

5. In a sign, the combination, with a frame having one or more wings or flaps hung so as to vibrate and present opposite sides to view, of mechanism to impart a vibratory motion to the frame, whereby the flaps are caused to swing from side to side.

6. In a sign, the combination, with a frame having one or more flaps hung so as to vibrate and present opposite sides to view, and having a background, of mechanism which imparts a vibratory motion to the frame, whereby the flaps are caused to swing from side to side.

7. In a sign, the combination, with a frame having one or more wings hung so as to vibrate and present opposite sides to view, of a vibrating rod connected to the frame, and mechanism to operate said rod.

8. In a sign, the combination, with a frame having one or more wings hung so as to vibrate and present opposite sides to view and having a background, of a vibrating rod connected to the frame, and mechanism to operate said rod back and forth.

9. In a sign, the combination, with a plurality of frames carrying each one or more wings hung so as to vibrate and present opposite sides to view, and provided, respectively, with backgrounds, of means to impart

motion to said frame and cause the wings to vibrate.

10. In a sign, the combination, with a plurality of frames carrying each one or more wings hung to vibrate and present opposite sides to view, and provided, respectively, with backgrounds, of a vibrating rod connected to said frames and a spring-actuated gearing to impart motion to said rod.

In testimony whereof I affix my signature in presence of two witnesses.

JACKSON O. BELKNAP.

Witnesses:
MORTON TOULMIN,
EDWIN S. BRADFORD.