

## THE AUTOMOBILE

THE United States, in all probability, contains, at this moment, more automobilists and automobiles than any other country, France included. This astonishing leap to the front is due to the very rapid production of steam vehicles, and electric cabs and carriages, in a few factories. The output of two steam-vehicle and four electric-vehicle factories, in this country, represents at least five sixths of the total; and nothing at all corresponding to the capacity of these six factories is to be found in any other country.

The supremacy of the United States is of recent date; one year ago our rank was fourth. In number of gasoline vehicles we are still far behind, but preparations are now being made for organizing this branch of the industry on a large scale also. At least five gasoline-motor vehicle factories, two of them in the West, have ordered quantities of machinery, with an eye to rapid and economical production.

THERE might be a still greater activity in this branch, were it not for the deterring effect of the great slump in the French industry, which has made our builders pause and consider whether the public are to be relied upon to accept their product. In France the slump was not caused by flimsy construction, but by the manufacturers catering too much to sport and speed requirements, and too little to general utility. The price of their vehicles was too high; their adaptation to ordinary traveling and pleasure purposes too limited. The best French manufacturers are now trying to remedy the situation, by following the American lead, and building more small carriages of the *voiturette* or runabout class.

Those Americans who have imported French or German racing or road vehicles are finding them excellent for very high speeds, and stanch in their wagon work; but hard to take care of, delicate in motor mechanism, inconvenient to repair, and generally to be classed as "white elephants."

The winter season has brought to renewed notice the troubles arising from freezing of gauge pipes in steam carriages, and of the cooling water in gasoline vehicles, as well as the effect of cold weather on the carburation in the latter. Preventatives are proposed in every issue of the technical press: certain ways of wrapping the pipes, admixture of glycerine, or alcohol, in the cooling water; but nothing better than watchfulness, and a liberal use of common sense in each case, has apparently yet been devised.

Two of the large farm-machinery makers, the McCormick and the Deering companies of Chicago, had auto-mowers at the Paris Exposition. These machines are mowers of the usual type, except that they are self-propelling by means of a gasoline motor. They represent, as far as the writer knows, the first serious attempt at introducing automobilism in farm work; unless the slow and heavy self-propelling steam threshing machine be counted an automobile.

THE interest of automobilists in this experiment lies deeper than the novelty, being connected with the problem of "good roads." It is the boast of American manufacturers—and well sustained by the users—that our automobiles can be driven successfully through mud and sand, and over very bad roads, if only the speed is moderated. But it is generally admitted that the charm of automobile pleasure-driving, as well as its cost, depends very largely on good roads, which will allow high speeds and low consumption of gasoline or electric current. It is hoped that when the agriculturists become practically acquainted with automobiles, they will also learn the value of good roads, and will assist, instead of obstructing, the agitation for having them built. The League of American Wheelmen, which is the representative good roads association of national scope, has signified its willingness to cooperate with automobile clubs, but the organizations of the latter have not yet solidified to the extent of grappling with this great problem in earnest. They are at present more immediately interested in questions pertaining to automobile repair shops, charging stations, storage, automobile exhibitions, and driving schools. Most of these questions are being solved gradually by private enterprise, however. New York already has nearly a score of shops where automobile repairing may be done by competent mechanics; and in several of these places machinery has been installed which will permit radical repairs of almost any style of automobile. Private electric charging plants are furnished to order, for out-of-the-way places, where current cannot readily be obtained. Driving schools, where the operating of automobiles may be learned before one has made his selection among the various makes, we constantly on the tapis; but the great expense involved in ground rent, and suitable arrangements of the building, have, so far, militated against their realization.

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