

A. H. DOUGLAS.
MOTION ADVERTISING DEVICE.
APPLICATION FILED APR. 20, 1909.

951,599.

Patented Mar. 8, 1910.

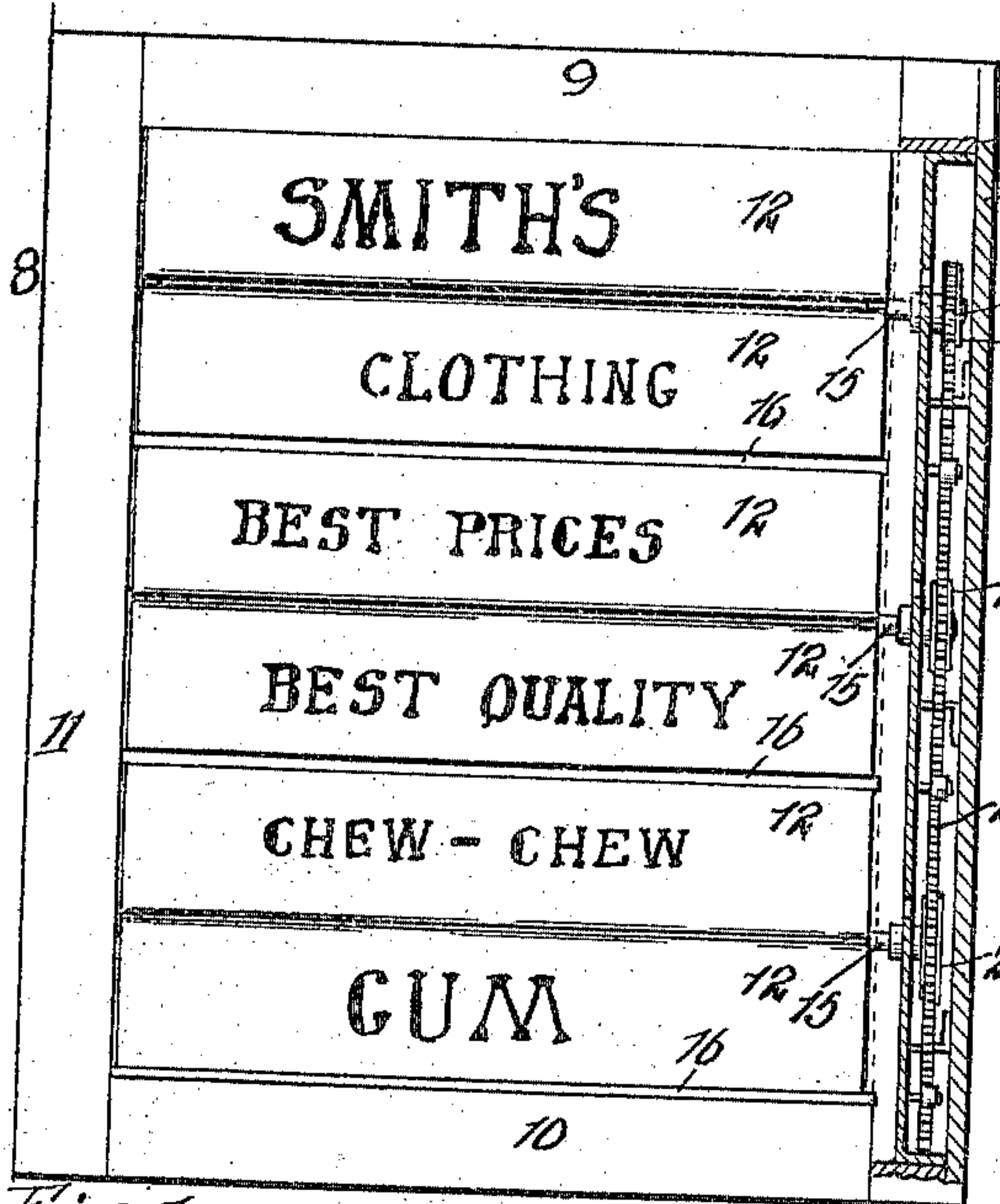


Fig. 1.

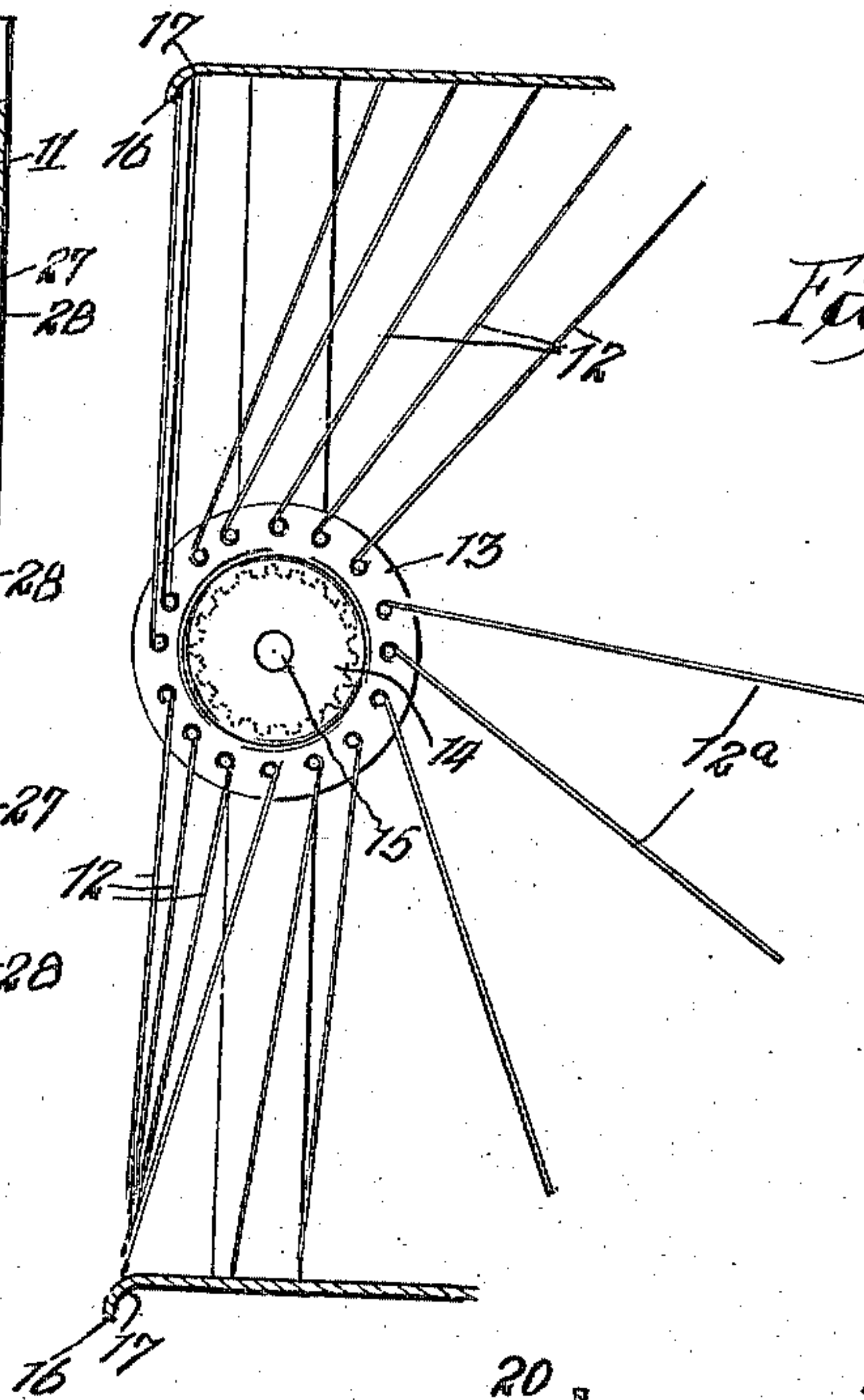


Fig. 2.

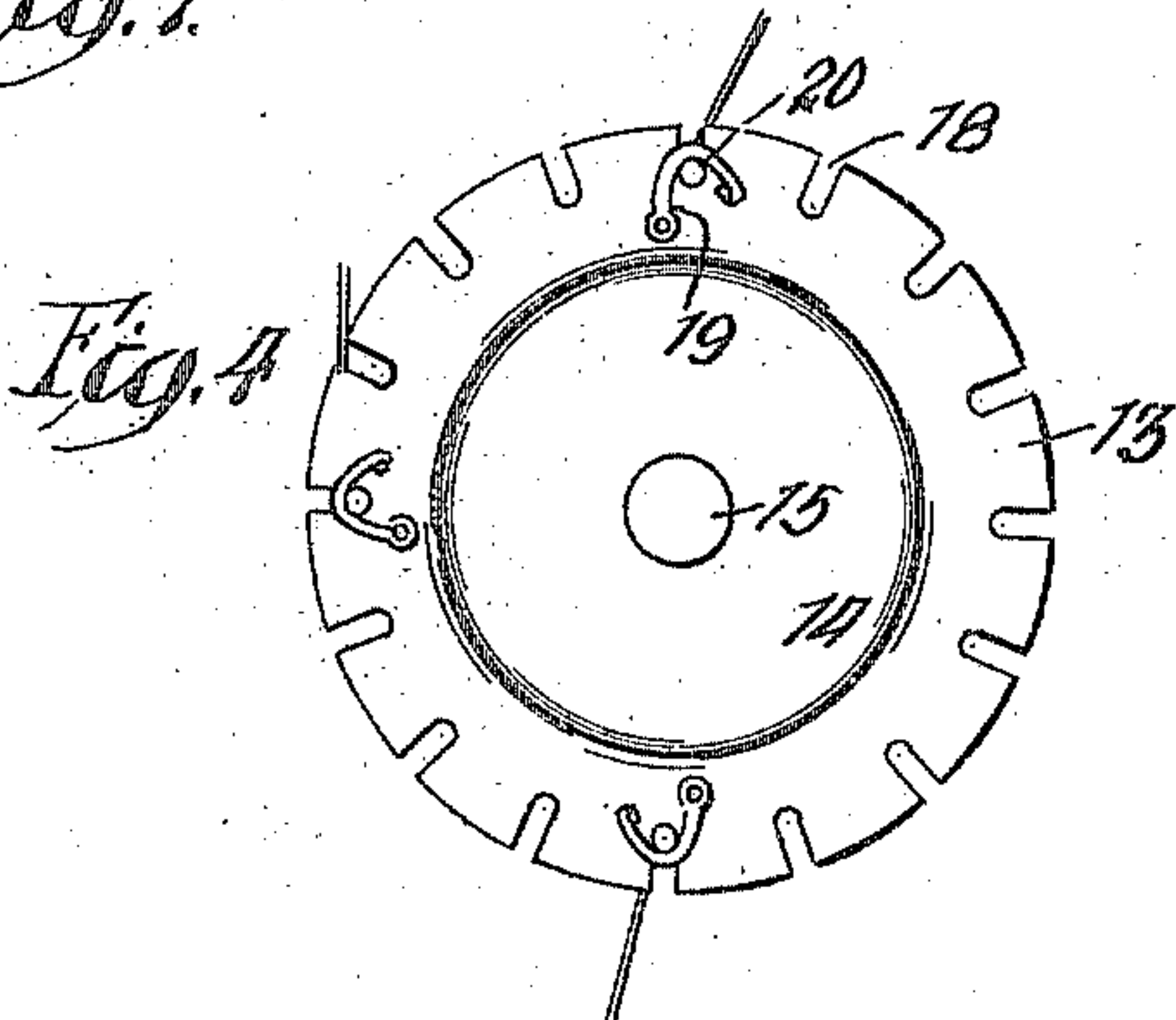


Fig. 4.

Fig. 3.

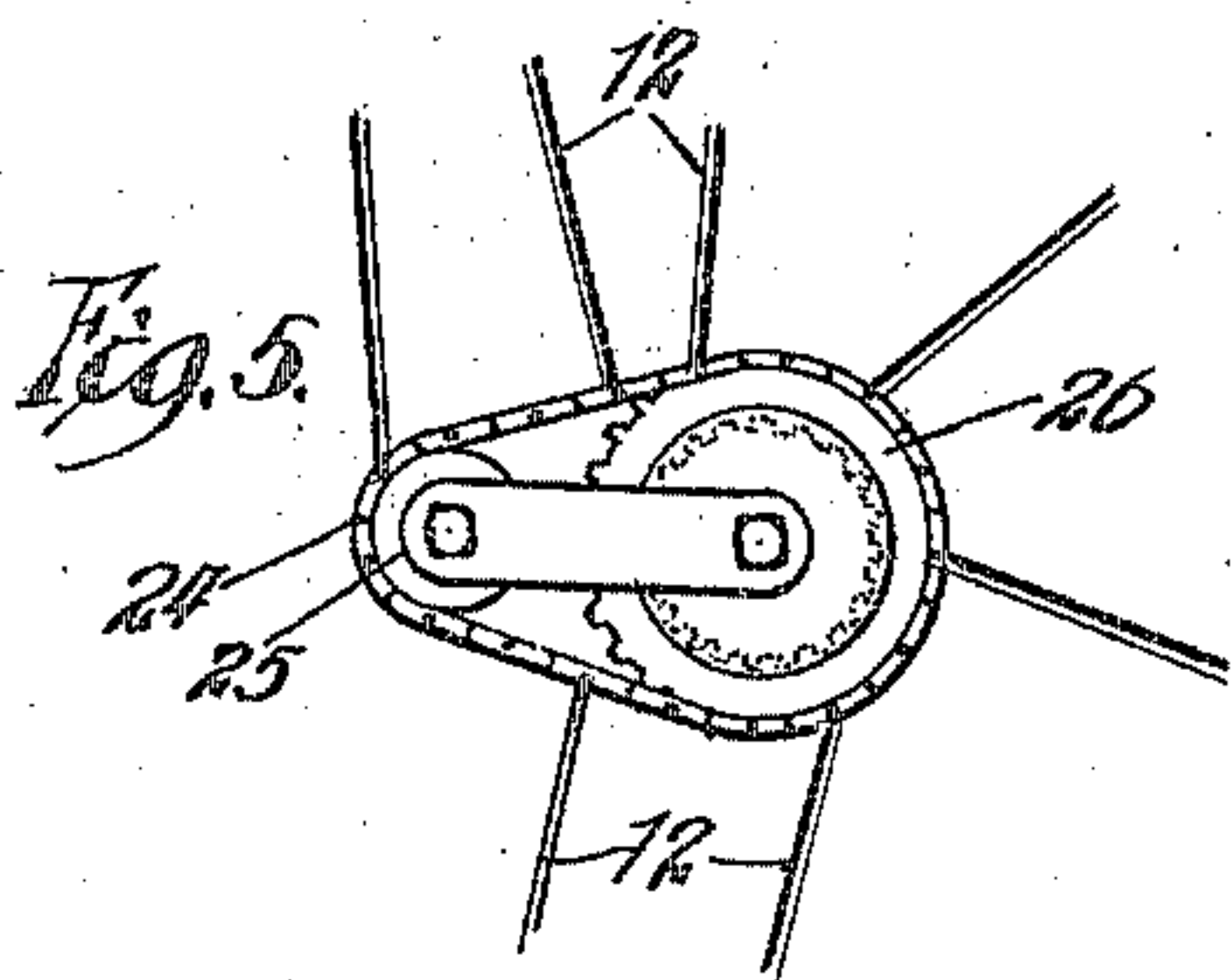
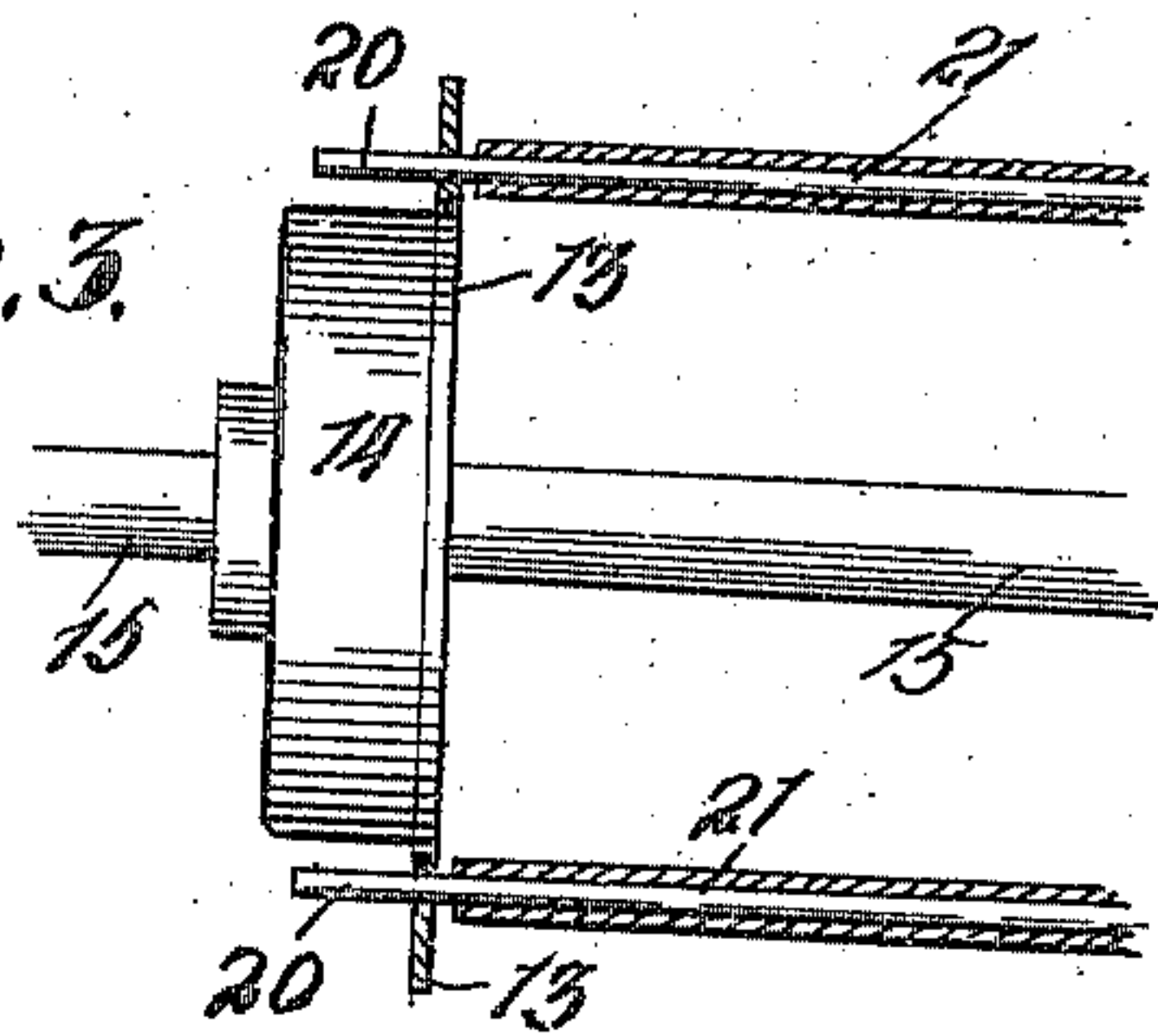


Fig. 5.

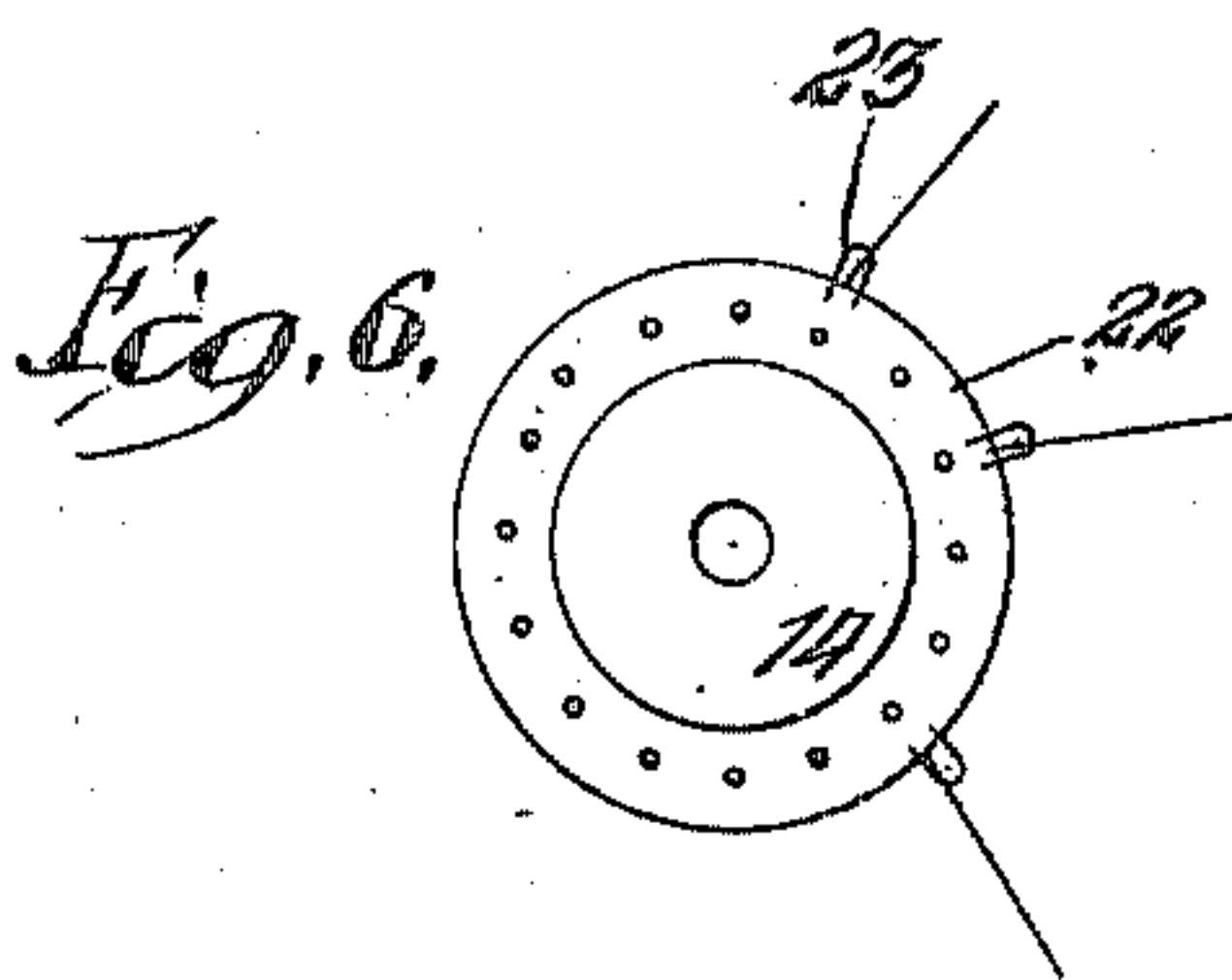


Fig. 6.

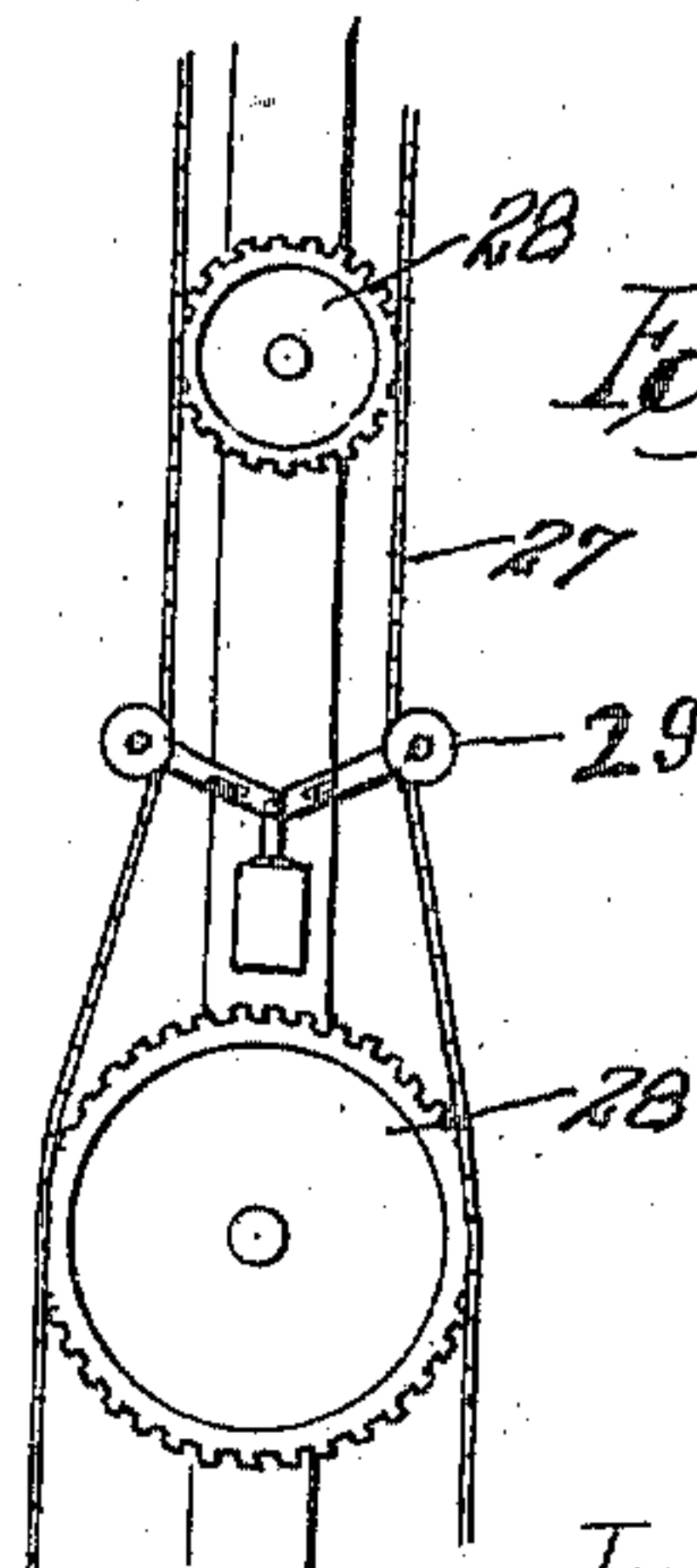


Fig. 7.

Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR H. DOUGLAS, OF CHICAGO, ILLINOIS.

MOTION ADVERTISING DEVICE.

951,599.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed April 20, 1909. Serial No. 491,016.

To all whom it may concern:

Be it known that I, ARTHUR H. DOUGLAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Motion Advertising Devices, of which the following is a specification.

This invention relates more particularly to signs intended for advertising purposes; and the object of the invention is to so construct and arrange the sign that a series of advertisements may be shown in a variety of combinations, as desired, by dropping the panels as necessary, thereby greatly increasing the effectiveness of the display and capacity of the advertising device, which occupies but little more than the usual space for signs of like proportions. The display panels, furthermore, are mounted by their back edges on axles, which are in turn set in hubs or other means suitable for the purpose, and, when revolved properly, serve to attract the attention of passersby to the advertisement on the surfaces of the panels.

The invention further relates to the construction and arrangement of the panels and their relation to the device as a whole and the individual parts thereof.

The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of the sign, one side of the casing being sectioned away to show the operating mechanism; Fig. 2 an enlarged section of a set of panels; Fig. 3 an elevation of one end of the drum, with a portion of the flange broken away and showing the trunnions mounted therein; Fig. 4 a detail, showing a locking means for the end of the trunnions; Fig. 5 a detail, showing a modified form of mounting for the panels; Fig. 6 a detail, showing a reinforcing means for the center of a panel of more than ordinary length; and Fig. 7 a detail, showing a construction for obtaining variable speeds of rotation for different sets of panels.

The invention is one that is intended to afford an almost infinite number of variations in the arrangement and order of presentation of the panels; and it will be understood that the particular embodiment of the invention herein shown serves to illus-

trate the method of mounting and operating the panels, without reference to possible variations in their arrangement.

Referring to Fig. 1, the sign comprises a rectangular frame 8, having a top wall 9, a floor 10, and side walls 11. The frame is adapted to serve as a housing for a plurality of independently operable sections, which may be arranged in single or double column form, and which may be operated in unison to display a single sign or advertisement with each movement of the mechanism, or to display a plurality of signs or advertisements. It will be understood that the invention relates rather to a single section, and the manner of its operation, than to the arrangement of the plurality of sections in the form of a complete sign.

Each of the sections comprises a multiplicity of panels 12, and each panel is hinged, at one edge, between companion end flanges 13 at the ends of a hub 14 mounted upon a shaft 15. The panels are adapted to swing freely between the flanges and to fall by gravity from the position indicated at the upper left hand corner of Fig. 2 into the position indicated at the lower left hand corner of said figure. The panels are intended to afford display surfaces on each side, and, in arranging the advertisements, it is intended to so fix the advertisements applied to the panels that the advertisement or portion thereof applied to the front face of a panel in its upper position will complement the advertisement applied to the front face of the lower adjacent panel. Furthermore, when an upper panel swings down and assumes the lowermost position, the advertisement on its previously obscured rear face will complement the advertisement on the front face of the next succeeding panel.

In order to successively release the panels at the proper time, the top of each section is provided, at its front edge, with a depending flange 16 adapted to engage the upper edges of the panels and hold the same until the revolution of the frame has proceeded to the extent necessary to carry down the upper edge of said panel below the edge of the flange and in position to permit the release of the panel. Immediately prior to the release of the upper panel, the upper and lower panels will lie in substantially the same vertical plane with their hinged edges

in close proximity to one another, so that, if desired, the panel character of the display can be practically disguised and a single picture presented, without a noticeable break in its center where the edges of the two panels come together. The inner face of the lower wall of each section, near its front edge, is slightly rounded or beveled at 17 in order to afford a point of contact for the panels as they swing down, whereby the vertical plane of the front lower panel will be maintained, which panel will bear against the panels behind it, one of which will maintain contact with the rounded or beveled surface 17 until succeeding movements of the drum have carried it out of contact with said surface and brought another panel into contact therewith.

If it is desired to permit the panels to be easily removed, one of the flanges 13 can be provided, around its edge, with incut recesses 18, which cooperate with hooks 19 adapted to engage the projecting end of a short trunnion 20, which is afforded by the projecting end of an axle or pintle 21, the opposite end of which can be likewise projected to form a similar trunnion. Where the panels are of considerable length, it may be desirable to reinforce them against buckling or bending in the center, or at other intermediate points, and this reinforcement can be provided by an intermediate flange or ring 22 having U clips 23 entered through the edges of the panels at the desired points. Where it is desired to accommodate an unusually large number of panels, endless chains 24, carried around an idler drum 25, and around a sprocket drum 26, can be employed, and the connections made in a manner similar to that previously described. This variation is illustrated in Fig. 5, and the operation in this case is similar, in all essential respects, to that previously described.

In order to simultaneously operate a number of sections composing a complete sign, an endless belt or chain 27 is provided, which engages with sprocket or pulley wheels 28 on the ends of the shafts 15, which sprocket or pulley wheels may be of uniform diameter or of varying diameter, as shown in Fig. 7. Where wheels of varying diameter are used, different combinations can be effected, whereby some of the sections will operate with greater frequency. Greater speed of release can be effected by making some of the panels narrower than others, as for instance the panels 12^a on Fig. 2, so that they will maintain a contact with the flange 16 for a less length of time than others, whereby the time of release will be hastened accordingly. In order to hold the sprocket chain or belt in contact with the sprocket or pulley wheels, idler rollers 29 are provided, which serve to draw in the chain or belt to the extent necessary to secure a proper en-

gagement of the chain or belt with the wheels. Obviously, other means for operating the sections could be employed.

The operation will be partially understood, but may be briefly described as follows: The advertising matter is mounted on the panels in such form that complementary sections of advertising will appear on adjacent panels. When the first of such complementary panels is released, it will fall to the lowermost position and display its rear face, the advertisement on which will register with the advertisement displayed on the front face of the companion panels. Of course, individual or non-complementary advertisements may be displayed on each of the panels, if desired. As the shaft is revolving, the panels will be successively released, so that the display will be constantly changing, and this changing character of the advertisements may be further developed by multiplying the number of sections and by variations in the speed of release, size of panels, order of release, etc. Furthermore, other variations can be afforded by arranging the sections in a multiplicity of columns instead of in a single column, and by changing the shapes and sizes of the panels.

The invention is one which affords almost unlimited variations of advertising effect, and enables a very large number of advertisements to be successively displayed on a sign of moderate dimensions, and furthermore enables both sides of the panels to be utilized for advertising purposes. Moreover, the attractiveness of the advertisement will be increased by its movable character and by the constantly changing display afforded, both by the rails of the panels composing a single section and by variation in the order of release, the time of release, and the arrangement of the several sections composing the sign as a whole.

Where a large number of narrower panels are used, the effect is more like a ripple in the changes of the advertisement, than where the panels are wider and not so numerous.

The carriers are so constructed that the panels may be removed at will for decorating, changing or repairing, and the carriers are likewise removable from the frame for convenience in these matters.

What I claim as new and desire to secure by Letters Patent is:

1. In an advertising sign, a series of independent adjacent sections, separated and inclosed at the top and bottom by members terminating at their forward edges in depending releasing flanges, each of the sections having mounted therein a rotatable carrier, a plurality of panels carried by said carrier, said panels being pivoted at their edges to the carrier in position to be successively released from engagement with the

adjacent overhanging flange to permit each released panel to be swung down into substantial alinement with the next succeeding panel and in substantial alinement with the exposed panels of the remaining section of the sign, the upper surface of the underlying flange member serving as a stop for limiting the downward swing of the panels, in combination with means for rotating said carriers, substantially as described.

2. In an advertising sign, the combination of a plurality of carriers, a plurality of panels pivoted at their edges to the carriers, a releasing device adapted to successively release the panels after movement to an exhibiting position, said panels being mounted in such manner that when released they will

swing down by gravity and turn over to a position in substantially vertical alinement with the next adjacent panel and in position to display their reverse side, a common source of driving power for all of the carriers, a driven member carried by each of the carriers, the driven members varying in size, the size of the member determining the speed of rotation of the carrier by which it is carried, and a connection between the driven members and the source of power, substantially as described.

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Witnesses:

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