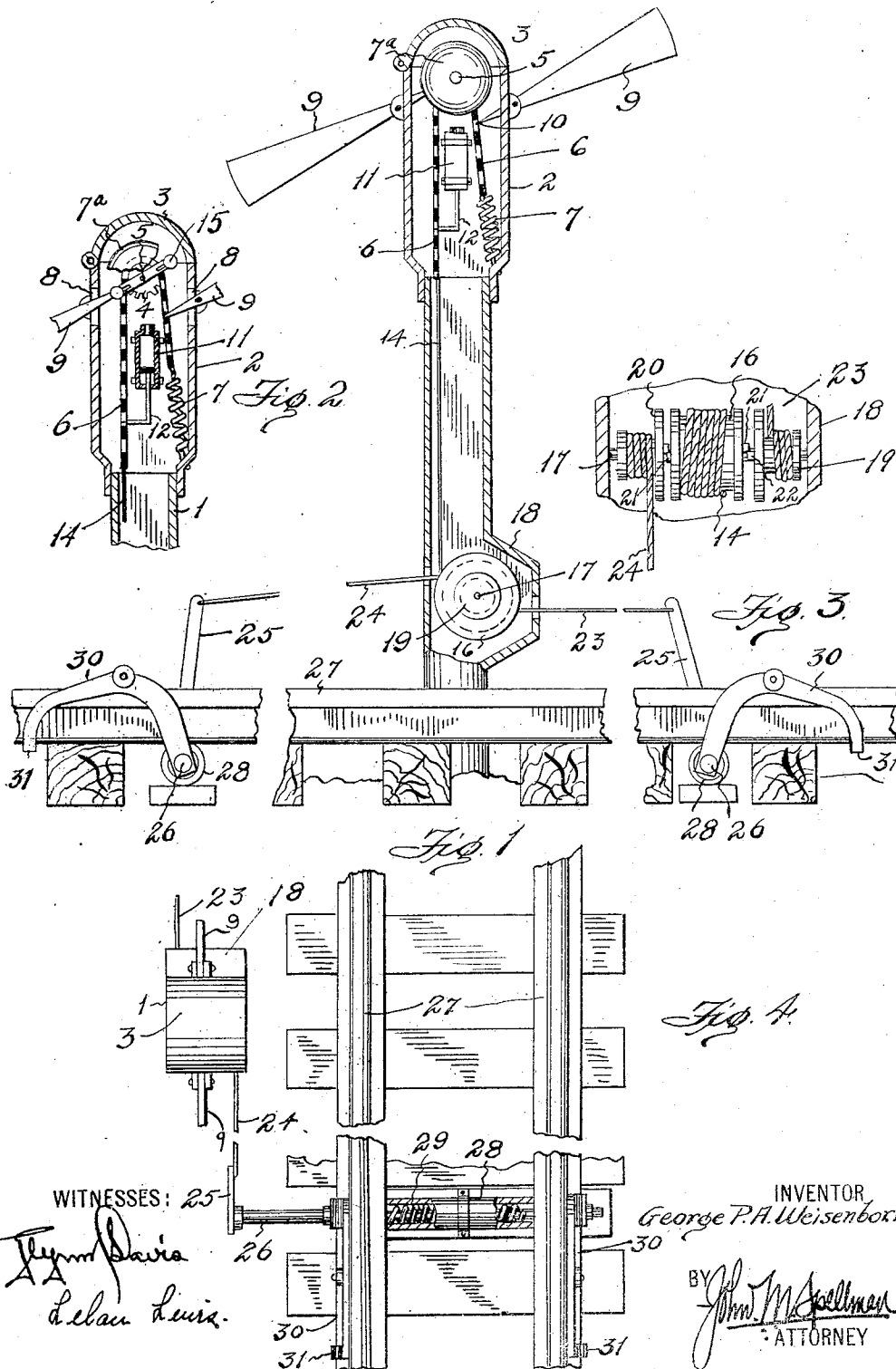


G. P. A. WEISENBORN.
RAILWAY CROSSING SIGNAL.
APPLICATION FILED FEB. 11, 1908.

925,540.

Patented June 22, 1909.



UNITED STATES PATENT OFFICE.

GEORGE P. A. WEISENBORN, OF HOUSTON, TEXAS.

RAILWAY-CROSSING SIGNAL

No. 925,540.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed February 11, 1908. Serial No. 415,319.

To all whom it may concern:

Be it known that I, GEORGE P. A. WEISENBORN, citizen of the United States, residing at Houston, in the county of Harris 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 railway crossing signals.

The object of the invention is to provide a train operated device arranged to set into operation, a visible signal, an alarm and a whistle.

Another feature resides in the construction whereby the parts are arranged against manual operation from the track and in the novel arrangement and construction of the parts and in the simple manner of their combination.

Finally, the object of the invention is to provide a device of the character described which will be strong, durable and efficient, and simple and comparatively inexpensive to construct, and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view, the invention has relation to certain novel features of construction and operation, an example of which is described in the specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a view showing a portion of the track and the operating levers in elevation and the sign tower in vertical section, Fig. 2 is a detailed vertical section of the head casing, the flag arms and the bell being broken away, and the whistle shown in section, Fig. 3 is a plan view of the operating drum, and spools, and Fig. 4 is a plan of a portion of the track showing parts of the device in plan and a part in section.

In the drawings, the numeral 1 designates a hollow metal signal tower of suitable height and located at the railway crossing. At its upper end, the tower is provided with a head or casing 2 which may be formed in any suitable way, and provided with a hinged cover 3.

Within the head and nearer its upper end, a sprocket 4 is loosely mounted on a transverse shaft 5. This sprocket receives a sprocket chain 6 having one end attached to a coiled spring 7 secured at its lower end to

one side of the head. A suitable clapper device 15 is mounted on the shaft and connected to the sprocket to be revolved thereby and strike a bell 7^a, also secured to the shaft in juxta-position.

Slots 8 formed in the head on opposite sides, receive flag-arms 9 suitably pivoted to the head and projecting some distance therefrom. The arms which may be formed of any suitable material, shape, color or design, have their inner ends projecting into the head and terminating in a pivotal connection 10 with the opposite lengths of the chain. A suitable plunger whistle 11 is also secured within the head and provided with an angular connection 12 attached to the chain to be operated thereby.

It is obvious that when the free end of the chain is pulled down, it will pass over the sprocket 4 extending the spring 7 and when pressure on the chain is relieved, the spring will retract and draw the chain back to its normal position. As the chain passes over the sprocket, the same is revolved thus operating the clapper device 15 and ringing the bell, at the same time swinging the flag arms, up and down in alternate relation, and operating the whistle.

It is obvious that other devices and mechanisms could be operated by this up and down movement of the chain and if desired an electric signal light may be incorporated and suitably operated.

For imparting motion to the chain, a flexible connection 14 is secured to its free end and coiled, at its opposite end about a drum 16 loosely mounted on a transverse shaft 17 supported in a housing 18 formed at the lower portion of the tower. On each side of this drum, spools 19 and 20 are loosely mounted on the shaft 17. The drum is provided with diametrically opposite lugs 21 as shown in Fig. 3. The spools are provided with lugs 22 adapted to engage the adjacent lugs 21. From this it will be apparent that one spool may be revolved and revolve the drum without revolving the other spool. Flexible connections 23 and 24 having their ends coiled about the spools run off the bottom and top of the spools 19 and 20 respectively. Thus by pulling upon the connection, the spools are revolved in the same direction, and either connection pulled upon, will unwind from its respective spool, revolving the same and revolving the drum to wind its connection 14 to pull down the chain,

while the other spool by reason of the lugs remain stationary. These flexible connections 23 and 24 may be of any suitable length and extend in opposite directions from the tower along the side of the track, being attached at their free ends at the proper distance, to upright arms 25 forming parts of depressor devices. These arms are mounted on the ends of rock shafts 26 running transversely beneath the rails 27 and each passing through a tubular casing 28 as shown in Fig 4. The casing is suitably fixed in position and covers a spring 29 coiled about the rock-shaft, having one end secured to the casing and the other to the shaft. The spring is placed under tension so as to have a tendency to rock the shaft and the arm 25 toward the tower in each case.

To the opposite end of each rock-shaft, a depressor lever 30 is fastened so as to stand close to the outer side of the rail. This lever is shaped to have a portion normally projecting above the rail and provided at its lower free end with a stop lip 31 normally engaging the side of the rail. The springs 29 are sufficiently stout to prevent a manual depression of the levers 30, so that a person stepping upon the same cannot operate the signals. However, as each wheel of the train passes over either of the levers and intermittently depresses the same, its shaft will be rocked and the arm 25 swung away from the tower pulling the flexible connection, which winds the drum 16 and operates the chain and the signals. After a wheel passes off the lever, the springs 29 and 7 return the parts to their normal position causing a second or return operation of the signals.

It is apparent that a train moving at a fair rate of speed will cause its wheels to depress the levers 30 in rapid succession, thus effecting a substantially incessant operation of the signals.

What I claim, is:

1. In a railway crossing signal, the combination with a tower, flag arms mounted on the tower, an alarm mounted in the tower, a whistle supported by the tower, a flexible connection operating in the tower, said connection having connection with the flag

arms, means operated by the flexible connection for operating the alarm, means for operating the whistle connected to the flexible connection, means for operating the flexible connection, and train operated means for operating the last named means.

2. In a railway crossing signal, the combination with a tower and signal devices carried thereby, of signal operating means arranged in the tower, and wheel depressed means comprising a spring held rockable part having flexible connection with the operating means.

3. In a railway crossing signal, the combination with a tower and signal devices carried thereby, of a rotatable device mounted in the tower and having connection with the signal devices for operating the same, rotatable devices each adapted to operate the first named rotatable device independently of the other, and wheel depressed track devices having flexible connection with the last named rotatable devices for operating same.

4. In a railway crossing signal, the combination with a tower and signal devices carried thereby, of signal operating means, a drum mounted in the tower, and having connection with the signal operating means, spools mounted on each side of the drum having connection therewith arranged to permit the drum to revolve independently of either of them, and train operated track devices having flexible connection with the spools for revolving the same.

5. In a railway crossing signal, the combination with a tower, of signal devices carried by the tower, means arranged in the tower for operating the signal devices, connections in the tower between the operating means and the signal devices, and wheel depressed operating means comprising a spring held rockable part having operative connection with the operating means in the tower.

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

GEORGE P. A. WEISENBORN.

Witnesses:

O. S. CUMMINGS,
WM. A. CATHEY.