

The electric locomotive had a slight advantage over the steam engine in weight on the driving wheels, and this advantage soon made itself felt, for the electric machine soon began pulling the other, and drew it up and down the track with apparent ease. For the same weight upon the drivers, it was shown that the electric locomotive will start a greater load than the steam locomotive, the pull being constant throughout the entire revolution of the wheel, the difficulty of variation of pull with the axle crank in the steam locomotive being eliminated.

As to speed, the electrical machinery has not been geared to the high rate of some of the steam locomotives. Those to be operated at Baltimore are provided for a maximum speed of fifty miles per hour. This is reduced to thirty miles upon exerting only the half draw-bar pull, and to fifteen miles with the full draw-bar pull. The average speed of the loaded train will be thirty miles per hour; the electric locomotive can be run either forward or backward.

The great saving in electricity over steam for roads where there is a large amount of traffic is variously figured at from thirty to fifty per cent in operating expenses, while there is also a large saving in the cost of construction, even when the generating plants, etc., are taken into consideration. Upon this showing, therefore, railway construction and operation is sure to lead in the direction of electricity, which has been so successfully adapted to the operation of street car lines and is now putting forth its arms to enfold in its embrace more extensive enterprises.

THE THISTLE AGAIN.

The Russian thistle, whose accidental introduction into South Dakota in some flaxseed in 1873 has been followed by its spread over a large part of the country, has been made the subject of a government bulletin. In this it is stated that the plant, which is more akin to the common tumbleweed of the plains than to a thistle, has spread, during the twenty-one years since its introduction into this country, with greater rapidity than any other weed. Ninety new localities were reported to the department of agriculture during 1894. It now occurs in places from eastern Ontario and western New York to the western border of Idaho, and from Manitoba to southern Colorado, being most abundant in South Dakota and adjacent states. Sixteen states and three Canadian provinces are known to be infested, and, although not reported, it is thought to be present in Missouri, Oregon and Washington.

The department is specially desirous of impressing upon the inhabitants of those localities where the Russian thistle has not yet gained a foothold that its spiny character, added to the rigid, bony habit of the plant, makes it one of the most disagreeable of weeds to handle. When mature it cannot be plowed under, and it is often impossible to plow fields at all until the thistles are removed. Blowers cannot be run where the thistles are abundant, and even the working of the headers is seriously interfered with. The annoy-

ance and positive injury to men and animals which they cause by their rigid spines is undoubtedly greater than that caused by any of the true thistles.

A "warning to Pacific coast wheat growers" is issued as follows:

East of the Rocky Mountains the thistle is already so widely distributed that its continued progress in that region is inevitable. Its advent in Idaho, however, is a far more serious matter. The Rocky Mountains present a great natural barrier which the thistle will not easily pass, except by artificial conveyance. With the natural conditions thus favorable to its exclusion and with a full knowledge of the disastrous nature of the scourge, it is almost criminal to allow it to become established west of the Rockies. To the Pacific coast the Sierra Nevada and Cascade mountains afford additional protection, but some seed will be sure to find its way over this barrier also, especially if the thistle is allowed to obtain a hold in the Great Basin. In view of these facts the California wheat grower should take precautions against the weed, opposing both its direct introduction into California from the plains east of the Rockies and its gradual advance by way of the Great Basin.

A number of remedies are suggested, among which is the destruction of the plant before August, in which month it produces seed, and as it is an annual, bearing from 20,000 to 100,000 seeds to the plant, this remedy might prove effective in destroying it if there were co-operative action in affected localities. As a suggestion of some of the points of introduction to be guarded, it is stated that the plants usually appear first close by the ends of the new along railway tracks where the seed falling from the cars finds conditions favorable to growth in the unoccupied soil, kept stirred by repairs on the tracks and the ballast. The seeds have been introduced in some cases in baled hay and grain at fair grounds, race tracks, lumber camps, and railroad construction camps. They have also been carried in shelled corn, wheat, oats, millet, flax, alfalfa and grass seed. They are supposed to have been brought to some localities in Idaho in sheep's wool; while the seed has no hooks, barbs, or gum to cause it to stick, its small size and light weight enable it to retain a place for some time in a fleece. Once in a locality it has been distributed by running water over a large area. It has not yet appeared in Utah, but from its close proximity the farmers here should be on their guard against this new foe to the agriculturist.

CURE FOR CONSUMPTION.

Following the wonderful discovery of the power of anti-toxine to arrest the progress of diphtheria is the announcement of the equally startling experiments with serum for the purpose of curing consumption. An eminent physician of St. Louis, Dr. Paul Pequin, has for years quietly pursued his inquiries in this direction, and is now said to be prepared to give the results to the world. When his report is made, as it will be in a few days, it is confidently expected that medical science will feel convinced that anti-tuberculosis serum is the remedy so long sought for against one

of the most dreaded scourges of mankind.

It has been pointed out in these columns that many diseases are due to the invasion of the human system by exceedingly small organisms against which, according to the latest discoveries, certain particles of the blood and the lymph wage a constant war. If consumption is the result of the victory of the invaders over this army of defenders, it follows that when the latter are sufficiently reinforced by injections of a properly prepared serum, the consequence will be the destruction of the enemy and a restoration of health. There is, therefore, nothing unreasonable in the supposition that a remedy is to be found even against a sickness hitherto considered incurable, and it is to be hoped that Dr. Pequin's experiments have proven successful. That would indeed confer one of the greatest boons on mankind, since a large per cent of deaths every year is due to consumption in one form or another. It would be another victory of science over death itself.

It is, of course, too soon at this time to form any opinion as to the actual merits of the new remedy. It must first be tested on an extensive scale and under various conditions. At present it is sufficient to remember that several diseases once considered almost beyond control are now easily cured. As soon as the true causes were found, the remedy was readily discovered. The incurability of most diseases depends probably on a misunderstanding of its cause and consequent misapplication of remedies. Why then, should consumption not be curable by a treatment founded on the correct understanding of the causes to which it is due?

THE ACCOUNT in a telegram from Sacramento of the burning to death of two children calls attention to an all too prevalent practice indulged in by some people who live here—the habit of locking children in the house when parents or guardians leave home. If a child is fit to be left even for a short time without the care of an older person, it is capable of being trusted with an unlocked door. It is criminal for any mother or guardian to leave little ones locked in a house so that they cannot escape in case of necessity. Fires in dwellings almost invariably arise from causes within the buildings, and the inmates usually can escape if the way of egress is not obstructed. The locking of children in houses, helpless victims to the chief danger which threatens on such occasions, is so foolishly criminal that it never can be regarded as the act of a thoughtful parent.

George Williamson, a resident of Laramie and a brakeman of the Union Pacific, was killed at Medicine Bow on Sunday afternoon while setting a brake on a coal car. He fell from the car in front of it. The wheels did not touch him, but he was caught by the brake beam and so badly injured that he soon died. A locomotive was sent to Carbon at once for a physician but he died before the parties reached Carbon. He leaves a wife and four children.