

CABLE LAYING IN THE PHILIPPINES.

BY FREDERICK MOORE.

When Manila fell there were practically no telegraph or cable connections anywhere in the Philippines. The system of land wires connecting the principal towns, and the cables between Iloilo and Manila and Iloilo and Cebu, had been sealed and abandoned by their owners, the Eastern Extension Australasia and China Cable Company, which announced that it would not open them until the United States could insure protection to its employés and property.

The question of wires soon assumed a serious phase. Indeed, the trouble began with the capture of the placé, and the first hostile act of the insurgents was the destruction of the wires our forces had hurriedly strung between the different detachments about the city. Upon Aguinaldo's taking the warpath, it became useless to stretch land wires unless the army surrounded them or they were guarded by a line of troops close enough to shout the message along. The system abandoned by the Eastern Extension Company fell into his hands, and he developed and extended it

rubber cable was enlisted in New York, but he deserted the expedition a few days before it left. Care had been taken, though, to have two sergeants of the signal corps instructed by him in case of such an emergency.

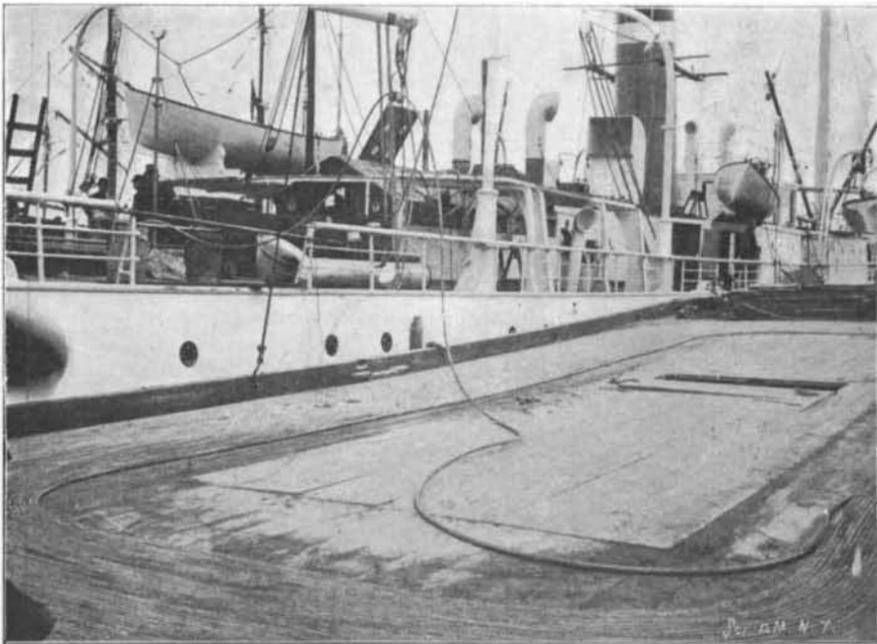
After arriving at Manila the "Hooker" was sent to Hong-Kong to coal, struck an outlying reef of Corregidor Island, and down went ship, cable and all equipment. The ship was a total loss, but most of the cable and the equipment were recovered and taken back to Manila. The "Romulus" was chartered and equipped with the recovered paraphernalia. For work in the rivers and lagoons, barges were equipped and towed by shallow-draft gunboats. The gunboats could repel disturbers, and the same exposure was not required in reeling out cable as was necessary in stretching land wires. Every five miles stops would be made to test the cable. The small military force which accompanied these expeditions when in hostile country would be deployed, while the electricians landed to make the tests. For the actual work of establishing the lines natives were employed. It takes three natives to do

chise from Spain just before the war, with the sole right of cables in the Philippines. The franchise lasts until 1940, and a clause in the contract provides a payment of £5,000 for each year before that date that other cables shall be used. The company made a claim upon the United States for the amount, but the claim will be ignored for reasons connected with the disposition of the cable at the beginning of the war.

A few days prior to the opening of the war, under an emergency contract with the Spanish government, the company extended its Hong-Kong cable, which landed on Luzon, at Balinao, to Manila. Admiral Dewey endeavored in vain to obtain a neutralization of this cable. He therefore cut it.

Use of Low-Grade Fuel in Sweden.

A Swedish paper states that in the new briquette factory at Elmhult, belonging to the state, experiments will be made this fall in the production of a cheap and practical fuel for Swedish railroads. In locomotive furnaces Swedish coal cannot be used alone, because



Loading Cable on Board Transport "Hooker," at Brooklyn.



Transporting Cable to the Docks.



Landing the End of a Cable by Small Boats.



Laying Cable from Barge Up a Small River.

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with considerable ability, utilizing barbed fence wire at times. The Filipinos knew the value of wires, and when they were driven back from theirs would destroy them, and quite often a few would slip through our lines and carry off as much as possible of the wires we had strung. Cable was soon discovered to be much easier to maintain, for the Filipinos had no picking-up gear or grappling and cutting utensils. The War Department decided to establish a complete cable system between the islands, with alternates, as soon as possible. Contracts were placed, the work rushed, and the "Hooker," the first Philippine cable ship, dispatched post haste, taking on part of her equipment, which was procured in England, at Gibraltar.

The problem of securing a satisfactory force had been by no means an easy one, for the business of cable-laying is new to the United States. The services of Mr. Otto Strubel, an engineer of the French Cable Company, and those of Mr. Henry Winter, an officer of the Anglo-American cable ship "Minia," were secured. Only three men of the "Hooker's" crew had had experience in cable work. An expert joiner of

the work of one American, but the native only asks a salary of \$5 per month and his accustomed fare of rice, dried fish, etc.

The first work was done by the army, but subsequently contracts for the entire work were let for laying the cable as well as furnishing it. The government furnishes the cable ship, the necessary military protection, and an officer as inspector. More than 2,500 miles have been laid, almost enough to reach from San Francisco to Honolulu. All the principal cities and all the large islands have been joined. To be more explicit, cables connect Manila and Cavite, Taguig and Calamba, Taguig and Binang, Calamba and Los Banos and Santa Cruz, Liloan and Ormoc, Cebu and Liloan, Leyte and Tacloban and Samar, Naic and Corregidor, Guinayangan and Pasaco, and other points from the islands of Cebu to Bahol, Negros to Cebu, Cebu to Mindanao, Jolo to Mindanao, and also connecting points on the islands where land wires cannot yet be maintained.

A curious protest was offered when the first military cable was laid—that from Cavite to Manila. The Eastern Extension Company had acquired a new fran-

chise from Spain just before the war, with the sole right of cables in the Philippines. The franchise lasts until 1940, and a clause in the contract provides a payment of £5,000 for each year before that date that other cables shall be used. The company made a claim upon the United States for the amount, but the claim will be ignored for reasons connected with the disposition of the cable at the beginning of the war.

A new system of steel roofing has been patented which may displace galvanized iron for roofing purposes. The system of manufacture consists of steel strips bent cold in the press, the covering being formed of plain galvanized sheets bent back on the edges and locked into tubular rafters.