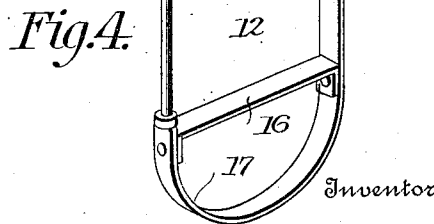
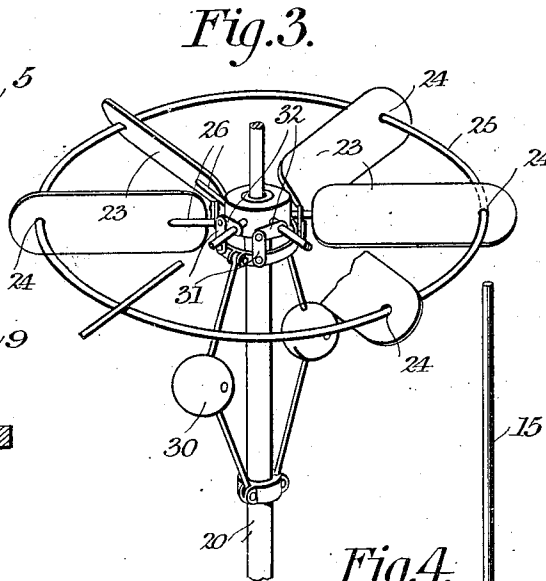
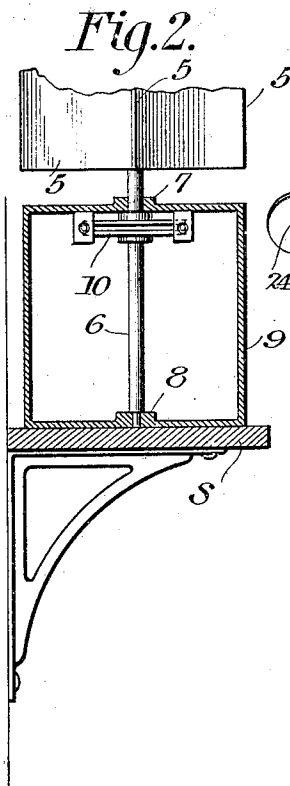
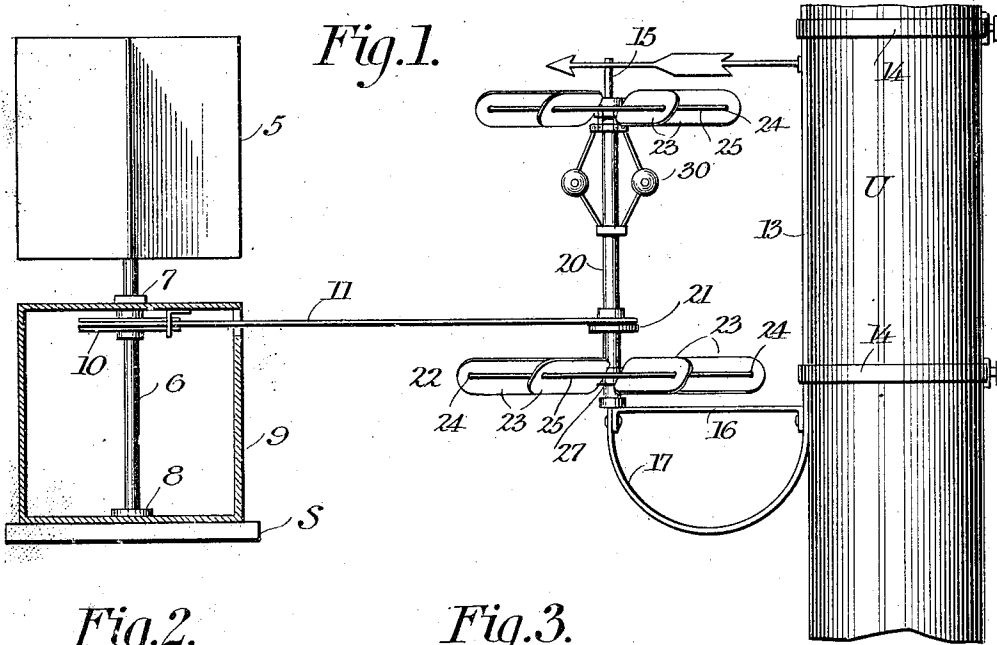


H. G. MINGO.  
ADVERTISING DEVICE.  
APPLICATION FILED OCT. 7, 1911.

1,046,318.

Patented Dec. 3, 1912.



Witnesses

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# UNITED STATES PATENT OFFICE.

HERBERT G. MINGO, OF NEW WESTMINSTER, BRITISH COLUMBIA, CANADA.

## ADVERTISING DEVICE.

Specification of Letters Patent.

Patented Dec. 3, 1912.

1,046,318.

Application filed October 7, 1911. Serial No. 653,308.

*To all whom it may concern:*

Be it known that I, HERBERT G. MINGO, a citizen of the United States, residing at New Westminster, in the Province of British Columbia and Dominion of Canada, have invented new and useful Improvements in Advertising Devices, of which the following is a specification.

This invention relates to sign exhibitors, and more especially to those which are rotated by a heat-operated motor; and the object of the same is to produce a revolving sign driven by the heat which rises from a stove or other source alongside the stove pipe. This object is accomplished by the construction hereinafter more fully described and claimed, and as shown in the drawings, wherein,

Figure 1 is a general side elevation of this sign and its motor set up ready for use. Fig. 2 is a vertical section of the casing or base which contains the sign-driving mechanism. Fig. 3 is a perspective view of the upper propeller, partly broken away to show how the governor controls the angle of its blades. Fig. 4 is a perspective detail of the bracket by means of which the motor is supported on a pipe or other upright.

In the drawings I have shown this improved device as mounted upon a stove pipe U although the same might be any suitable upright, but in this case the propellers are driven by heat rising from the stove (not shown) alongside said pipe U; and I have shown the revolving sign as mounted upon a suitable support such as a shelf S located at a point somewhat remote from the stove and stove pipe, although it will be clear that the location and support of the sign base is a matter of no moment.

The sign consists of a number of wings 5 supported by an upright shaft 6 which is mounted in a bearing 7 and a step bearing 8 in a base or casing 9, the latter resting upon the support S as shown, and within such base the shaft carries a pulley 10 which is connected by a belt 11 with the motor to be described below, and the shaft may also have a governor (not shown) for controlling its speed of rotation. The sign is to be disposed at some point where advertising is to be done, and its rotation will attract attention. The wings 5 may be painted or lettered or in any way provided with advertising matter, and it is not impossible that they could carry bells or other devices for

giving audible notice to those whose attention it is desired to attract. Considerable latitude may be allowed to the manufacturer in the details of construction of the sign 60 itself, so long as it rotates.

The motor is mounted on an upright U by means of a bracket best seen in Fig. 4 and which comprises a bent strip or rod 12 which is of substantially U-shape, its upper arm 13 65 passing under clamps 14 which surround the upright, and its other arm 15 constituting a spindle on which the motor is journaled and by preference standing parallel with the upper arm 13 and adjacent the upright U 70 especially if the latter be a stove pipe. A brace 16 may connect these arms near the bend 17 for the purpose of giving the bracket strength. I may here say that by preference I mount the motor on a stove 75 pipe above a stove, so that the heat rising from the latter will cause a rotation of the propellers in a well-known manner; although it is quite possible that said upright could be a post or other support capable of being 80 surrounded by the clamps 14, and the motor consists of propellers having their blades so set that they would be rotated by blasts of air.

The motor comprises a tubular upright 85 shaft 20 journaled upon and around the spindle 15 and having a pulley 21 around which passes the belt 11 so that the sign is rotated when the tubular shaft 20 rotates; and on this shaft are two propellers. The 90 lowermost, numbered 22, is by preference larger than the uppermost, and comprises blades 23 each having an eye 24 near its outer end which is strung loosely over a ring 25 as of wire, and each having a pin 95 26 projecting axially from its inner end and rotatably mounted within a hub 27 which in turn is fast on the tubular shaft 20. This may be said to be the construction of both propellers excepting that the pins 26 of the 100 lowermost are set within its hub 27 with some friction so that the blades remain set at the angle to which they are adjusted by hand, whereas the pins of the blades of the uppermost propeller are set within its hub 105 rather loosely so that they may turn freely.

The numeral 30 designates broadly a governor of any type not necessary to describe, whose arms are each connected by a link 31 to a crank pin 32 projecting inward from 110 the inner end of each blade of this propeller adjacent its pin 26; and the construction is

such that when the motor rotates rapidly the governor moves said links 31 so as to draw upon the cranks 32 and set the blades of the uppermost propeller so that the rising heat currents or the lateral blasts of air will have less effect upon it. Thus is produced a motor in which the lowermost propeller may have its blades manually adjusted although by preference after adjustment they remain set, and the uppermost propeller has its blades automatically adjusted by a governor; and the result is that when the heat rising from the stove or the laterally blowing breezes are too strong, the governor automatically adjusts the position of the blades of one propeller while the blades of the other remain set and the motor never comes to rest except when the heat or the breeze dies out completely. This construction I consider desirable for use in connection with a sign, because the latter should rotate constantly and yet should never rotate so rapidly that its advertising matter could not be seen. By preference the motor is disposed above a stove or other source of heat so that as the heat rises therefrom the propellers rotate slowly and drive the sign, and the latter will be located adjacent a show window or at some other point where it can be easily seen by passers-by.

The sizes, proportions and materials of parts are not essential.

A feature of this invention to which I call attention consists in the location of the rotary sign at a point remote from the location of the motor, and the connection of the two by a belt. This arrangement per-

mits the motor to be attached to any suitable upright, such as a stove pipe U as shown, which may be located within a dwelling; and the sign to be disposed near the show window thereof or at any convenient remote point, it being only necessary to make the belt of sufficient length to connect the two.

What is claimed as new is:

1. In a motor, the combination of an upright spindle, a tubular drive shaft mounted thereon and adapted for connection to a transmission device, and two propellers on the shaft, one having its blades standing at an angle and manually adjustable, and the other having its blades automatically adjusted by a speed-regulated governor.

2. In a motor, the combination of an upright spindle, a tubular shaft mounted thereon, and adapted for connection to a driven member, two propellers whose hubs are rigidly mounted on said shaft, the blades of one propeller having pins frictionally engaging its hub and manually adjusted as to their angles, the blades of the other propeller having pins at their inner ends pivotally engaging its hub, cranks on these blades also at their inner ends, and a speed-regulated governor mounted on said shaft and connected by links with said cranks.

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

HERBERT G. MINGO.

Witnesses:

THOS. E. DAVIS,  
J. R. McDERMOTT.