

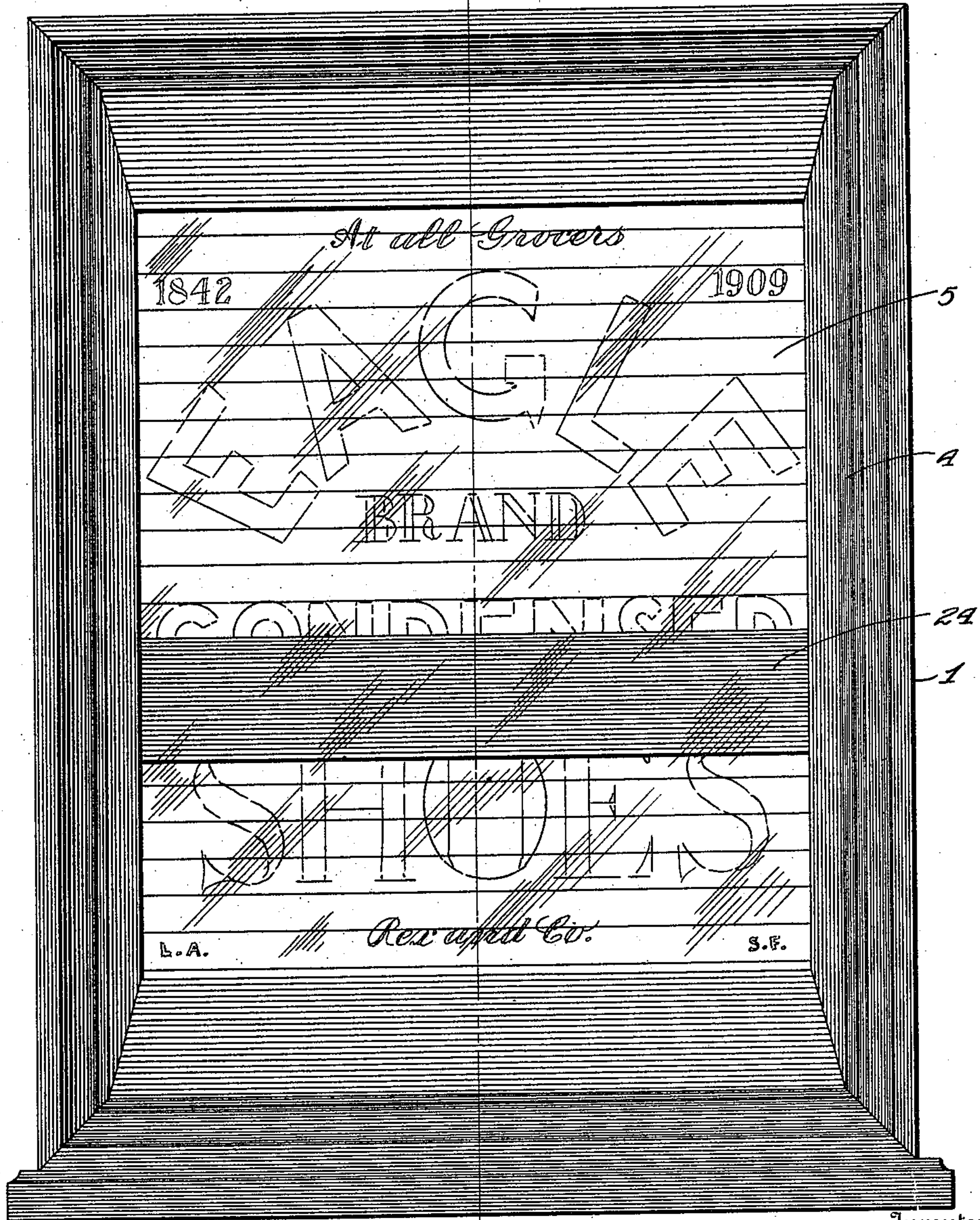
E. N. HEARD.
ADVERTISING SIGN.
APPLICATION FILED DEC. 4, 1909.

975,035.

Patented Nov. 8, 1910.

3 SHEETS—SHEET 1.

Fig. 1



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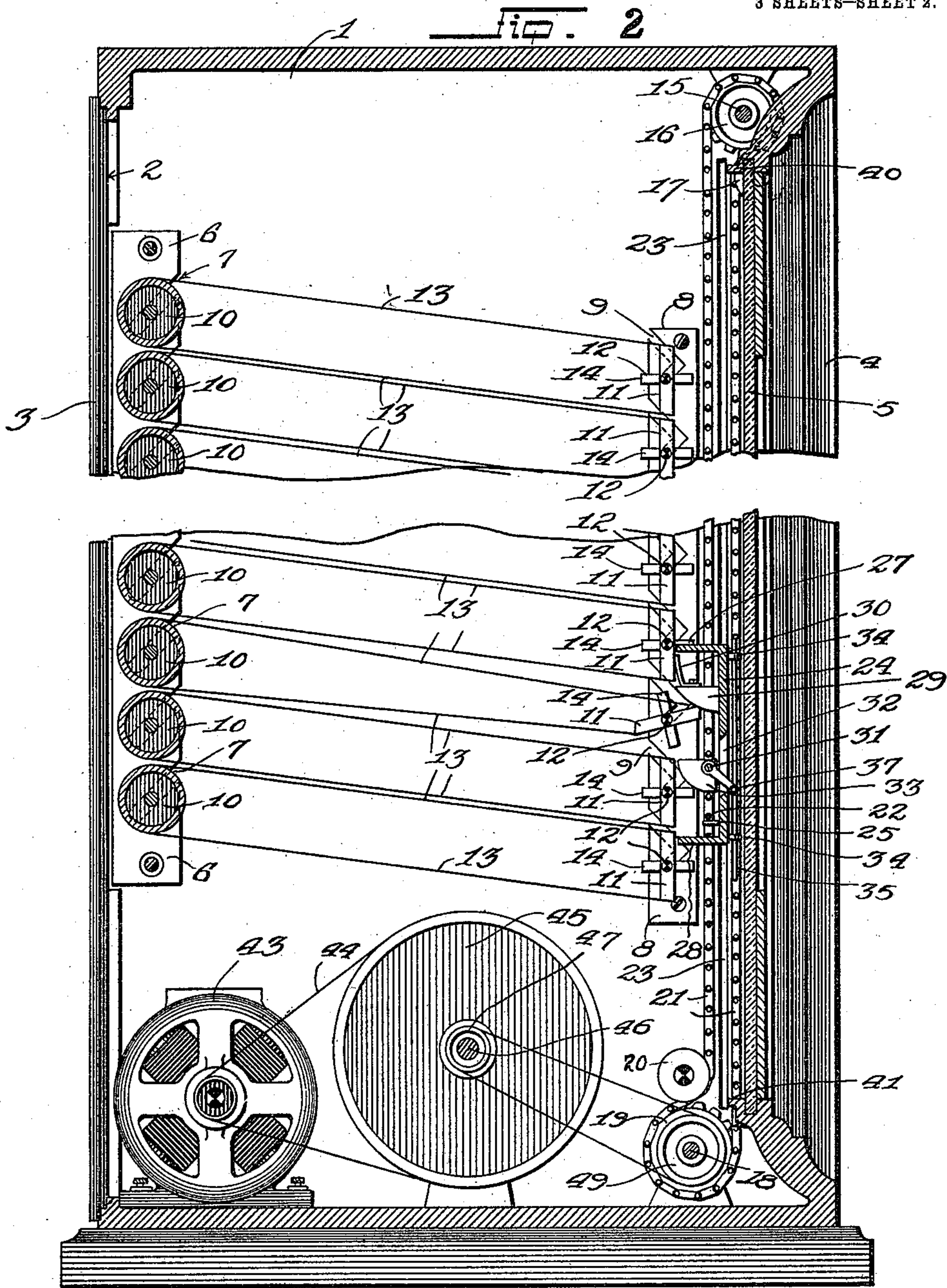
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3 SHEETS—SHEET 2.



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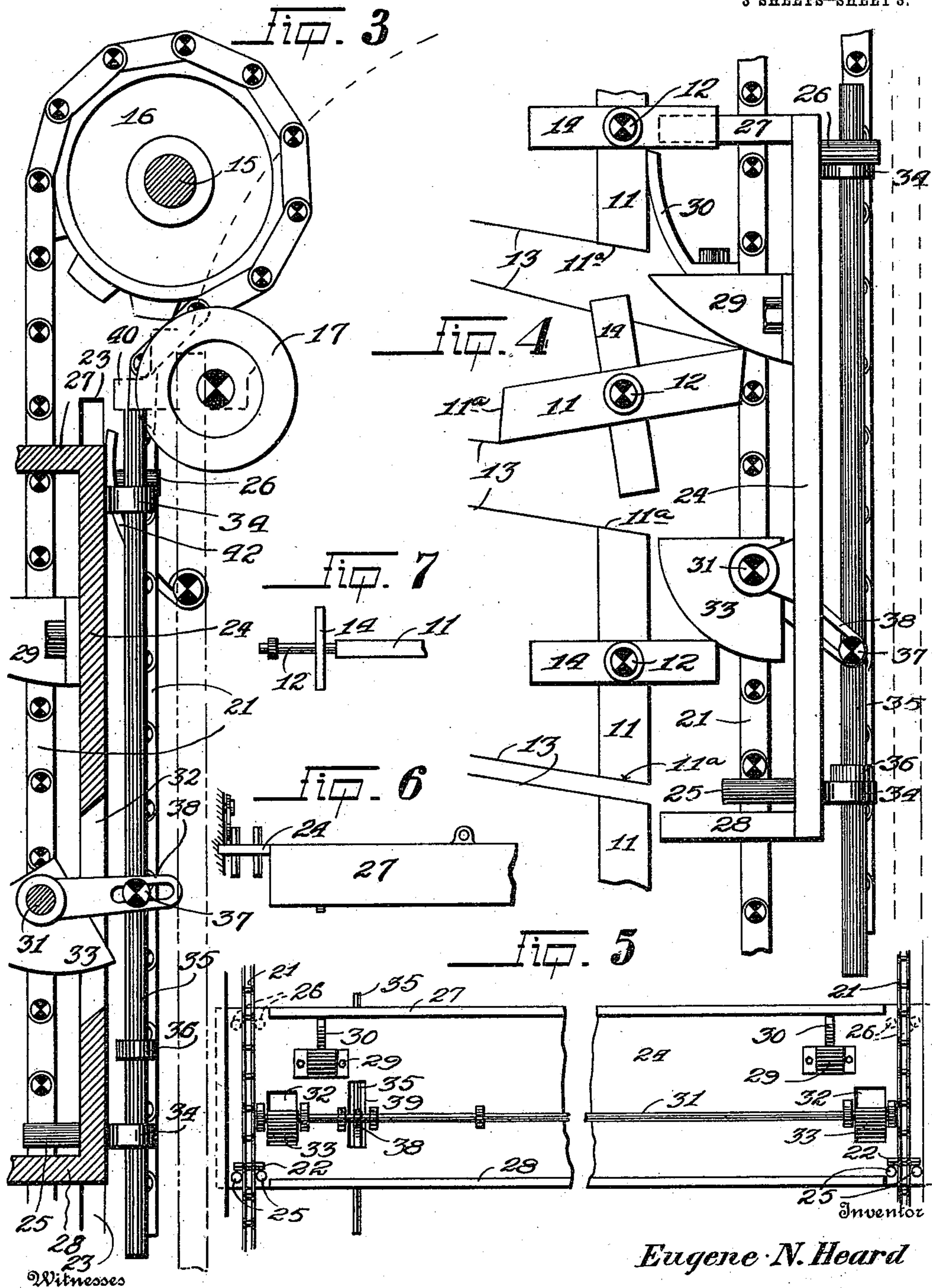
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

EUGENE NELSON HEARD, OF OAKLAND, CALIFORNIA.

ADVERTISING-SIGN.

975,035.

Specification of Letters Patent.

Patented Nov. 8, 1910.

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To all whom it may concern:

Be it known that I, EUGENE NELSON HEARD, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Advertising-Signs, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to changeable sign exhibiting devices, and the principal object of the same is to provide an exhibitor of the type specified in which a plurality of signs are automatically and intermittently exhibited in an attractive manner.

In carrying out the objects of the invention generally stated above it is contemplated providing a casing in which a plurality of rollers are rotatably mounted, each roller having an endless connection with a rotatable slat at the front of the casing, said endless connections having advertisements or the like thereon, means being provided whereby the slats are intermittently rotated to exhibit a portion of the endless connector that passes over them, said means concealing the slats while the latter are being rotated.

In the practical application of the invention it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of the invention being shown in the accompanying drawings, wherein:—

Figure 1 is a view in front elevation of the improved sign exhibitor. Fig. 2 is a vertical sectional view taken on the line X—X, Fig. 1. Fig. 3 is a fragmentary detail view of one of the operating chains and its adjuncts for operating the exhibitor. Fig. 4 is an enlarged detail fragmentary view showing the manner of intermittently rotating the sign supporting slats. Fig. 5 is a rear elevation of a shield which is equipped with means for rotating the slats. Fig. 6 is a fragmentary top plan view thereof. Fig. 7 is a similar view of one end of one of the slats.

Referring to the accompanying drawings by numerals, 1 designates a substantially rectangular casing that has a rear doorway 2 through which access may be had to the interior of the casing, a door 3 being provided for said doorway. At the front the casing 1 is provided with a frame 4 which supports the glass or other transparent front cover-

ing 5. To each side of the doorway 2 a vertical strip 6 is provided that has regularly spaced apart vertically arranged downwardly inclined bearing slots 7. And to each side of the front covering 5 and concealed by the frame 4 thereof, a side strip 8 is provided, said strips 8 having slots 9 corresponding in number to the slot 7 of strips 6 but arranged in a slightly lower plane. A roller 10 is provided for each pair of oppositely disposed slots 7 of the strips 6, and a slat 11 having end shafts 12 is rotatably supported by each pair of oppositely disposed slots 9 of the supporting strips 8. This arrangement of slats and rollers disposes the same in pairs, and each pair is connected by a wide endless band 13 upon the outer surface of which advertising matter is placed. Each end shaft 12 of the slats is provided with a tripping arm 14 that is slightly spaced from and projects at right angles to the slats.

At the top of the front of the casing, and concealed by the frame 4 a horizontal shaft 15 is rotatably mounted, said shaft having a sprocket wheel 16 adjacent each end. An idler guide pulley 17 is mounted below each sprocket 16 and between the same and said frame 4. At the bottom of said casing, a horizontal shaft 18 is rotatably mounted, said shaft having end sprockets 19 above which, and toward the interior of the casing, an idler guide pulley 20 is provided for each sprocket 19. A sprocket chain 21 connects each pair of sprocket wheels 16 and 19, the flights of said chains being retained in vertical positions by the upper outer guide pulley 17 and the lower inner guide pulley 20. A conveyer pin 22 projects through and beyond the sides of one of the links of each chain 21.

A vertically arranged guiding groove 23 is arranged on each side of the casing 1 adjacent the front thereof, said grooves extending above and below the top and bottom of the front covering 5.

A flat shield 24 extends transversely across the front of the casing 1 and has its ends passed between the flights of sprocket chains 21 and slidably mounted in the guiding grooves 23. The shield may be of sheet metal and adjacent each lower corner of its inner surface is provided with a pair of spaced apart outwardly projecting pins 25 between which the inner flights of the chains 21 pass. The upper corner portions of the

outer surface of the shield 24 are provided with pins 26 arranged similar to the pins 25 of the inner surface of the shield and between which the outer flights of chains 21 pass. Said pins 25 and 26 are in the path of movement of the pins 22 of said chains and when said pins 22 contact therewith, the shield 24 is moved vertically of the casing 1, as will be more fully explained. The shield 24 is provided with upper and lower inwardly projecting flanges 27—28, respectively which terminate adjacent the slats 11 when said slats are in an edgewise position. Said flanges terminate adjacent each end of the shield 24 so that clearance space is provided for the chains 21, as is shown more clearly in Fig. 5 of the accompanying drawings. Adjacent each upper corner of the inner surface of the shield 24, and beneath the upper flange 27 thereof, an outwardly projecting rigid cam 29 is provided, said cams being adapted to rotate the slats 11, as will presently be explained. Said cams are also provided with a spring arm 30 that prevents further rotation of a slat after the cam has left the slat. A rocker shaft 31 is rotatably mounted on the inner face of the shield 24 below the cams 29, said shaft extending across the transverse openings 32 adjacent the ends of said shield. A pair of cams 33 are fast on said shaft, one being in alinement with each opening 32 and adapted to be projected therethrough when said shaft is rocked in one direction. Said cams 33 are located so that they will actuate the tripping arms 14 of the slats 11. On its outer face, and adjacent one end thereof, the shield 24 is provided with a pair of spaced apart guide eyes 34 in which a vertically arranged tripping rod 35 is slidable. Said rod carries an abutment collar 36 for contact with the lower eye 34 to limit the vertical movement of the rod in a downward direction. A headed lug 37 projects laterally from said rod 35 and has a link 38 slidable thereon, said link projecting through a slot 39 in the shield 24 and having one end rigidly fastened to the rocker shaft 31. Abutments 40—41 are provided at the upper and lower portion of the casing 1 for said rod 35 to limit its vertical movement.

At the upper portion of casing 1 springs 42 are provided whose free ends bear upon the ends of shield 24, when the latter is at the upper portion of the casing, and exert a pressure thereon to cause the shield to bind within its guiding grooves 23 so that said shield will be yieldably held at the upper portion of the casing.

A motor 43 is mounted on the base of the casing 1, said motor having a belt connection 44 with a pulley 45 on a shaft 46 which is provided with a smaller pulley 47 that has a belt connection 48 with a pulley 49 on shaft 18.

The shield 24 is of a width equal to the width of three of the slats 11, and in operation, assuming the shield to be at the upper end of the casing and held there by the pressure of springs 42, it will be seen that the chains 21 traveling over the upper sprockets 16 their pins 22 will engage pins 25 of shield 24. When the shield is at its uppermost position, tripping rod 35 has contacted with abutment 40, which moves rod 35 downward, and through link connection 38 with shaft 31, said shaft is rocked to project cams 33 outward. Pins 22 and 25 being in engagement, shield 24 is moved downward with chains 21 causing cams 33 to contact with tripping arms 14 which rocks shafts 12 and turns slats 11 to a position where they are in the path of movement of cams 29 so that said cams 29 will rock said slats to a position parallel with chains 21. After the first slat has been turned by cams 29 and while said cams are starting to turn the next slat, springs 30 are in contact with the previously turned slat and prevent it turning beyond a position parallel with said chains 21. This intermittent rotation of the slats is continued until the lowermost position of shield 24 is reached, whereupon rod 35 contacts with abutment 41 and is raised relative to shield 24, and through its link connection with rocker shaft 31, rocks the latter so the cams 33 are drawn into openings 32 so that they will not contact with the arms 14 on the upward movement of shield 24. Simultaneously with the withdrawal of cams 33, the outward bend of chains 21 necessary to pass over sprockets 19, causes said chains to withdraw their pins 22 from engagement with pins 25, thereby releasing said shield. After the chains 21 have passed over sprockets 19, their pins 22 engage pins 26 of shield 24, causing said shield to travel upward with said chains. The upward movement of shield 24 performs no operation on the slats 11 for the reason that cams 33 are withdrawn so that they cannot contact with arms 14, and cams 29 cannot contact with slats 11 for the reason that said slats are in edgewise relation and parallel with the chains 21. When the uppermost position of shield 24 is reached, rod 35 automatically shifts the positions of cams 33 by contact with abutment 40, and pins 22 and 26 are disengaged by the outward bend of the chains necessary to pass over sprockets 16, after which the downward movement of the shield is effected as has been described.

It will be seen from the foregoing that the improved exhibitor provides means whereby the turning of the slats is performed intermittently and automatically, one slat being partially rotated by the cams 33 and the rotation of said slat completed by the cams 29, the previously turned slat being held and steadied by springs 30, so

that it will stay in the proper position to effectively display the advertisement, or part of the advertisement, contained on its endless connector 13. The longitudinal edges 11^a of the slats are preferably beveled so that the interior of the casing 1 cannot be viewed through the front of the casing when the slats are in their exhibiting positions. And the frame 4 is so constructed that it conceals from view the operating mechanism of the exhibitor. It will also be understood that the cams 29—33 are so arranged on the shield 24 that they will have finished their slat turning operations before the shield has moved from position in front of the slats being turned.

What I claim as my invention is:—

1. An exhibitor comprising a casing having a transparent front, a plurality of endless exhibiting bands mounted for independent movement across said casing, and vertically moving means within said casing for automatically actuating said bands and concealing the same while being actuated.
2. An exhibitor comprising a casing having a transparent front, vertically arranged spaced apart horizontal rollers rotatably mounted at the rear of said casing, rotatable slats corresponding in number to said rollers and arranged at the front of said casing, a plurality of independent endless exhibiting bands corresponding in number with the slats and roller, each band being supported by a roller and one slat, and a shield mounted for vertical movement in said casing for intermittently and automatically rotating said slats and concealing the same while being rotated.
3. A changeable exhibitor comprising a casing, a plurality of independent endless exhibiting bands transversely mounted in said casing, a shield mounted for vertical movement in said casing, and means carried by said shield for automatically and intermittently actuating said bands, said shield concealing said bands while the latter are being actuated.
4. A changeable exhibitor comprising a casing having a transparent front, a plurality of exhibiting bands mounted for independent movement in said casing, a shield extending across the transparent front of said casing, means for moving said shield vertically in said casing, and means carried by said shield for automatically and intermittently actuating the bands while the shield is passing the same.
5. A changeable exhibitor comprising a casing having a transparent front, a plurality of independently supported spaced apart exhibiting bands movably mounted within said casing, a shield mounted in the front of said casing, means for moving the same vertically, and means carried by said shield for automatically and intermittently

actuating said bands during one vertical movement of said shield.

6. A changeable exhibitor comprising a casing, independently movable exhibiting bands therein, vertically arranged conveyer chains in said casing, a shield adapted to be moved vertically by said chains, and cam mechanism carried by said shield for automatically and intermittently actuating said bands during one vertical movement of said shield.

7. A changeable exhibitor comprising a casing, independently mounted endless exhibiting bands therein, a rotatable slat for one end of each band, tripping arms carried by said slats, a shield vertically movable across the slat supported ends of said bands and concealing the same when passing, and cam mechanism carried by said shield for contact first with said arms and then with said slats for automatically and intermittently rotating said slat.

8. A changeable exhibitor comprising a casing having a transparent casing, a vertical row of spaced apart horizontally arranged slats at the front of said casing, a similar row of rollers at the rear of said casing, a plurality of endless exhibiting bands each being independently supported by one slat and one roller, a shield in said casing, means for moving the same vertically between the transparent front of said casing and the slat supported ends of said bands, and means carried by said shield for automatically and intermittently rotating said slats.

9. A changeable exhibitor comprising a casing having a transparent front, a vertical row of horizontally arranged slats provided with end shafts that are supported at each side of said front, tripping arms carried by said shafts and projecting at right angles to said slats, endless exhibiting bands in said casing passing over said slats, a shield vertically movable in said casing between said slats and the transparent front, a pair of rocking cams carried by said shield, a pair of rigid cams also carried by said shield, said cams adapted, respectively for contact with said slats and said arms to rotate the slats, and means for actuating said shield.

10. A changeable exhibitor comprising a casing, a plurality of independently movable exhibiting bands therein, a shield vertically movable in said casing, and upper and lower cams carried by said shield for partially moving and then completing the movement of said bands.

11. A changeable exhibitor comprising a casing, exhibiting bands therein, conveying chains in said casing, a shield vertically movable in said casing by said chains and adapted to intermittently actuate said bands and conceal the same while being actuated, and means for automatically releasing said

shield from said chain at the end of each vertical movement.

12. A changeable exhibitor comprising a casing, exhibiting bands mounted therein, 5 turning slats for each band, tripping arms for rotating said slats, a shield vertically movable between the slat supported portion of said bands and said casing, a pair of rocking cams for contact with said arms and 10 a pair of rigid cams for contact with said slats on the downward movement of said shield, and means for actuating the rocking cams so that they will not contact with said arms on the upward movement of said 15 shield.

13. A changeable exhibitor comprising a casing, endless exhibiting bands therein, a

shield vertically movable between said bands and the front of the casing, a pair of rocking cams and a pair of rigid cams carried 20 by said shield and adapted to automatically and intermittently rotate said bands, means carried by the rigid cams for steadying a previously turned band, and a tripping rod 25 carried by said shield for automatically shifting said rocking cams at the end of the movements of said shield.

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

EUGENE NELSON HEARD.

Witnesses:

F. P. SCHROEDER,
H. C. SCHROEDER.