Feb. 27, 1923. 1,446,731.

S. WILLIAMSON.

SIGN EXHIBITING APPARATUS.

FILED APR. 25, 1921. 2 SHEETS—SHEET 1.

FIG. 1

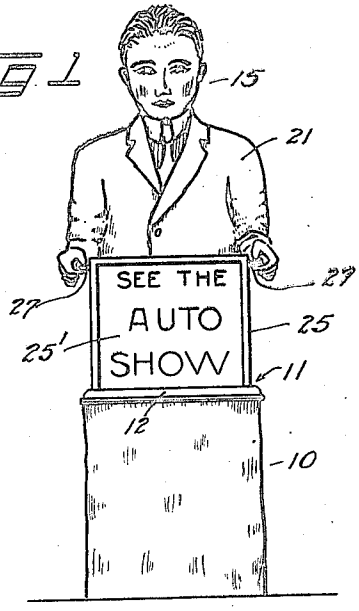


FIG. 2

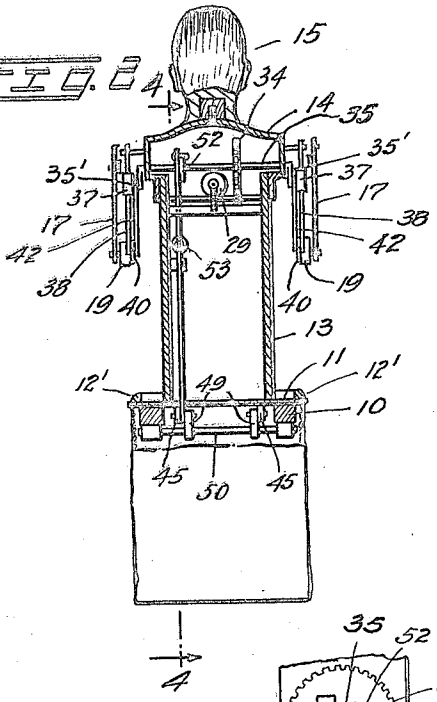


FIG. 3

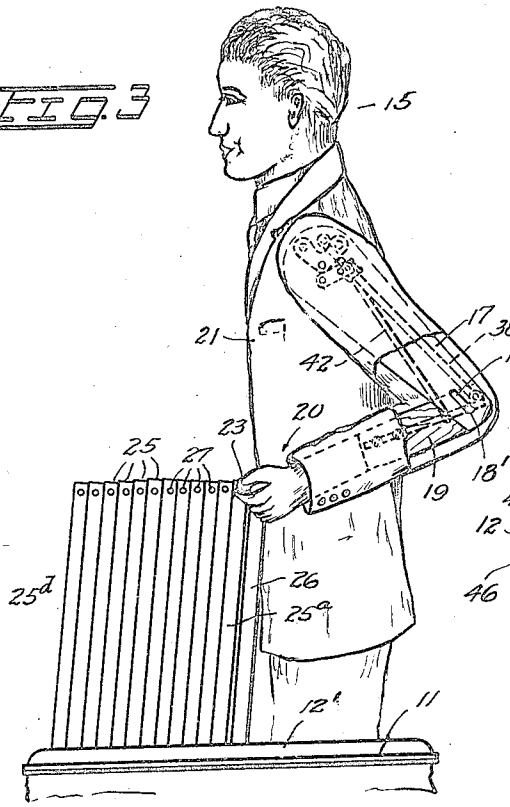
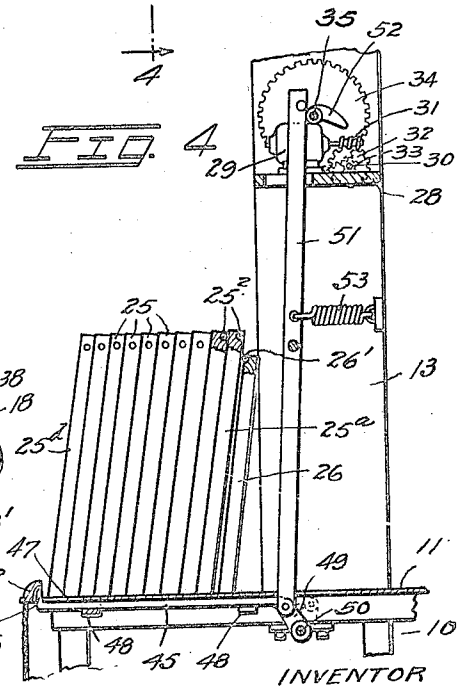


FIG. 4



INVENTOR

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FIG. 5

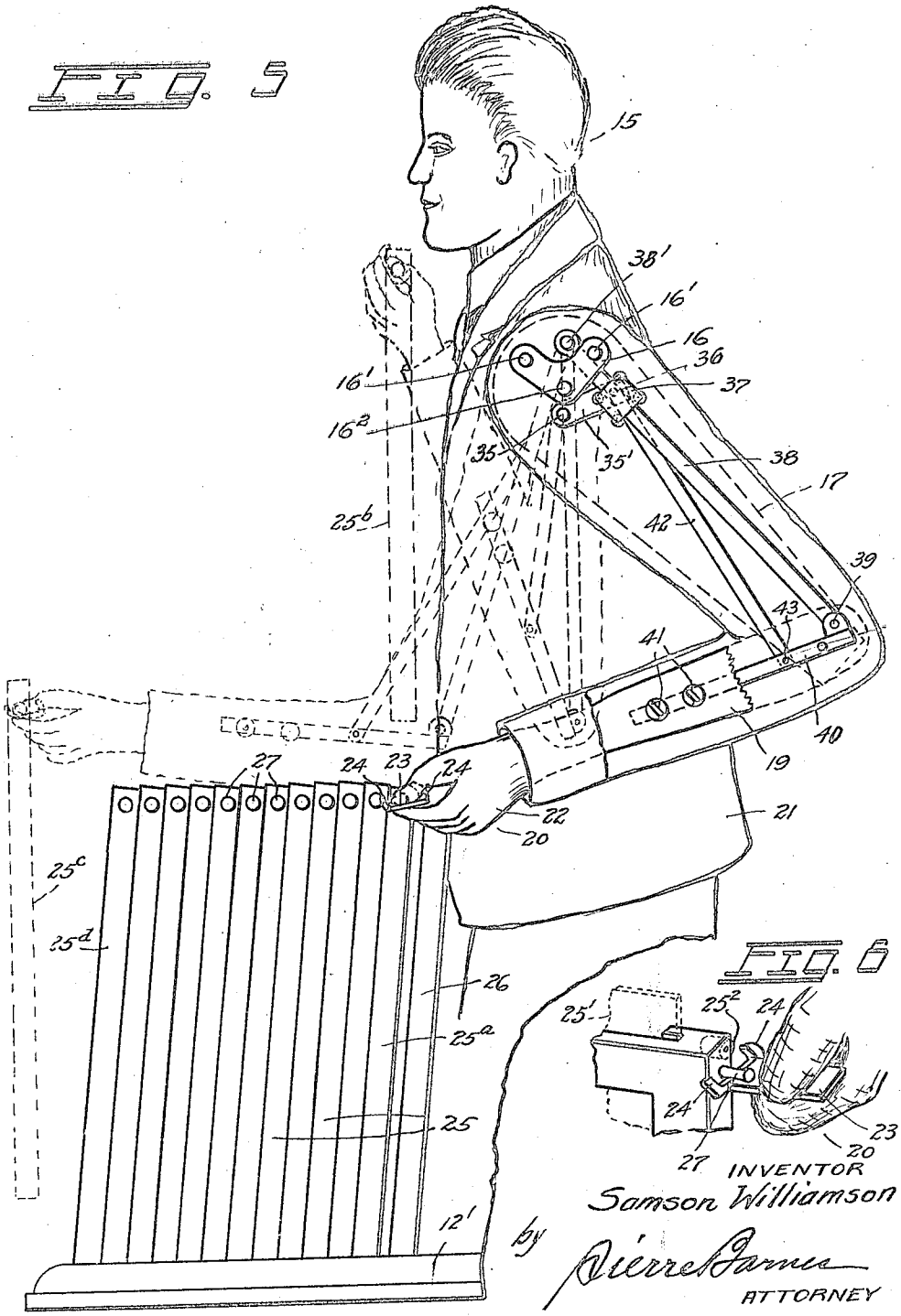


FIG. 6

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Patented Feb. 27, 1923. 1,446,731

UNITED STATES PATENT OFFICE.

SAMSON WILLIAMSON, OF SEATTLE, WASHINGTON.

SIGN-EXHIBITING APPARATUS.

Application filed April 25, 1921. Serial No. 464,214.

To all whom it may concern:

Be it known that I, SAMSON WILLIAMSON, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Sign-Exhibiting Apparatus, of which the following is a specification.

This invention relates to advertising devices.

An object of my invention is the provision of an attractive sign exhibiting apparatus which by its peculiar arrangement and operation will perform an optical illusion to the eye of an observer.

The invention consists in the novel construction, adaptation and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of apparatus embodying my invention. Fig. 2 is a rear elevational view, partly in section of the same, with the habiliments omitted. Fig. 3 is a side elevation of Fig. 1 with a portion of the coat sleeve broken away. Fig. 4 is sectional view on line 4—4 of Fig. 2. Fig. 5 is a view similar to Fig. 3 to an enlarged scale and representing by dotted lines the sign-shifting mechanism in various operative positions. Fig. 6 is a perspective view to illustrate the preferred form of the sign engaging appliances.

In said drawings, the reference numeral 10 represents a stand having a top 11 hereinafter designated as the "table" which is provided along its front and side edges with wall elements 12 and 12^1.

Secured to and extending upwardly from said table is a box shaped casing 13 (Figs. 2 and 4) surmounted by a casting 14 which, in turn, supports a head 15. Secured to each side of the casing 13, as by fastenings 16^1, Fig. 5, is a bracket piece 16 from which projects a pin 16^2 to which is pivotally suspended a plate 17 of sheet metal which constitutes the upper part of an arm. The lower end of the arm plate 17 is provided with a slot 18 to receive a screw 18^1 which engages in the elbow end of a fore arm piece 19 desirably of wood and terminates in a hand 20.

The portions of the above described parts between the table 11 and the head 15 are clothed by garments such as a coat 21, gloves 22, etc., to afford as near as practical a similitude of a person.

The hands, one for each arm, are formed in partially closed conditions and secured to each is a metal plate or lifter 23, arranged transversely of the apparatus and provided at its inner end with a pair of upwardly directed spaced horns 24.

In the operation of the arms, to be presently explained, the plates 23 serve to engage the signs employed in the apparatus for transposing the same.

The above mentioned signs are or may be in the nature of cards, such as 25^1 upon which advertising or other matter is displayed and are respectively contained in rectangular frames 25 adapted to fit loosely between the side walls 12^1 of the table 11 and in rearwardly inclined positions as regulated by a stationary backing piece 26.

Adjacent to its upper ends and at opposite sides of the backing piece 26 and frames 25 are provided anti-friction rollers 26^1 and 25^2 the former being disposed to protrude from the front of the piece 26 and the rollers 25^2 to protrude from the rear of the respective frames.

Projecting laterally from near the tops of the respective frames are studs 27 which in sequence are engageable from below by the lifters 23 which are operated by the arms to first elevate the rearmost frame as 25^a into dotted line position 25^b, see Fig. 5, whereat the respective sign or card is visible to an observer; second to convey such frame forwardly into its 25^c position; and thence rearwardly into the place occupied by the foremost frame 25^d.

When a sign is thus deposited the lifters continue to travel downwardly and rearwardly into positions to engage another frame at the rear thereby completing a cycle of operation.

The lifter movements above described are accomplished by mechanisms which I will now explain with particular reference to Figs. 2, 4 and 5.

Mounted upon a shelf 28 within the casing 13 is a motor 29 which drives a transversely arranged shaft 30 as by means of a worm 31 and a worm wheel 32. The shaft 30, in turn, is operatively connected as by

a spur pinion 33 and gear wheel 34 to a second transversely arranged shaft 35 extending through journal bearings in the casting 14 and provided at each of its ends with a crank-arm 35^1. Said crank arms serve to actuate the motion producing mechanisms of both arms simultaneously.

In each arm, the pin 36 of the respective crank-arm engages in an aperture provided in a hollow block 37. Said block is slidable upon a radius rod 38 which is pivotally connected at its upper end to a stationary pin 38^1 and at its lower end to a pin 39 carried by a reinforcing bar 40 which is secured as by screws 41 to the associated fore-arm piece 19.

The crank pin 36 is furthermore connected by a rod 42 with a pin 43 provided on the bar 40 at a distance from the pivotal connection 39 between the bar and said radius bar.

In action the rotation of crank shaft 35 through the medium of a crank-arm revolubly moves the block 37 to afford through the instrumentality of the radius rod 38 swinging movements to an arm as a whole.

In its crank impelled revolutions the block reciprocates upon said radius rod thereby constraining the crank pin motions with respect to the arm to produce, through the medium of the connecting rod 42, straightening and flexing movements of the arm during the forward and backward swinging motions of the arm whereby the lifters of the respective arms are actuated to perform their frame conveying functions hereinbefore described.

Included in the invention are means to effect rearward movements to the frames 25 remaining upon the table after the rearmost one 25^a has been withdrawn by said lifters so as to afford between the foremost frame 25^a and the front wall 12 a space into which the frame being transported may be deposited upon the table.

To such end I provide below the table two bars 45 disposed longitudinal of the apparatus and each having at its forward end a finger 46 extending upwardly through a table slot 47 into engageable relations with the frames 25. Said bars are movable in guides 48 by being connected to crank arms 49 provided on a shaft 50 to which rocking motion is imparted through the agency of a lever 51 through the alternate actions of a cam 52 provided on shaft 35 and a spring 53.

The cam 52 serves to produce relatively slow rearward movements of the bars 45 and the frames, and the spring 53 produces rapid forward movements to the bars.

The construction and operation of my invention will be understood from the foregoing description.

What I claim is,—

1. In an advertising device, the combination with a plurality of signs provided with studs protruding from the opposite sides thereof, and a table for supporting said signs one behind another, of power actuated means engageable with the respective studs for transposing said signs successively from the rear to the front of said table, and means for automatically shifting rearwardly all of the signs remaining upon the table while each sign is being conveyed by the aforesaid means.

2. In an advertising device, the combination with a table, a series of signs supported thereon one behind another, and means provided on said table to retain said signs in substantially vertical positions, of power actuated arms for successively carrying the signs over said series from one end thereof and depositing them at its other end.

3. In an advertising device, the combination with a plurality of signs provided with studs protruding from their opposite sides, a table for supporting said signs in substantially vertical positions one behind another, and a casing extending upwardly from the table to the rear of said signs, of a pair of flexible arms connected pivotally at their upper ends to said casing for longitudinal swinging movements, means carried by the other ends of said arms for engaging said sign studs, a motor within said casing, and means actuated by said motor and extending into said arms to operate the latter to convey said signs successively from the rear to the front by successively flexing, straightening and swinging the arms.

Signed at Seattle, Washington, this 19th day of April, 1921.

SAMSON WILLIAMSON.

Witnesses:

PIERRE BARNES,

MARGARET G. SUPPLE.