Science and Invention

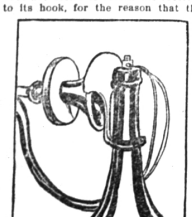
Electric Motor Beats Steam.

Consideration of safety of tracks, which has heretofore limited the possibilities of high speed with steam locomotives, promises to be largely removed as a factor in the development of the electric locomotive. Only those familiar with the development of the passenger locomotive of the last ten years can appreciate to the full to what extent the counterbalance on the mammoth drive wheels of the flyers played havoc with even the best constructed tracks. Now comes the steady running electric locomotive, with the uniform rotative effort of its motors and no counterbalance to wreck the peace of mind of the roadmaster. In the preliminary tests of the most powerful locomotive in the world, just turned out from the electric shops in the east, of a short stretch of track and hauling eight Pullmans, the train frequently exceeding sixty miles an hour. So perfect was the control of the motorman over it in starting that a speed of thirty miles an hour was reached in one minute, and yet so steady was the acceleration and so free from pounding was the running that none of the experienced railroad men believed the speeds to be as high as they actually were. This machine, too, was not built with an especial eye to high speed, but with the idea of keeping to an ordinary passenger schedule. While this locomotive is to be thoroughly tried out this winter under verying conditions, the preliminary tests demonstrate the ability of the electric locomotive to handle a heavy Pullman train on a good track in clear weather much better than any steam locomotive now running.

Seal for Telephone Transmitter.

The invention shown in the accompanying cut relates to certain new and useful improvements in telephone attachments, the primary object of which is to provide means adapted to be attached to a telephone receiver for engagement with the telephone transmitter whereby the latter may be closed or sealed against sound until the device is detached from the transmitter.

It is frequently desired by those using the telephone to converse with others in the office relative to certain matters, and oftentimes it is not desired to have the person at the other end of the line overhear the conversation carried on in the office. Under these conditions the person speaking does not desire to return the receiver to its hook, for the reason that the



line would then be cut off. Neither is it desirable to allow the receiver to hang dependent from its wires, and in case it is desired to close the transmitter it must be done by holding the hand over the same or by some like inconvenient means.

It is the purpose of this invention to overcome these defects and provide means for closing the transmitter and also supporting the receiver while it is detached from the hook.

This is brought about by the use of a device somewhat hood-shaped, which is secured to the receiver, and when it is desired to seal the transmitter against sound the hood referred to is placed over the mouth of the transmitter, and thus is afforded a convenient resting place for the receiver on such occasions as is alluded to above.

Naphthaline for River Launches.

Not naphtha but naphthaline launches float in French waters. Two engineers have invented an arrangement by means of which a solid hydrocarbon in the form of small balls of refined naphthaline is used as fuel for internal combustion engines. The naphthaline is made into small white balls of the size of marbles, and they are held in a tank the outlet of which is opened or closed by a valve actuated by a float which rises and falls with the liquefied naphthaline. This naphthaline is sprayed into the cylinder by a special injector and is a liquid resembling molasses. The supply of fuel and air may be easily adjusted. It might be thought that this molasses like liquid would cause the inlet pipes or valves to clog, but, on the contrary, the action, it is stated is a cleansing one. The balls are made from the waste product of gas works, which hitherto has only been used for disinfecting purposes. It is said there is less danger with this fuel than with petrol, and it will probably be used for engines for river launches.

Use and Supply of Radium.

It is a far cry at present to discuss the use of radium, or radium salts, for illuminating or heating purposes. I do not suppose there is one-tenth of an ounce of radium in the whole world. If you can imagine getting that amount of radium together it would supply more energy than 250 tons of dynamite. Few persons who talk about radium and its components realize the great scarcity of the raw material for yielding radium or the exceedingly minute particles used in the experiments that have astounded the world. It is impossible to say where the future supply of raw material is to come from. I believe that in America carnotite looks promising as a basis for it. Clevaite, a mineral found in Norway, is also looked upon as a favorite source of supply.—Sir William Ramsay in Scientific American.

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