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Author: Philip S. Rand, W1DBM

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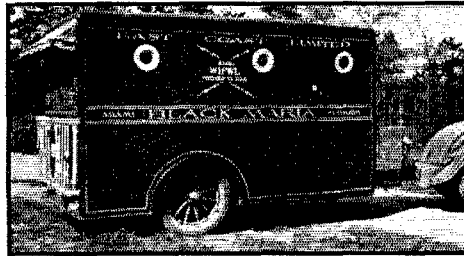
A Shack on Wheels

Portable WIFWL Travels Throughout U.S.A.

By Philip S. Rand, W1DBM-W1FWL*

IN 1929 the writer was employed by the New York, Rio, & Buenos Aires Air Line, an air transport line operating a fleet of planes from New York to South America, and stationed in Miami, Florida.

During my stay there I had occasion to see a very interesting trailer that was being used by the Pan American Airways. Upon inquiry I discovered that it was built in a small town just outside of Miami by Glenn Curtiss of airplane fame. In the next few days I managed to pay the factory a visit and find out just how they were built. I saw the possibility of a shack on wheels, and inasmuch as I did not possess the necessary



W1FWL—"BLACK MARIA"

two or three thousand dollars, I decided I would have to build my own. For the benefit of those who should like to build one, too, I shall give a few of the constructional details.

The first requisite is an old model T Ford axle, either front or rear, front being preferred however. The next thing is to obtain a number of sound 2 by 3's and two long 2 by 6's for the frame and several sheets of Insulite wall board for the sides and roof. The outside is covered with a good grade of imitation leather similar to that used on auto tops.

The arrangement of the interior is left to the builder although the layout used at W1DBM is given as an example. A number of very interesting interiors may be drawn up if the builder will use his imagination a little and design his shack to suit his particular needs.

One of the most important considerations in designing a trailer of this sort is the weight. The trailer completely loaded must be light enough so the car that is to be used can tow it easily up grades; it must be high enough to give full head room inside and yet not be top-heavy. All heavy weight must be kept low, near the axle, and evenly distributed on both sides. The more powerful the tow car, the larger and more comfortable may be the "shack." A car with four speeds ahead and silent second gear is especially desirable.

I shall not attempt to tell the builder how long to cut the 2 by 3's or how many nails and screws

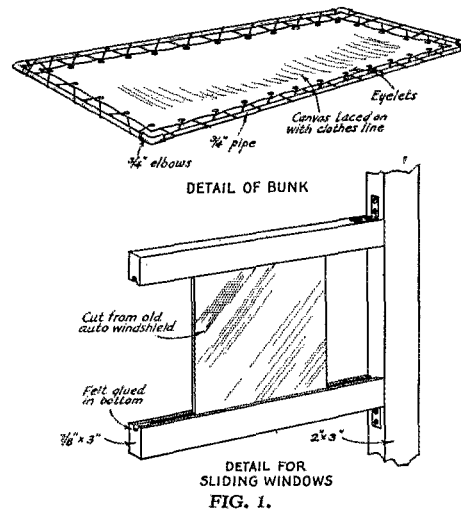
to use but rather to give the general idea so that the builder may go ahead according to his own requirements.

The first thing to do is to build the chassis out of some husky pieces of 2 by 6 something like Fig. 2, using plenty of long lag screws and bolts — the chassis must be strong to stand bumpy roads.

The chassis must be laid out so that you can attach whatever kind of axle and springs are to be used. If a Ford axle is used, a crosspiece to which to attach the spring will be required. The wishbone or torque rods must be made fast to the frame. An axle with springs running lengthwise will give more headroom inside.

The general framework is now built on the chassis along the lines indicated in Fig. 2, being sure to put in a corner brace or angle iron at every corner as the strain is terrific at high speeds. Fig. 1 shows the general idea for the sliding windows. Portholes may be used, but the windows are to be preferred, especially if the trailer is to be used during warm weather.

After the framework is completed it is time to put on the wallboard. This may be Celotex,



* North Falmouth, Mass.

Insulite, Masonite, or any other material of that nature. The roof construction is similar to that used on autos. After the crosspieces have been cut to the shape wanted for the roof, laths are nailed on lengthwise quite close together and the whole thing covered with several layers of burlap. The final covering is of imitation leather. The sub-layers of burlap make a smoother looking job, and help the leather covering from wearing through quickly.

The whole thing may now be covered with imitation leather, as is *Black Maria*. If Masonite has been used, it may be Ducoed to match the car that will tow it.

The inside can be completed now if the plans have been decided upon. Space should be left under the bunks for suitcases and luggage. Hooks may be put in the pointed bow to hang up clothes, or it could have several shelves.

The bunks can be made out of $\frac{3}{4}$ -inch pipe similar to those used on shipboard (see Fig. 1), to fit the space available. The upper berths are lashed to the ceiling in the daytime.

The stove is a two-burner gasoline affair, while the sink is made by lining a box with copper and soldering up the joints. Don't forget the drain. The water tank is a ten-gallon gas tank standing on end and lashed in place, with a water faucet soldered to the bottom over the sink. The ice box is made by lining a large box with several thicknesses of Insulite, with zinc in the bottom with a drain. There should be a railing around the shelves of the food locker so that too much won't bounce on the floor when under way.

Dome lights, running lights and a tail light should be provided together with a horn button for signaling the driver. A five-prong socket and tube base make a convenient plug-in arrangement for your electric cable from the car to trailer. Wire the running lights with the car's headlights and they will operate with the switch on the steering wheel.

A swell indoor antenna may be put inside the top before putting on the leather. Small stand-offs take the transmitting feeders out in the usual fashion, while bamboo fish poles are used to support the antenna if no higher support can be found. A five-meter antenna is supported on the bow by three stand-offs. This is a telescoping affair of $\frac{1}{2}$ -inch copper pipe which stretches up to 8'.

Any type of transmitting equipment may be used that is portable, or a rack and panel job

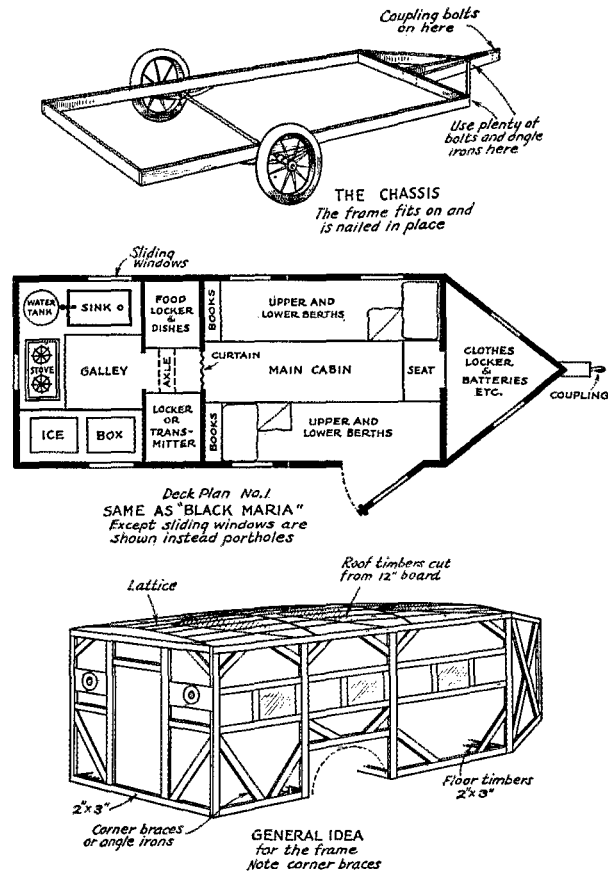


FIG. 2.

may be built right in during the construction. The 160- and 80-meter sets in *Black Maria* consist of two 33's in parallel crystal controlled and coupled directly to the antenna, running from a set of "B" batteries. The five-meter job has two 12-A's in push-pull modulated by two 33's, also run by "B" batteries.

The *Black Maria* cruises very comfortably with a party of four. The tow car is a Chrysler 77 convertible coupe which at times has attained a speed of 70 miles per hour with the 1500-lb. shack in tow. I have slept several nights in the trailer while under way on a long trip and can honestly say that I slept better than when on a railroad train.

The coupling that fastens the trailer to the car is a homemade affair, but I should recommend that anyone building a trailer purchase any one of a number of good couplings that are on the market. And one more thing; be sure you have enough road clearance so you can navigate an occasional detour.