J. H. LA PEARL.

CHANGEABLE ADVERTISING SIGN.

APPLICATION FILED OCT. 22, 1912.

1,077,885.

Patented Nov. 4, 1913.

2 SHEETS—SHEET 1.

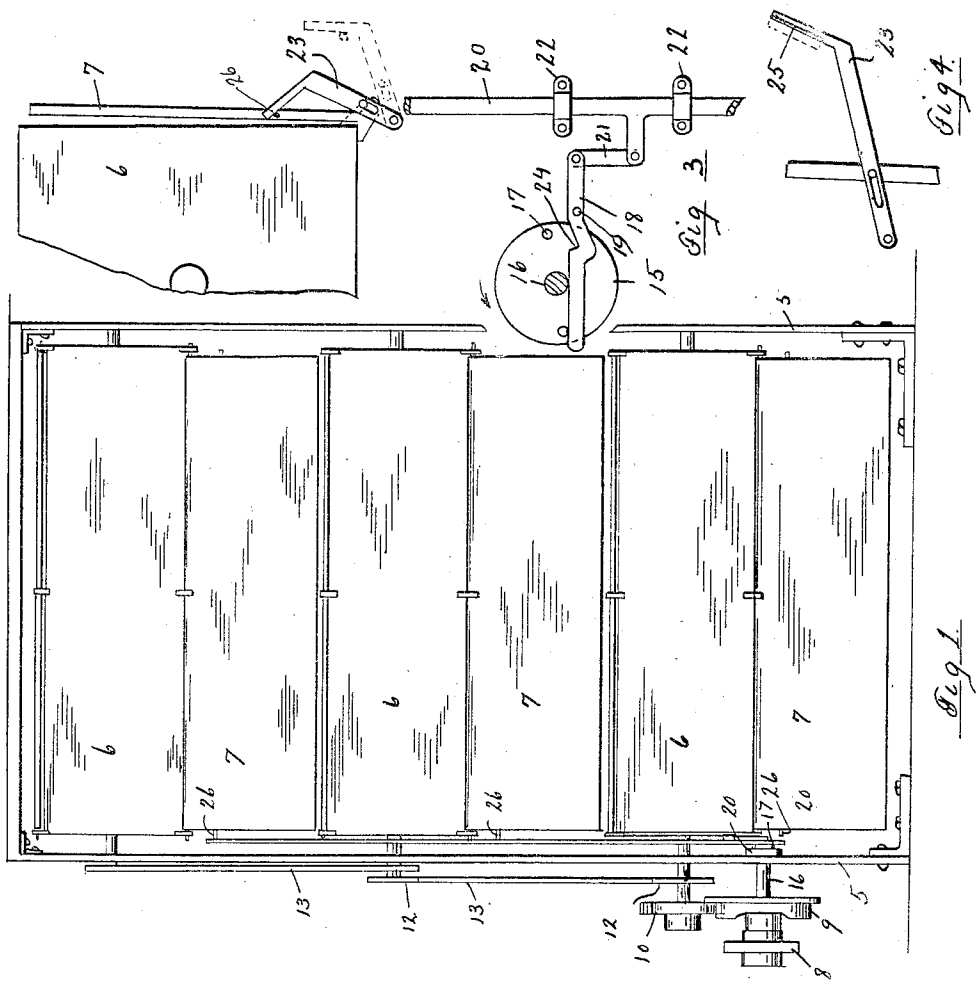


Fig 1.

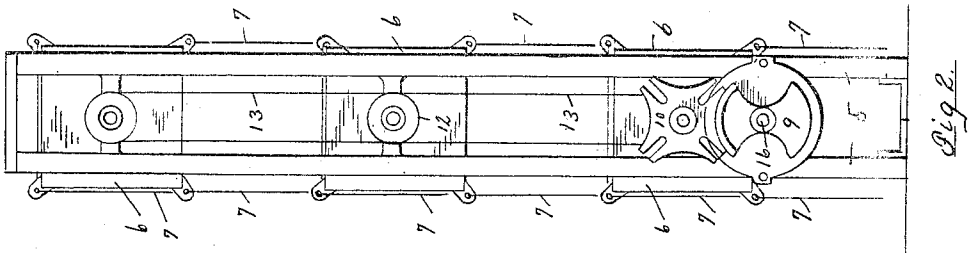


Fig 2.

Fig 3.

Fig 4.

Witnesses.
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Emil Monhof

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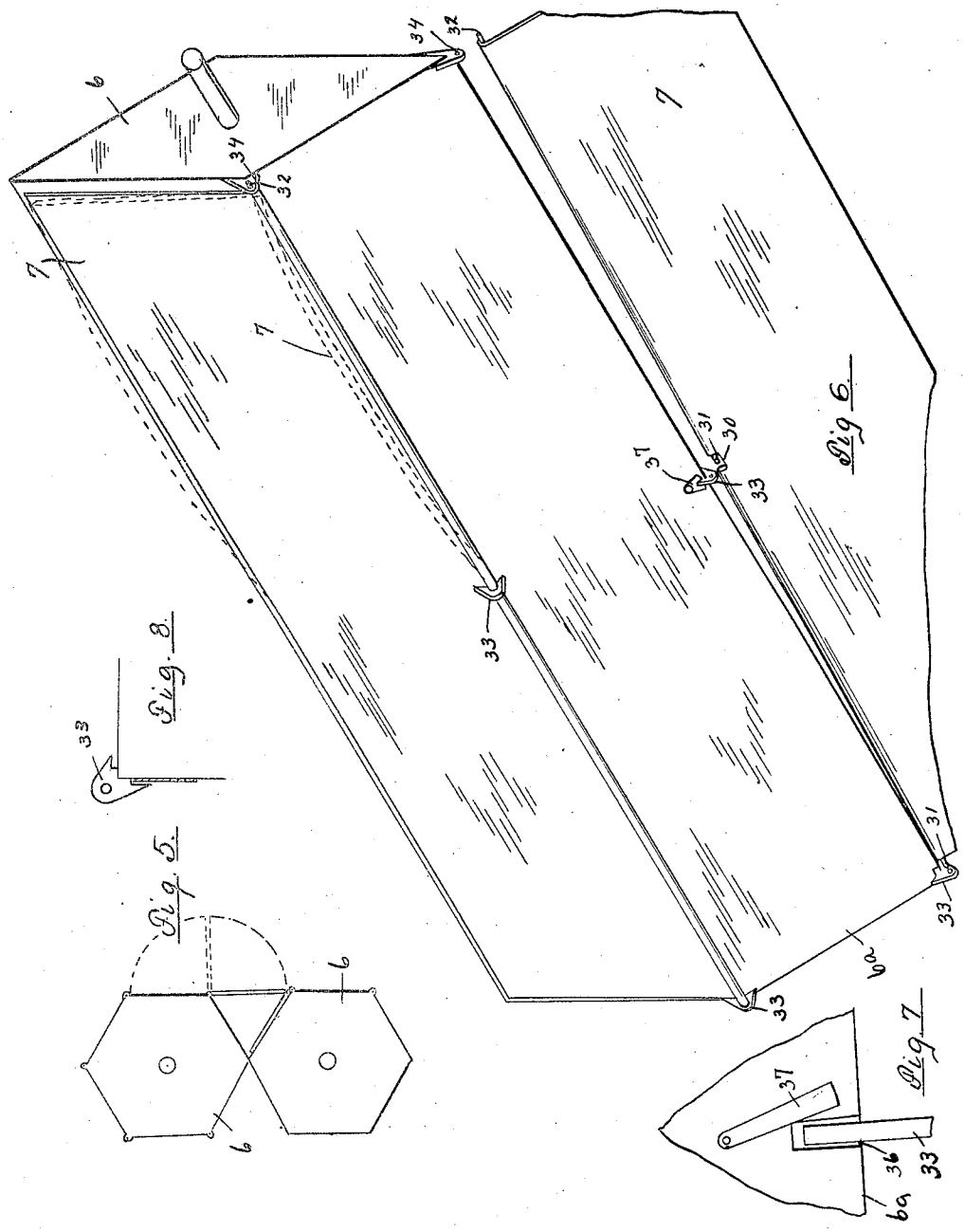


Fig. 6

Fig. 5

Fig. 8

Fig. 7

Witnesses.

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Emil Monkof

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UNITED STATES PATENT OFFICE.

JAMES H. LA PEARL, OF GLENDALE, CALIFORNIA.

CHANGEABLE ADVERTISING-SIGN.

1,077,885. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed October 22, 1912. Serial No. 727,121.

To all whom it may concern:

Be it known that I, JAMES H. LA PEARL, a citizen of the United States, residing at Glendale, in the county of Los Angeles, State of California, have invented new and useful Improvements in Changeable Advertising-Signs, of which the following is a specification.

My invention relates to mechanically operated signs which are constructed to display a series of advertisements following each other at regular stated intervals.

The object of the invention is to provide a sign having a large apparently unbroken display surface which in reality consists of several separate and interchangeable parts. It is important that the exposed surface be made to disappear and be immediately replaced with a second surface likewise composed of numerous units. This change is effected very quickly and a series of three or more changes are provided following each other in regular rotation. These and other beneficial results are attained by means of a series of prisms each having three or more longitudinal surfaces, and each carrying as many leaves as it has sides. These leaves are hinged to the edges of the prisms in such manner that when the prisms are at rest all of the spaces between the prisms are closed by the leaves and the surface presented consists alternately of prism surfaces and the surfaces of the leaves. The advertisement or advertisements cover the entire front surface and are therefore partially on the surface of the prisms and partially on the leaves.

Means is also provided for making the change quickly and for holding the prisms rigidly between changes.

The details of the most approved form of construction are herein fully described and are illustrated in the accompanying drawings in which:

Figure 1 is a front view and Fig. 2 is an end view of a sign. Fig. 3 is an enlarged end view of a fragment of a prism and also shows the mechanism provided to lower the leaves gradually as they fall away from the prism. Fig. 4 is a side view of a portion of the leaf lowering mechanism. Fig. 5 is a diagrammatic view of a modified form of prism having six advertising surfaces. Fig. 6 is a perspective view of a prism and shows one leaf detached. Fig. 7 is a fastener and Fig. 8 is a hinge fastener used in connection with the device.

Throughout the several views like characters indicate like parts and referring to the details of construction 5 is a framework supporting the prisms 6 and operating mechanism. The form and design of the framework is varied to suit the various demands and its arrangement forms no feature of this invention. The prisms are rotatably supported by said framework, their main axes being parallel and in one vertical plane. The number of longitudinal surfaces or sides on each prism may vary from three to six or even more. Four or six are preferable. In each sign the prisms are similar in size and shape. One leaf or apron 7 is hinged at the corresponding edge of each of the longitudinal faces of each prism. The spaces between the prisms and the widths of the aprons are so proportioned that when the face of the prism is perpendicular the leaf dependent from its hinges just reaches the top edge of the prism below. The prisms are rotated and the other mechanism operated by power supplied from some external source to the drive gear 8.

It is desirable that the prisms be intermittently moved and this may be accomplished by any of the well known mechanical movements used for a similar purpose. In the device illustrated gears 9 and 10 sometimes known as the "Geneva gear" are used. The pins on the constantly rotating disk 9 at intervals engage the gear 10 and after turning it partly over, one of the concave spaces between slots in the gear 10, is engaged and held by one of the convex projections formed on the disk 9 between the pins, and the gear 10 is thereby held secure until another pin reaches the next slot in the gear 10. The movement is transmitted to all prisms simultaneously by means of sprocket and chains 12 and 13 or by means of any mechanical equivalent.

As the prisms rotate, each movement and stop is timed to bring a new face of the

prism to the front and with it the adjacent leaf. As the prism stops this leaf hinged at the bottom overbalances and falls forward. To prevent undue rattling and wear, means is provided for lowering each leaf part way down. One arrangement for accomplishing this result is shown. It consists of a disk 15 attached usually to the drive shaft 16. This disk carries pins 17 which as the disk revolves strike and depress the lever 18 pivoted at 19 and connected to the bar 20 by means of the link 21. As one of the pins 17 depresses the lever the bar 20 is raised carrying with it the attached hooks 23. Guides 22 direct the movement of the bar 20. The hooks 23 have a flange 25 on the side nearest the leaf. This flange before being bent into shape occupies the position shown by the dotted lines in Fig. 4. Pins 26 on the edge of the leaves 7 engage the flange 25 on the hook 23 as the leaf falls forward and the downward movement of the hook regulates the movement of the leaf until the pin reaches the position shown by the dotted line Fig. 3 where it slips off of the flange and the leaf falls free. A notch 24 in the lever 18 gives a quickening of the downward motion of the hook just before the pin is released. By means of the bar 20 any number of hooks may be made to operate simultaneously. After the hooks 23 release the leaf they complete their downward motion and return to their top position in time to receive the next leaf.

For convenience it is desirable that the advertising surfaces of the prism and the leaves be readily interchangeable. The surfaces of the prisms and the leaves are usually made of tin, sheet iron or other sheet metal and when they are so constructed they are rendered interchangeable in the following manner. The leaf is provided with a notch 30 in one edge and with pins 31 adapted to engage the center and one end hinge 33 while a pin 32 engages the opposite end hinge 34. In attaching the hinge the pins 31 are first placed in the hinge 33 and the opposite end portion of the leaf is bowed outward between the center and the end until the pin 32 will enter the hinge 34 when it is released and its elasticity straightens it out. Fig. 6 illustrates the manner of attaching leaves to the prism; the removable front 6ª of the prism 6 is provided with a top notch 36 at the center, (see Fig. 7) and with a catch 37. It is attached by placing two of the corners in the notches in the hinges 33, hooking the center opposite the notch under the central hinge 33, closing the notch 36 over the top central hinge 33, by closing the catch 37 until it engages the said last mentioned top hinge 33, and then by springing the loose end of the front 6ª into place under the end hinges 34 in the same manner described for the leaf.

While the interchangeability of the leaves and the prism faces is usually a convenience it is not a necessity. The leaves and prism faces may be permanently secured in place and the signs changed by pasting or painting new signs on them.

Usually the sign is designed to exhibit the front only but if desired advertisements may be placed on the back of the aprons and displayed from the back of the sign. The faces of the prisms cannot be used as a part of the back sign as they appear inverted.

The number of complete changes available in my sign correspond to the number of faces on each prism. Fig. 2 shows four faced prism and Fig. 5ª six faced prism but more or less may be used.

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

1. In a sign the combination of a series of spaced rotatably mounted prisms the longitudinal faces of which are adapted to receive advertising matter; leaves hinged, one to each of said longitudinal faces, adapted to contain advertising matter and to close the spaces between said prisms providing a continuous display surface; and means for rotating said prisms, all as substantially described.

2. In a sign, the combination of an upright series of rotatably mounted spaced prisms having detachable longitudinal faces adapted to receive advertising matter; leaves, one removably hinged to each of the longitudinal edges of said prisms, said leaves being adapted to receive advertising matter and to close the spaces between said prisms after each partial rotation of said prisms; means for partially rotating said prisms at predetermined intervals; means for locking said prisms in a rigid position between partial rotations, and means for lowering said leaves immediately after the partial rotations of said prisms.

3. In a sign, the combination of an upright series of spaced prisms each having four longitudinal faces; leaves hinged to the bottom edge of the front face of each of said prisms; similar leaves hinged to the corresponding edge of each of the other longitudinal faces, each of said leaves being of sufficient width to close the space between the fronts of said prisms; means for rotatively retaining said prisms in their proper relative positions; a rotating disk having pins adapted to engage a spur gear at intervals; means for transmitting power to said rotating disk; a spur gear engaged by said pins and having concaved surfaces which contact with said disk except at intervals when the pins engage said spur gear; and a drive gearing connected with each of said prisms and with said spur gearing, adapted to rotate the said prisms a por-

tion of a turn each time the said spur gear is engaged by either of said pins; pins on the ends of said leaves; hooks adapted to engage the pins on the ends of said leaves before the said leaves fall away from the adjacent faces of said prisms; means for gradually lowering and after the leaves are released, of raising the said hooks to their upper position, all substantially as described and for the purposes set forth.

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Witnesses:
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