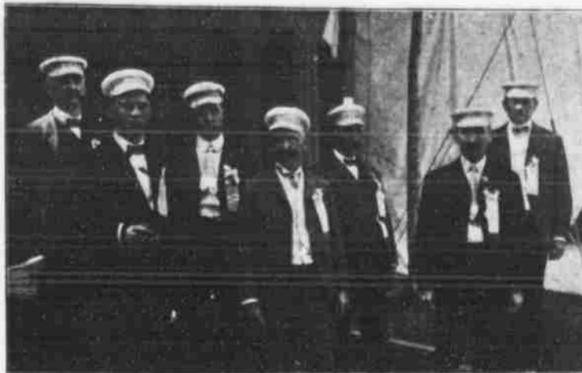


Scenes at Council Bluffs Elks' Street Fair

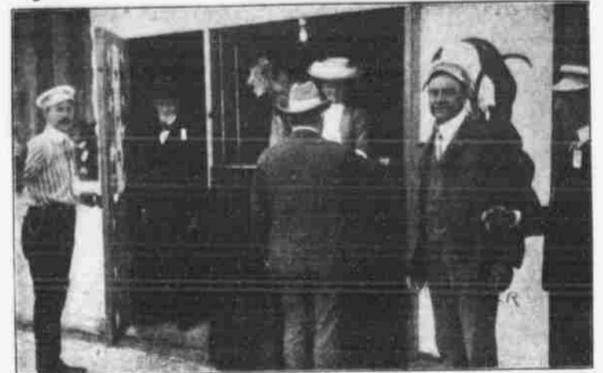
Photographs by a
Bee Staff Artist



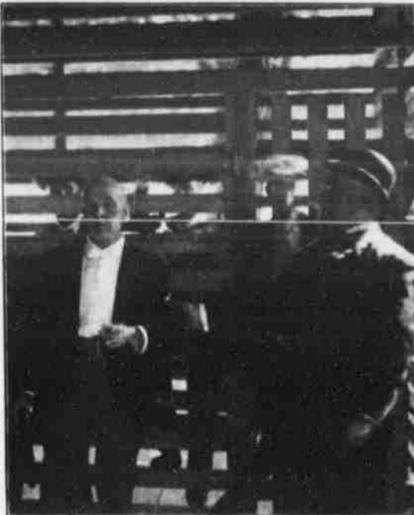
"PADDLES TEN CENTS EACH."



COMMITTEE OF THE ELKS IN CHARGE



AT THE LOBSTER BOOTH.



IN THE ELKS' FAIR.



ONE OF THE AVENUES.



AT THE ELKS' COURT.

First American Locomotive Exported to England

THE recent report of the census bureau on locomotives which showed that in 1900, 527 American built machines were sold in foreign countries, as against 161 in 1890, seems to indicate that our engines are increasing in popularity in other countries. But the truth lies the other way, in a measure at least. They may like our locomotives better than any other in Mexico, in South America, in Japan and possibly in Russia, but they don't in England or Germany or France. In every one of these countries the engine drivers complain that our machines are wasteful of fuel, that it takes an inordinate lot of oil to keep their joints lubricated, that the workmanship on them is defective, thus necessitating unusual and excessive repair expenses, and so on.

Not all of these complaints are well founded by any means, being prompted in some instances by sheer animosity against American machines, but the fact remains that while our locomotives average up to the best, there are points probably in which they are excelled by foreign machines, especially for use on foreign lines.

There is no doubt, for instance, that English locomotives are more carefully finished, nor that often they can do the work required on an English railroad with less fuel consumption than can the American machines.

Why, then, do the foreign railroads buy engines of American make? Because they are forced to do so or get along without them for months and months after they are demanded by the traffic necessities of the roads. For American locomotive makers, like American bridge builders, have a habit of hustling at their work, and, owing to certain manufacturing methods not practiced abroad, can turn out more work in less time than the locomotive makers of any other country on earth. Besides, "the price is right."

Notwithstanding all the foreign criticisms of our railroads—and some of these criticisms are more than founded on truth—the American railroad system is by long odds the most efficient in the world. Its method of handling passengers is more economical, it has more fast trains and its passengers travel more comfortably. Only the most prejudiced of Englishmen or Germans or Frenchmen deny that.

But our freight carrying methods are immeasurably superior to those of the foreign roads. There isn't a railroad of any consequence in the United States today that could operate its freight department on the basis of freight operation abroad without running the great danger of falling into a receivership, since the cost per ton mile on any good American line is only a fraction of the ton mile cost on the best of the foreign lines. This, despite the fact that our roads show grades and curves that would be impossible of operation with railroad equipment that is considered quite adequate abroad.

We use heavier engines and bigger freight cars than anybody else. In the '50s our freight cars were eight-wheelers and the capacity of the cars was figured at a

ton to the wheel, or eight tons each. Gradually the capacity of cars has increased till it averages nearly four times as much. Five years ago thirty tons was generally counted as a carload. Now most of the new cars will carry forty tons each. The big, new steel cars will carry fifty tons apiece. When the eight-ton cars were in use fourteen cars was a load. The massive new freight locomotive of today will haul seventy-five of the new steel cars, loaded, on the dead level, or sixty over the grades and curves of such a trunk line as the New York Central or Pennsylvania. American locomotives are the most economical in the world for hauling such trains. Hauling the short, light trains of "goods waggons" used on English roads it is quite likely that they are wasteful.

So far as efficiency under difficult and varying conditions goes the American locomotive is far and away the best machine. This was shown away back in 1835, sixty-four years ago, when the first Yankee engine was imported into England.

The Birmingham & Lancaster railway was completed in that year. There was one stretch of road on the line that for economy's sake had a gradient of one in thirty-seven, or nearly 144 feet to the mile, and it was freely predicted by the English that no locomotive could be built that could haul a train of loaded "goods waggons" up such a line. Brunel, then the greatest engine builder in the United Kingdom, admitted his fear that the prediction was correct. The civil engineer who had laid out the line, one Captain Morrison, was severely criticised for introducing the grade, and he began to be afraid that the road would be a failure, especially as the two Stephensons, one of whom had built the first practical locomotive, agreed with Brunel.

But Morrison had not ventured on so steep a grade without some justification. Before laying out the line he had heard that even steeper grades were in existence on American railroads and that American engines were successfully operated over them. So, without advertising his action to the world, he sent to Philadelphia many months in advance of the road's opening and ordered an engine from a concern which has since become the most famous engine building establishment in the world. He was so fearful that the engine would not reach England in time for the opening, it is said, that he purposely delayed the work a little.

The American builders were as prompt then as now, however, and the machine was landed on British soil quite early enough to suit Captain Morrison's purpose.

Railroad openings were a great novelty in those days, and this one was witnessed by a great crowd. Naturally the interest centered on the Lickey incline, as the stretch of heavy grade was termed. When Captain Morrison brought out his Yankee engine, saying he had a machine that he was sure could haul an ordinary "goods train" up the incline, there was amazement all round. The engine differed in many obvious ways from the English ones.

It had two pairs of driving wheels coupled together, which looked very odd in British eyes, used only to locomotives with one pair of drivers. Besides, the Yankee engine lacked in finish. In fact, it was so roughly built that the crowd jeered openly and the chronicles of the day relate that Captain Morrison was made visibly nervous by the hostile demonstration.

He sent the engine to its work, though, coupling it to several "goods waggons" holding thirty-four "long" tons in the aggregate. As the ungainly machine rolled along a level stretch of track before taking the grade the jeers of the crowd grew into a loud chorus of disapproval. This was moderated somewhat as the machine began to climb, but predictions that it would soon become "stalled" were freely made. They were soon silenced, though, for in less than eleven minutes the engine had mounted the incline at an average speed of fourteen and a half miles an hour.

This changed the jeers into a storm of applause from the throng at the top of the grade and Captain Morrison's nervousness was succeeded by a corresponding degree of elation. Contrariwise, the British locomotive builders were beside themselves with chagrin, and Burry, whose standard as a builder was second only to Brunel's, declared that English engines could at least duplicate the exploit of the American machine. An engine of the newest and best type was accordingly brought from Liverpool and started "empty" up the grade.

There was no jeering at the start, for the crowd as well as Burry and Brunel wanted to see a demonstration of British supremacy. Bravely the engine set out to duplicate the previous performance, the drivers moving merrily round and round, keeping time to the rapid exhaust. When the grade was struck the machine began to move slower and more slowly. Presently the single pair of drivers began to slip, while the exhaust was quickened into a nervous succession of snorts. Then, before half the grade had been overcome, the machine came to a full stop and all hands had to acknowledge that the despised Yankee engine had done better than the best obtainable machine of British make. Then there was jeering a-plenty and the crowd dispersed much disheartened at the result.

The chief point in favor of the American locomotive on that occasion lay in its coupled driving wheels. American builders had learned early that engines with two pairs of driving wheels coupled could haul heavier loads and could climb much steeper grades than engines with only one pair of drivers. That was because two sets of drivers afforded two "bites" on each rail, whereas one pair had only one "bite," or just half as much tractive power.

It took the English railroad men many years to grasp this simple theory, albeit it was amply backed up by experience, and fully demonstrated in England on that memorable day sixty-four years ago.

Indeed, English engines furnished with only one pair of drivers are often to be seen to this day, and it was not till a few years ago, comparatively, that coupled

drivers were seen in any numbers on British roads. It should be explained, however, that with relatively light trains a single pair of drivers is as efficient on the best English roads as double drivers coupled are on the average American line. This is because the English lines were from the beginning much better and more expensively built than American ones. The early English railway builders spent thousands of pounds in fills and cuts to avoid grades and curves that the early American builders would have cared nothing about. Thus the American and English types of locomotives, practically identical at the start, when American as well as English machines were built with one pair of drivers only, diverged rapidly, being further apart some twenty or thirty years ago. Today they are much closer, for many of the new and heavy British locomotives have at least two pairs of drivers coupled, while a few have three. The American heavy freight engine of the latest type almost invariably has four pairs, but the English have not yet gone that far.

Notwithstanding the now generally acknowledged superior tractive power of the engine with coupled drivers, American engines are occasionally to be seen with only one pair of drivers. One of the famous fast trains between Philadelphia and Atlantic City, for instance, is hauled regularly by such an engine without trouble since the road is virtually without grades or curves.

The coupling of the drivers was not the only point in favor of the Yankee engine away back in 1835. Its drivers were so placed as to bear the greater part of the machine's weight, thus "holding down" the machine to its work, while drivers of the competing English machines bore little more than a third of its weight. Ten or fifteen years later the Hudson River railroad authorities being anxious to increase the speed of their passenger trains to match English railroad speeds, which then led the world, threw all practical American railroading experience to the winds. They built a number of locomotives possessing all the defects of the English type and none of its excellences. First of all they fitted each engine with single-pair drivers eight feet in diameter quite as large as the drivers of the fleetest steam monsters of today. These experimental engines ran "like greased lightning" when not loaded, and the trial of the first one "light" roused the most extravagant hopes for "mile-a-minute" trains. With a load, however, the new type engines could not compete with the regulation American type mounted on coupled drivers only four feet in diameter.

For some time all hands and the cook in the Hudson River railroad management were puzzled mightily, but after a while an engine driver told them wherein their mistake lay. Besides adopting the single-pair driver type the axle of the drivers was set back of the boiler, so as to bear only a small fraction of the machine's total weight. It rested mainly on the forward trucks and thus the drivers bore no weight

to speak of, and naturally they slipped as soon as they were called upon to haul a load. Of course the new machines had to be rebuilt before they could be put into active service.

Not only are the locomotive builders of the world approaching one another as to types of engines—though still wide apart in many things—but railroad managers the world over are coming closer together in their general practice.

Thus while the block signal system was an accomplished success abroad long before it was introduced here, the block systems on our great lines are now the best in the world, and an automatic American system is actually being introduced on one of the big English roads.

So it is with regard to roadbeds. Originally the American roadbeds were incomparably inferior to the English and European roadbeds, but the roadbeds of some of the best American lines are now the finest in existence, and the work of improving them has hardly begun, though since 1897 nearly \$1,000,000,000 has been laid out. This year the combined expenditures in improving American roadways—cutting down grades, straightening curves and laying heavier rails and abolishing grade crossings—will amount literally to hundreds of millions—perhaps \$500,000,000, a sum quite vast enough to bankrupt a score of the most important old world lines.

A Few Conundrums

New York World: What has only one foot? A stocking.

How do bees dispose of their honey? They cell it.

What game do the waves play at? Pitch and toss.

What sort of men are always above board? Chessmen.

Who is the oldest lunatic on record? Time out of mind.

What soup would cannibals prefer? A broth of a boy.

When is a man more than a man? When he is beside himself.

What is a muff? Something that holds a lady's hand and doesn't squeeze it.

When is a clock on the stair dangerous? When it runs down and strikes one.

Why is a pig in the kitchen like a house on fire? The sooner it's out the better.

A Devoted Couple

Boston Transcript: Mrs. Hartt—Yes, I have no doubt there are unhappy marriages, but really I cannot understand how they are possible. Now, there's George and I, we are so devoted. He says he could not exist without me, and I'm sure I live only for him.

Mrs. Greene—You are really to be congratulated, both of you. By the way, how long have you been married?

Mrs. Hartt—Just a week day after tomorrow.