

G. A. DAVIS.
RAILWAY CROSSING SIGNAL.
APPLICATION FILED AUG. 19, 1908.

914,389.

Patented Mar. 9, 1909.

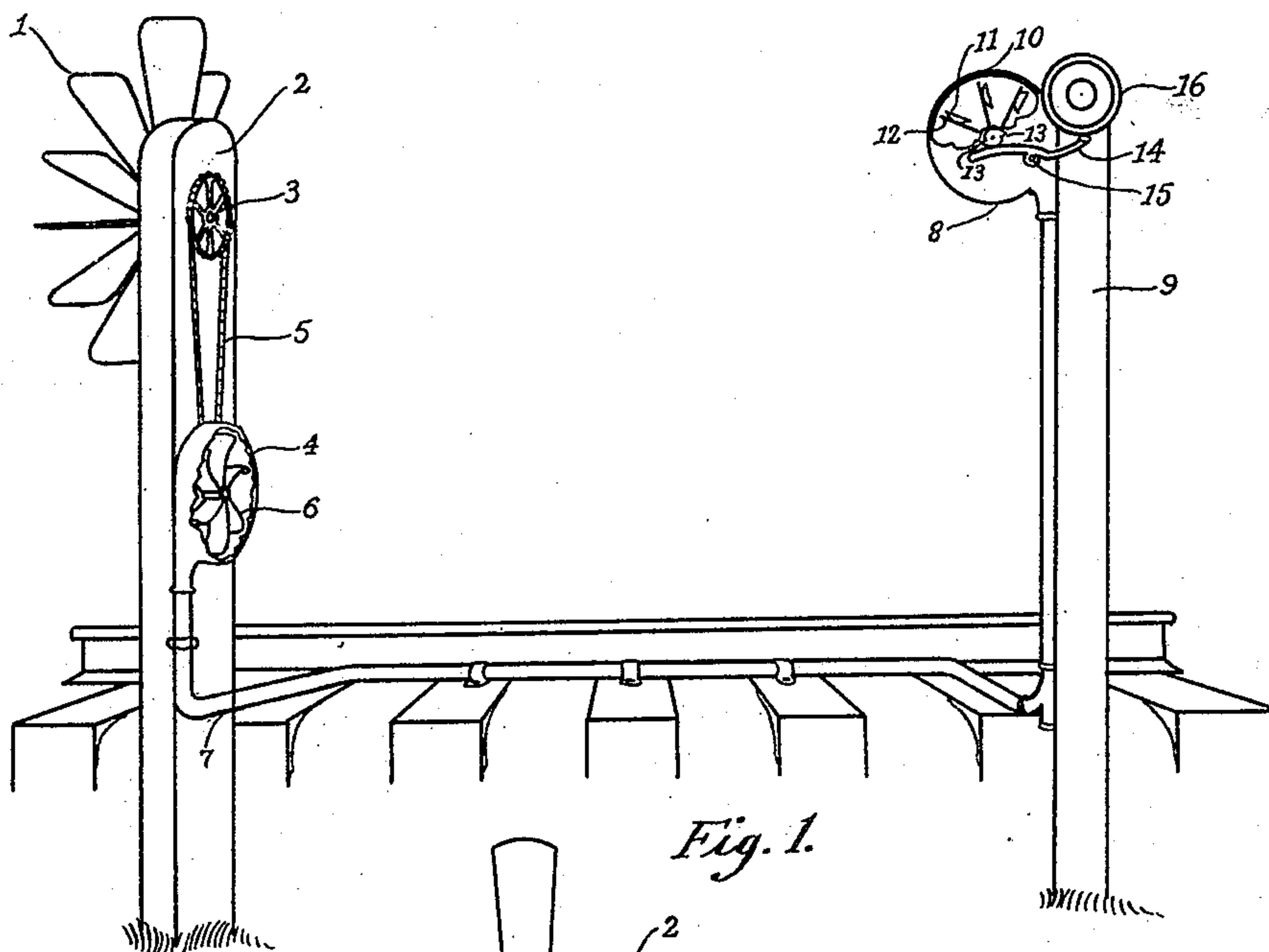


Fig. 1.

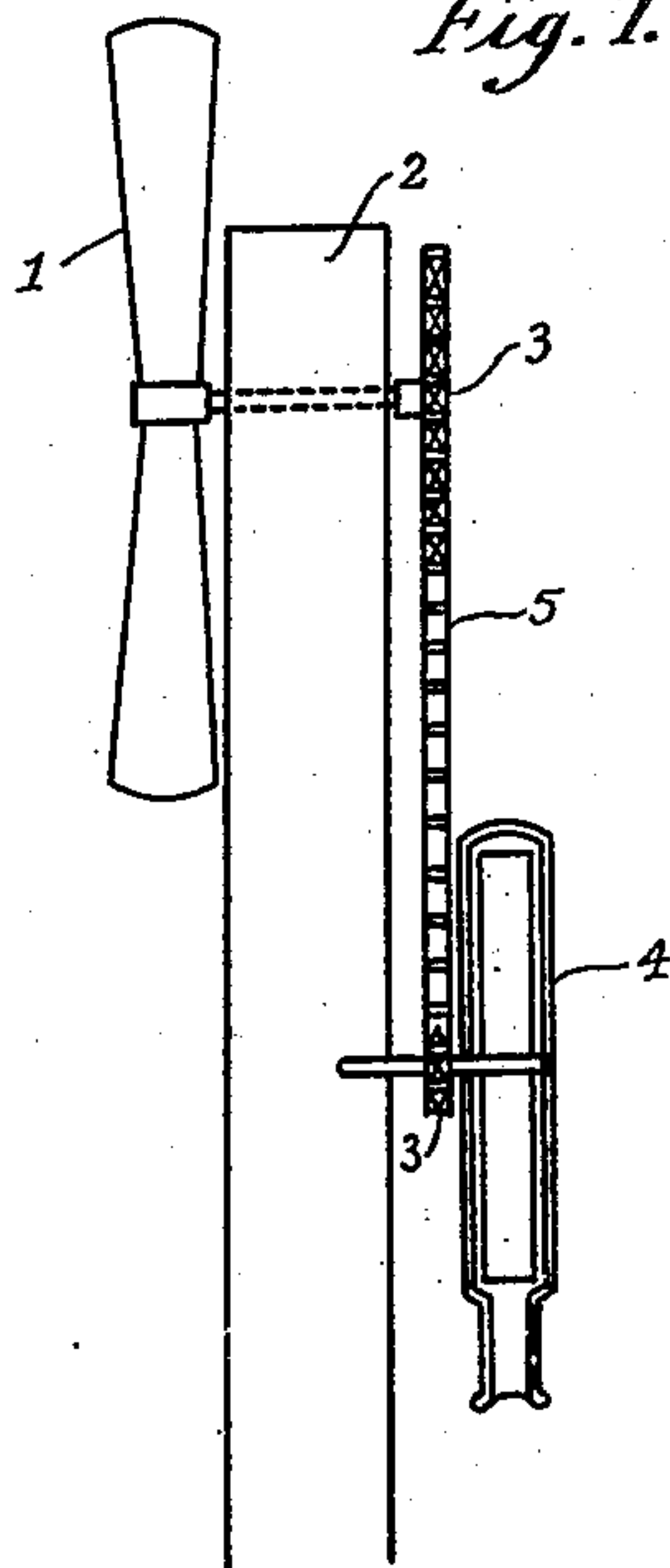


Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE A. DAVIS, OF SAN ANTONIO, TEXAS.

RAILWAY-CROSSING SIGNAL.

No. 914,389.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed August 19, 1908. Serial No. 449,264.

To all whom it may concern:

Be it known that I, GEORGE A. DAVIS, a citizen of the United States, residing at 513 Louisiana street, San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Railway-Crossing Signals, of which the following is a specification.

My invention relates to new and useful improvements in signals and more particularly to that class of signals used in connection with railway crossings.

The object of the invention is to provide a signal which will be operated by the air set in motion by moving trains.

A further feature of the device is the arrangement of the parts so that the entire device may remain above the ground and be accessible to anyone in repairing or constructing same.

Finally the object of the invention is to provide a device of the character described that will be strong and durable at the same time effective, one that will be easily constructed and one in which the parts will not be likely to get out of working order.

With the above and other objects in view, which will appear as the nature of the invention is more fully explained, the invention has relation to certain novel features of construction and operation an example of which is given in the specification and illustrated in the accompanying drawing, wherein—

Figure 1 is a side elevation of my device. Fig. 2 is a detailed view of the windmill and the blow-fan and one method of connecting the same.

In the drawings the numeral 1 is the ordinary windmill mounted upon a support 2 by means of a ball bearing axle, upon the opposite end of which is mounted a sprocket wheel 3. Upon this support is also mounted an ordinary blow-fan 4, upon the axle of which is a sprocket wheel 3'. When the wind-mill is rotated by the wind from a moving train, sprocket wheel 3 is revolved and it being connected to the sprocket wheel upon the axle of the blow fan by means of sprocket chain 5 transmits this motion to the fan 6 in blower 4 forcing air through tube 7 into the air turbine 8 which is located on support 9. The tube 7 is preferably placed on the top of the railroad ties and securely spiked thereon. The turbine wheel 10 is, preferably, constructed with air cups 11, upon the outer ends of its arms 12 so ar-

ranged as to catch the wind and hold its force, as much as possible, at the outer ends of its arms. The air striking air cups 11, revolves the turbine wheel which is preferably ball bearing causing it to rotate very rapidly. Upon one end of the axle of this turbine lugs 13 are so placed that they will strike one end of the clapper 14 which is pivoted at 15 to the casing of turbine 8. This will force the opposite end of clapper 14 to rise and strike bell 16 with a hard stroke. The support 2 and mechanism fastened thereto is supposed to be placed at a suitable distance from and on either side of the railway crossing so that the bell at the crossing will ring and warn passengers in advance of the approach of the train. A portion of the blow-fan is shown broken away to show the fan blades which operate within said casing. Also a portion of the casing is broken away in the air turbine that the cups within said casing may be seen. It is also to be observed that any air propelling device such as an air pump may be used in lieu of the blow fan shown in Fig. 1.

It is to be understood that while this particular form of the signal is shown the invention is not limited to this particular construction but the exact construction of the same may be varied at will so long as the principle of the invention is not departed from and it will sometimes be found desirable to connect blower 4 to the motive wheel by direct bevel gears instead of by sprocket wheels and sprocket chain. A variation of my device which I wish specially to note may be constructed by attaching one end of a wire to the free end of the clapper 14 passing the same through a pulley located near the bottom of support 9 through a similar pulley near the bottom of support 2 and attaching the other end to a crank operated by the blow-fan 6. The wire will then operate the clapper and ring the bell. It may also be found desirable in some instances to use a guard to prevent 1 from being rotated by currents of air coming from other directions than that of the train approaching the crossing. It is also obvious that by having check valves at the proper places within the tubing two sets of mechanism such as is carried by support 2, may be used to operate the signal at the crossing by placing them at proper distances on either side of the crossing and the signal will thus be operated by trains approaching the crossing from either direction.

What I claim is:

1. In a railway crossing signal, a pair of supports, a motive wheel mounted upon one of said supports, a blow fan also mounted thereon, means for transmitting motion from said motive wheel to said blow fan, a wind turbine mounted upon the other of said supports, a bell located on said last mentioned support, a clapper in close proximity to said bell, means for operating said clapper and means for transmitting power from said blow fan to said last mentioned means.

2. In a railway crossing signal, a support, a wind mill mounted thereon, a blow fan also mounted on said support, a sprocket connection between said wind mill and said blow fan, a wind turbine and a support therefor, a pneumatic tube connecting said blow fan and said wind turbine, a bell mounted on said last mentioned support, a clapper in close proximity thereto, means operated by said wind turbine for operating said clapper and causing the same to strike said bell.

3. In a railway signal, a wind operated motive wheel, a support therefor, an air propelling device mounted on said support and adapted to be operated by said motive wheel, a wind turbine, a support therefor, a bell mounted upon said support, a clapper mounted upon said wind turbine, means operated by said turbine for operating said clapper, means for transmitting power from said motive wheel to said air propelling device, and means for transmitting power from said air propelling device to said wind turbine.

4. In a railway signal, a support, a wind mill mounted upon said support, a sprocket wheel mounted upon the axle of said wind mill, a blow fan also mounted upon said support, a sprocket wheel carried by said blow fan, a sprocket chain connecting said sprockets, a tube for receiving and conveying wind generated by said blow fan to a wind turbine, an axle for said turbine, lugs mounted upon said axle, a bell carried by said turbine wheel support, a clapper carried by said turbine and located so as to be capable of con-

tacting with said bell and at the same time to be operated by said lugs.

5. In a railway signal, a support, an air operated motive wheel mounted thereon, a blow fan connected therewith by means for transmitting motion from said motive wheel to said blow fan, an air turbine mounted upon the axle, a bell in close proximity thereto, a support for said turbine and said bell, a clapper mounted upon the casing of said air turbine, lugs carried by said axle so disposed as to alternately engage and release said clapper, and means for conveying the wind generated by said blow fan to said wind turbine to operate the same.

6. In a railway signal, a motive wheel and a support therefor, a wind generating device, means for transmitting motion from said motive wheel to said wind generating device, a wind turbine and a support therefor, a bell mounted on said support, a clapper pivotally mounted upon said wind turbine, means for transmitting motion from said generating device to said wind turbine and means for imparting motion from said wind turbine to said clapper.

7. In a railway signal, a support, and a motive wheel mounted thereon, a sprocket mounted upon the axle of said motive wheel, a blow fan mounted upon said support, a sprocket wheel carried by said blow fan, a sprocket chain for transmitting motion to said blow fan from said motive wheel, a wind turbine and a support therefor, means for connecting said blow fan with said wind turbine-support, a clapper also mounted thereon, lugs operated by said turbine and so positioned as to operate said clapper and thereby ring said bell.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. DAVIS.

Witnesses:

NORMAN ATKINSON,
W. E. BOOTH.