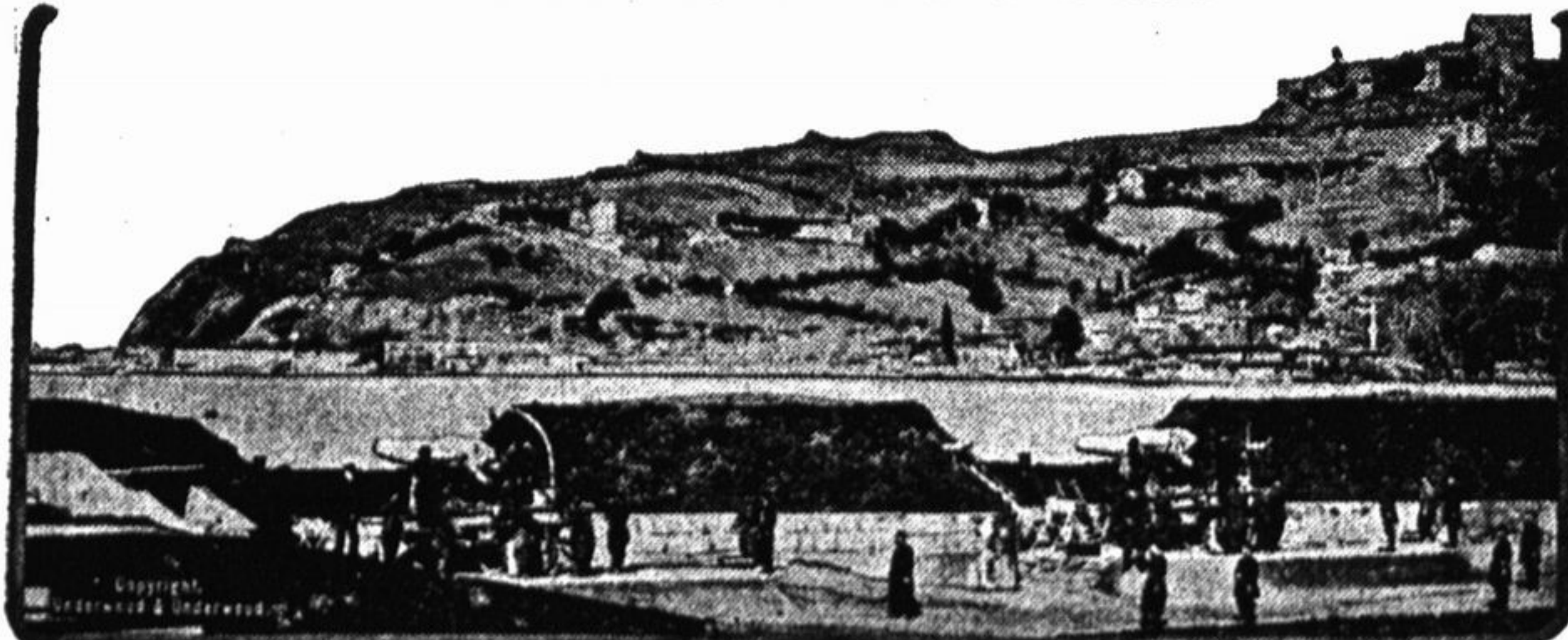


YOUNG GERMAN RECRUITS AT EXERCISES



Like England, Germany is recruiting her new armies as fast as possible. The photograph shows a squad of young recruits being drilled. Below are seen members of the Russian Red Cross attending to the needs of wounded Germans.

FORTIFICATIONS ON THE BOSPORUS



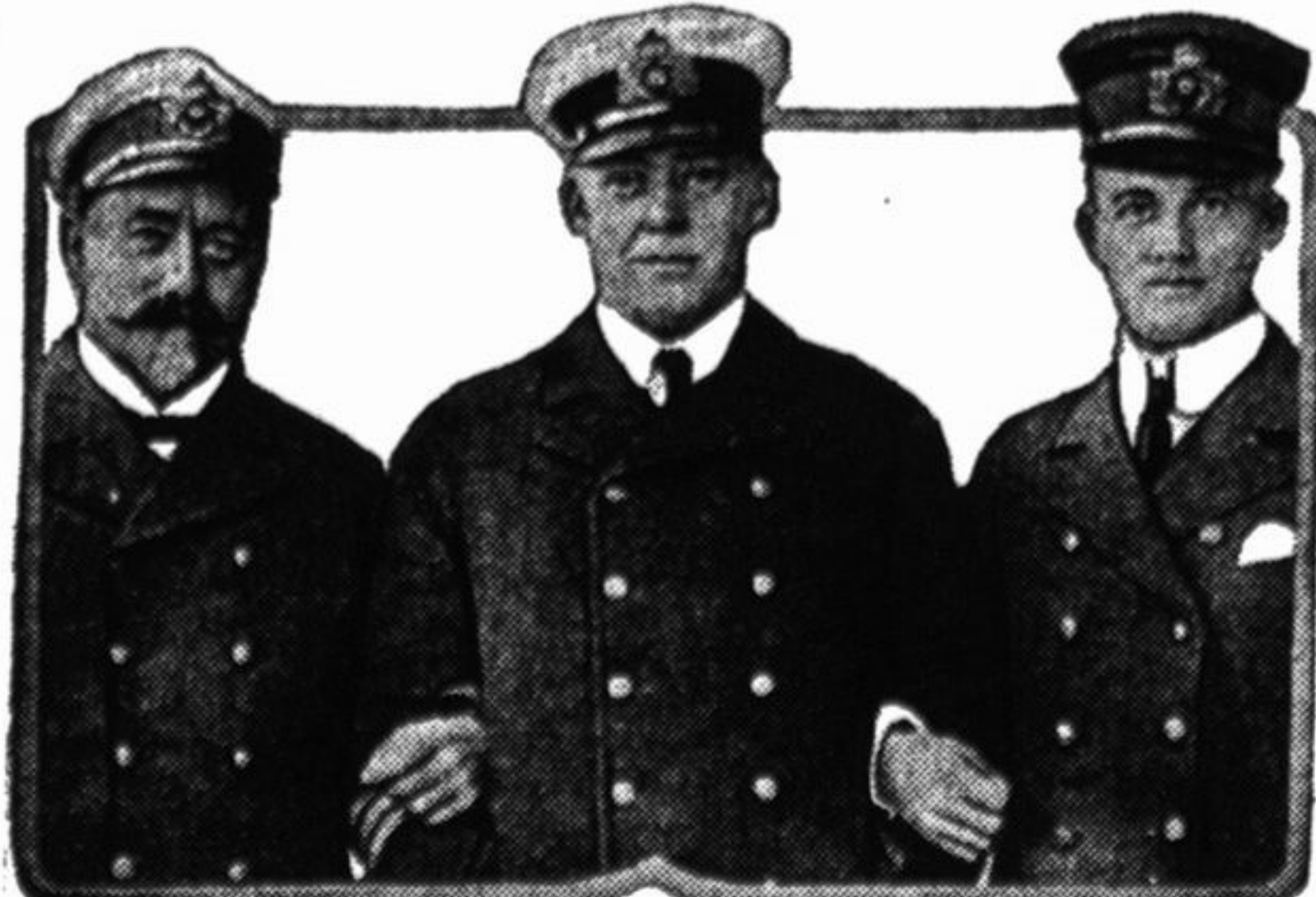
This picture gives a view of the batteries of Madjar Kalesi and Kavak, among the most important batteries on the Bosphorus. It is these modern fortifications, equipped with giant Krupp guns and in command of German officers, that the Turks hope will hold back the progress of the allied fleet on its approach to Constantinople.

ALLIED FLEET BOMBARDING DARDANELLES FORTS



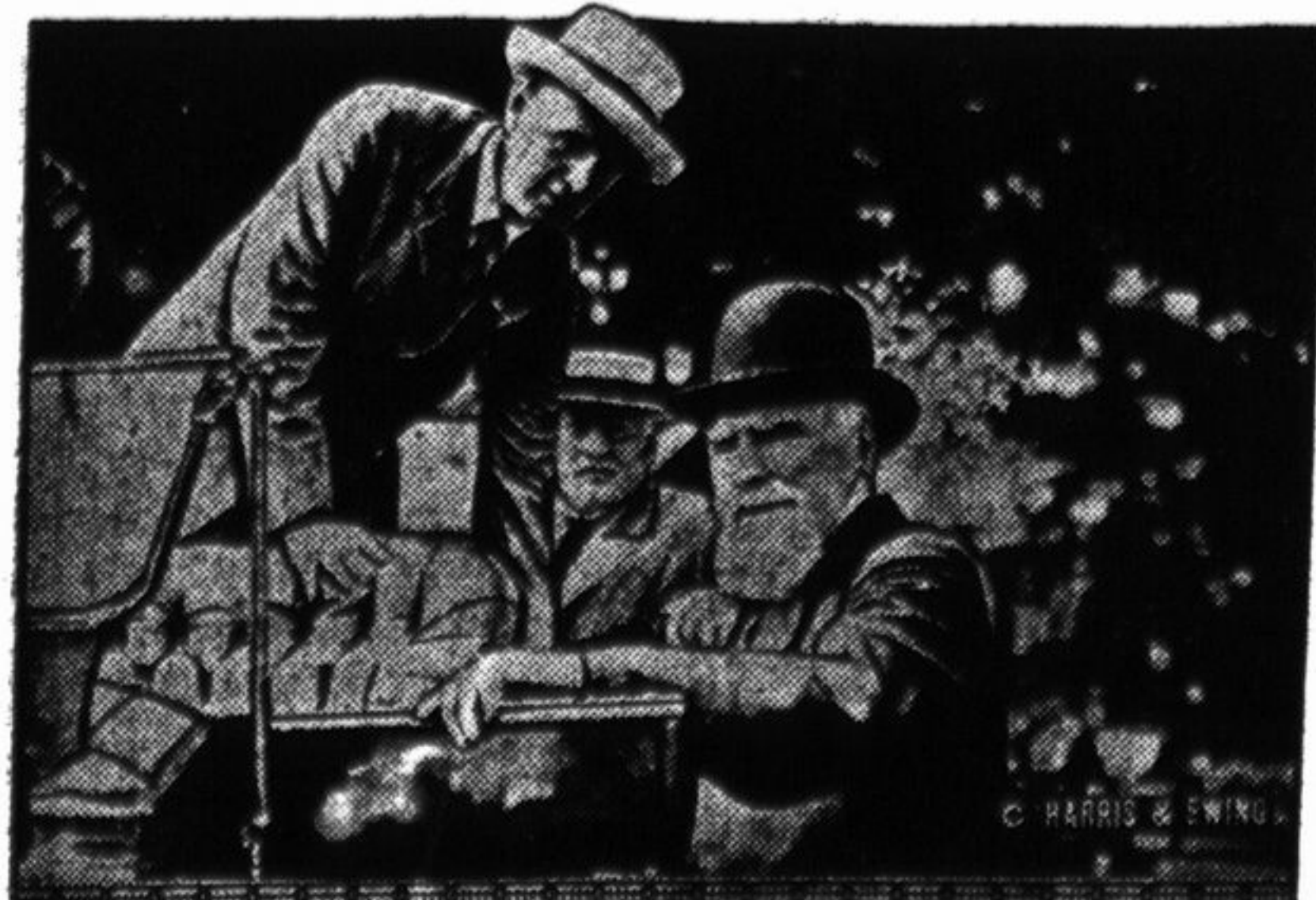
First photograph to reach this country showing the allied fleet in battle formation ready to bombard the forts of the Dardanelles. There were 42 warships engaged. The picture was taken from the French battleship Bouvet.

CAPTAIN THIERICHENS AND AIDS



Officers of the German cruiser Prinz Eitel Friedrich which ran in to Newport News for repairs and supplies. Left to right: Captain Mundt, who commanded the vessel when it was a North German Lloyd liner and is now second in command; Captain Thierichens, commander, and Lieutenant Bruner, his aid.

WILL ADOPT CHINESE REGISTRY



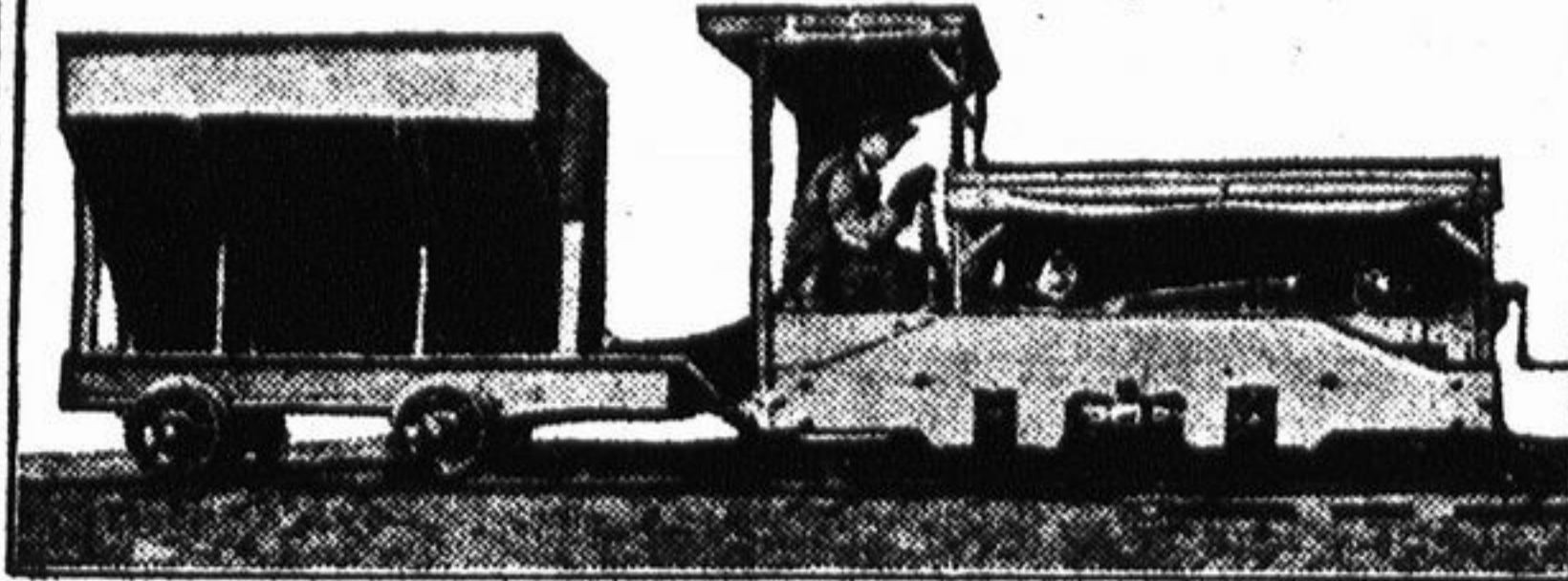
Capt. Robert Dollar, head of the steamship line bearing his name, here seen climbing into his automobile. It is said to be about to transfer his ships from American to Chinese registry because of the provisions of the new seamen's law.

KING FERDINAND CAUTIOUS



M. Radoslavoff, the prime minister of Bulgaria, is reported to have had some difficulties with King Ferdinand, whose portrait is here shown, because of the prime minister's insistence that Bulgaria should invade Turkey without delay and seize Adrianople. King Ferdinand and his advisers declared that such a policy was too venturesome and that the nation could not afford at this time to antagonize Germany and Austria. According to dispatches reaching London from all the Balkan states, the people are clamoring for war.

Happiness and Duty. Happiness is the natural flower of duty.—Phillips Brooks.



This Gasoline Locomotive, Driven by Friction Transmission, Consumes Less Than Six Gallons of Fuel a Day.

AVOIDING THE STRAIN ONE BANE OF RAILROAD MEN

FRICION TRANSMISSION FOR SMALL LOCOMOTIVE.

Machine That is Said to Make for Economy in Operation of Railroad—Can Haul Load of Twenty Tons.

Friction transmission is employed on a small four-wheel-drive gasoline locomotive which is being constructed for industrial purposes such as clay working. A fiber wheel operates in contact with a friction disk, carrying the power by chain to a jack-shaft from which it is directed to the front and rear axles. There is a flexible connection between the friction shaft and the engine which relieves the strain upon the latter. The advantage claimed for the transmission system in this use is that when a heavily loaded train is starting, sufficient slippage may be allowed until the locomotive pulls out easily, thus avoiding a heavy strain upon gears and shafting in starting. The locomotive has a drawbar pull of about 800 pounds when traveling five miles an hour, which means that it can haul a 20-ton load at that speed on a level grade.—Popular Mechanics.

OUTSPOKEN ENEMY OF ROAD

Owner of Abused Dog Makes No Attempt at All to Conceal Vindictive Sentiments.

The following letter, says Railway and Locomotive Engineering, was received by the claim agent of one of the western railways not long ago:

"For some weeks past my dog has been in the habit of sicking himself unto the cars as they sped past my place, and he never harmed no one by so doing, nor never would, as I have known him from a child, very peaceful and fond of young children, and awful fond of the butcher's shop, before where he would sit up on his hind legs and beg with a voice of joy for anything he requested. When he would run at the cars, he would act savage, but still would never injure the train by word or deed if you had a hundred trains whizzing past by day or night.

"But what does the fireman on the Stick in the Mud Express do but entice my dog to close quarters and throw chunks of coal and squirts hot water upon him, which he tells me in a blith and frivolous tone is to take the bark off my dog. That is what makes me halt your railroad, and that is not all by a long choke, for yesterday they misled my dog and got him in front of the engine, when they pulled her wide open and smashed my dog in a way that hurts your rode, and causes it to be looked at askance by every thinking tax payer and mother. I say fy on such a rode as yours, with its sandwiches that have a thin rim of ham round the edge, so when you lock your teeth with it you get left, and the rode has got your money in Dennis. Fy on the whole thing is what I say."

Economy in Small Things. An engineer who is careless in starting and stopping may easily break the air hose in time, and the cost of that equals hauling a ton of freight 225 miles. A broken drawbar knuckle equals hauling one ton of freight 300 miles, and a fireman's lost shovel means hauling a ton 90 miles to pay for it.

The economy bug is carried into every department of the road, and track walkers, switchmen, yardmasters and shop workers are brought under the new system. Trackmen and switchmen are warned that lanterns must be handled with greater care. A white lantern globe equals in cost the hauling of a ton of freight 20 miles; a red lantern globe, 75 miles, and a complete lantern, 100 miles. Even a pound of waste for wiping engines and switch locks is worth ten and a half miles of freight haulage.—Illustrated Sunday Magazine.

Concrete Railroad Ties. Railroad ties made of re-enforced concrete into which asbestos fibers have been introduced, tried out on a Bavarian railway, can be drilled and hammered like wood, which they far outlast.

Youngest Aviator. By looping the loop at Eastbourne recently Mr. J. E. B. Thornley, aged seventeen, established a record as the youngest aviator in the world to accomplish upside-down flying.

Production of Zinc. The world's production of zinc last year, estimated at 1,155,355 tons, was the greatest on record, according to United States geological survey figures.

"Hot Boxes" Are Easily Avoidable—Show Rank Carelessness of Car Department Employees.

Serious delays and accidents to trains are often due to overheated bearings or, as they are known in railroad parlance, "hot boxes."

A "hot box" is the result of rank carelessness on the part of employees in not keeping a good vigil for the condition of the car wheels, or rather the care of the journals of the trucks under the car where the "hot box" is found. A "hot box" is a sign that the safety first rule is not practiced by some car department men.

There is no excuse for a "hot box" after a car is sent out if the train is carefully looked over at each terminal. Primarily, a "hot box" is caused by poor waste and an insufficient "greasing" at the time it should have been done and there is no excuse for one. A "hot box" is liable to cause a wreck, and a wreck on most railroads costs money, much more than the price of sufficient quantity of waste and oil and grease to protect the journals of the car wheels.

The farmer who buys a new buggy has a pretty good idea of what a "hot box" means, and the ways to prevent it. He sees to it that the spindle is well greased so it will not get hot. He watches it closely, and does not take any chances on the wheels running hot. If they did the wheels would stick, and if the farmer persisted in driving ahead, he would soon have a bad spindle and a bad wheel.

However, the results would not be so disastrous as they would be in a train of cars running at a speed of fifteen or twenty miles an hour. It's no wonder that trainmen use language unfit for a Sunday school class when they find a "hot box" in their train. They know that someone has been careless and shirking in his work, and that is to blame.

FIRST ALL-STEEL CABOOSE

Eastern Railroad Has Done Away With Wooden Car, So Long a Menace to Safety.

The wooden caboose attached to the rear end of a freight train for the housing of the crew has always been a factor in railroad fatalities. In a rear end collision it usually happens that it is smashed to splinters and the crew killed; often fire is started by a broken lamp or lantern and employees who might otherwise escape serious injury are burned to death. Distressing accidents on passenger trains stirred a public sentiment which is forcing the railroads to the abandonment of the wooden coach, but until quite recently nothing has been done to remove the same dangerous condition on the freight train. A short time ago, influenced, perhaps, by the nationwide safety-first movement, one of the great eastern railroads built the first all-steel caboose. It is without posts above the floor, the necessary rigidity having been accomplished by means of sheet steel bulkheads. The car should be non-collapsible and fire-proof. Railroad work requires the trainman to spend more of his life in the caboose than the clerk spends in an office or the mechanic in the shop. He both eats and sleeps there. Consequently its equipment is to him a matter of importance. The new car is furnished with improved types of bunks, an improved stove for heating and cooking, a washstand, a desk and lockers for the crew, a water cooler and a refrigerator.

Fewer Killed on Railroad Tracks.

Statistics furnished by the Pennsylvania railroad show that there has been a marked decrease during the last seven years in the number of persons killed while trespassing on railroad property. In 1907 the number was 572. During 1914 it was 301, the lowest figure with the exception of that for 1912, when 255 trespassers were killed. These figures are for the system east of Pittsburgh only.

Extracting Tar From Gas.

Electricity is being employed with success at a Detroit coke oven for the purpose of removing tar from artificial gas in the purifying process. The gas is passed through a highly ionized field, which is produced by a high-tension discharge of current ranging as high as 80,000 volts, with the result that the tar forms in large drops, which are then easily separated.

Atmospheric Electricity.

Using antennae mounted in pairs on a wooden tower erected on a hill, a Spanish electrician has succeeded in drawing electricity from the atmosphere at a pressure of 6,000.

Interest Computing Machine.

An interest computing machine has been invented by a Hungarian. The instrument is said to be comparatively simple and inexpensive. It is about the size of a watch.

INDICATIONS OF AN EARLY SPRING

Great Prosperity Ahead for Western Canada.

The most recent advices from all points in Western Canada report that conditions are apparent for an early spring. Farmers are going over the implements, getting their seeders ready for operation, the plows in shape for extended breaking, and there is a general optimism. A great many new settlers have already arrived, and the reports from Canadian Government agents in the United States point to the fact that in a few days there will begin the usual emigration from various of the Central and Western states. From the Eastern states the number of farmers going to Canada will be greater than in any past year.

There has been a fairly large snowfall during the winter, which will greatly add to the precipitation of last fall, which in the opinion of old-timers was in itself sufficient to insure a good crop during the present year.

There will be very little tilled land that will be without a crop this year. The authorities, though, are pleading with the farmers to seed only such land as has had careful preparation, for rich as is the soil of Western Canada, it is no more fitted to produce good crops uncultivated than is that of any other land anywhere else. There have been accounts of failures in some portions of the agricultural districts of Western Canada, and also reports of small yields in some districts. A good deal of this is accounted for from the fact that notwithstanding the advice of men of experience, there are farmers who will persist in seeding land not properly prepared. This may be done this year, but those who cultivate on reasonable and logical methods will be certain of a paying crop. There is every reason to believe that the high prices of all kinds of grain will continue.

With thousands and thousands of acres of land waiting for the husbandman to bring it forth with a crop, it is no wonder that Western Canada is continuing to prove such an inviting field for the agriculturist.

Seventy million dollars is a conservative estimate of orders which came to Canada as the direct result of the war. Governments of the allies have been placing large orders in Canada and buying huge quantities of supplies for cash.

The total value of exports to Europe from Canada has jumped about 15 per cent since the war started, while in certain lines the increase have been enormous.

Therefore the results of the demand of the allies for war and other material is beginning to be felt in the financial life of the Dominion. There is a marked activity in many commercial lines, and conditions are fast becoming normal. Western Canada is receiving a relative benefit to the East.—Advertisement.

Was a Bit Skeptical. Uncle Rastus was sitting in his home reading a newspaper when he suddenly glanced up and addressed Aunt Dinah.

"I hab jes read in dis yeah papah, Dinah," he remarked, "dat dem people what fly in dem fyin' machines kin do anything what a bird kin."

"Yes, sah," was the prompt rejoinder of Aunt Dinah, "dey hab jes got dat 'ting down so fine dat dere hain't no bird what has got anything on 'em."

"Am dat so?" reflectively returned Uncle Rastus. "Well, whenever yo' see one of dem fyin' machine men setting fast asleep holdin' on to de limb ob a tree wid his feet jes yo' call me ter come an' take a look."

A Misreading. Dr. Frits Metzler of the University of Heidelberg said to a heckler in the course of a neutrality lecture in Denver:

"My good friend, you misread me. Purposely you misread me, my good friend. You are as bad as the wife who was disgruntled."

"To this wife who was disgruntled a young bride said, over their afternoon coffee and coffee cakes:

"I am so sad. Gustave is away on a business trip. This is the first time since our marriage that I have been left alone."

"Oh, well, don't worry," sneered the other, "it won't be the last."

Unfriendly Tricks.

"I thought you were a friend of his?"

"I used to be."

"And now?"

"I had to give him up in self-defense."

"Why?"

"To every life-insurance and book agent that asked him if he had any friends who might be interested in their propositions he insisted on giving my name."

Quite Different.

"One year ago a man could announce that he was going to Europe without creating a ripple of excitement."

"And now?"

"If he makes that announcement everybody crowds around to have a look at him."

Great faith never springs out of any situation.