

# Electrical Experimenter

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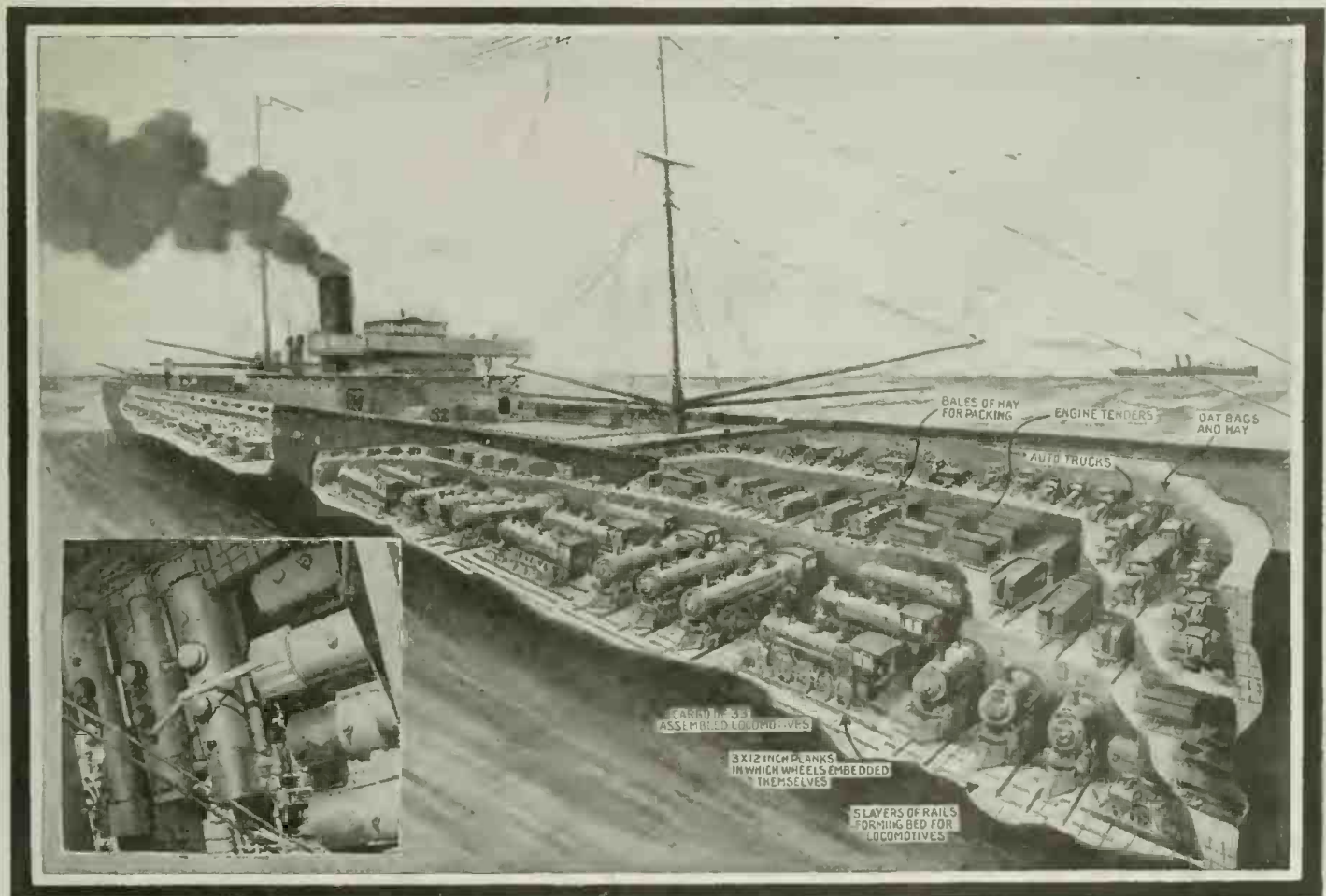
## 33 Assembled Locomotives on One Ship

The Enterprise of American War Engineering Which Enabled Thirty-Three Assembled Locomotives to be Delivered 'Cross Seas in a Single Ship, for Immediate Duty at the Front.

**E**VER persevering American ingenuity and the knowledge that "over there" thousands of our boys were depending on us folks back home, to keep our shoulders to the wheel, makes records of the seemingly impossible

lem to get supplies across seas infested with mines and submarines, and still a greater task to move this material with all possible haste to the points where it would be most needed. It is well known that the French railroad system had collapsed; all it could do

of his first cables home was for the urgent delivery of locomotives, cars and rails. He made the War Department see the need of providing these facilities so that the American effort in the Great Cause would not be a failure. And so it was that Army officials



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In the Early Months of America's Participation in the World War, Locomotives Were Shipt Overseas in Parts. In Consequence a Vast Amount of Valuable Time Was Lost in Dismounting and Reassembling the Parts. Later the Scheme Was Evolved of Loading the Locomotives Intact, as Here Shown, Thirty-three of Them Having Been Sent Over in One Vessel. Insert View Shows Scene Looking Down in Hold. Note Bales of Hay.

deeds actually accomplish, read like the magic of Aladdin's Lamp.

As a specific instance, let us look at the railroad situation in France when General Pershing arrived on the scene of action with the first vanguard of American troops. French Atlantic ports were nearly 270 miles from the fighting front. It was one prob-

was to care for the French army, and to move the thousands of tons of material necessary for the successful campaigning of Pershing's army behind a few creeping French locomotives left at our disposal was well nigh impossible.

General Pershing saw the immediate need for American railroad equipment and one

undertook the buying and shipping of locomotives. The first locomotives sent were in great big hulky cases—knocked down. As yet they did not dream of sending them completely assembled.

Once these parts reached France they were put in the hands of a dozen or more  
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## SORTING TOBACCO LEAVES BY ELECTRICITY.

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duplicate of the first section, except that here a permanent stop is provided in the path of movement, which will prevent any leaf from returning to the starting point, but deposit it in the box provided for the longest leaves.

All boxes, ten at each side of the machine, are standing on a kind of steps, so that each one is, according to the incline of the covers, a little below the foregoing one. As the other side of the machine is but a duplicate, the device being a double action machine, there are ten boxes for ten different sizes of leaves at each side, or 20 boxes altogether.

The contact segments on the table are movable, and the machine can thus be so finely adjusted that it will not only measure and sort the leaves by inches as required, but even up to a quarter of an inch if so desired. The machine is driven by an electric motor, arranged below the table and not visible in the illustration, and by means of an electric regulator the speed of the machine can be regulated to meet the speed with which an operator is able to place leaves upon the feeding belt.

## 33 ASSEMBLED LOCOMOTIVES ON ONE SHIP.

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expert locomotive engineers for assembling and it took the better part of a week before even one engine was complete. The locomotives had to be in complete running order here in the shops, as well as having all the parts of the machine carefully marked before being disassembled on this side of the pond. All this entailed many days of extra and unnecessary work—especially when time was at a premium. Those and many other delays occurred so that at one time there were thirteen ships loaded with knocked down locomotives in ports in France waiting for the discharge of their cargoes.

This was the situation confronting the Shipping Control Committee on January, 1918. The locomotive problem was immediately discussed in detail to see if there was not some way by which the complete locomotives could be sent across the ocean intact.

The steamships Feltore, Cubore, and Santore, each 468 feet long, with three great holds and five hatches, the smallest of which was 33 feet by 37 feet and the largest 39 feet by 37 feet, were then prest into service. Each ship had a cargo capacity of 11,000 tons and was fitted with electric turbines capable of driving the ship at a speed of ten knots.

On May first loading started, and the holds of the steamer Feltore were floored off with five layers of railroad rails and splices to secure a firm foundation and also to protect the hull of the ship. Next day a railroad float came alongside with eight assembled locomotives ready for the trip.

The problem of lifting these great locomotives into the hold of the ship was solved by requisitioning one of the largest cranes in the world capable of lifting 150,500 pounds in bulk. The derrick captain took his stand on the deck of the steamer and by the use of electric signals directed every movement of the crane. And so without a single hitch, each and every one of these steel-bound monsters of the rails, was lowered and set on heavy oak planks; after which tons of compressed bales of hay and bags of oats were packed around them. And so seven days after the start of this great trip, there were on the wharves at Brest, France, 33 large assembled locomotives and tenders, 2,400 tons of rails and splices, 2,300 tons of hay, 600 tons of oats, and fifty-three motor trucks.

## WOOD FINISHING FOR THE AMATEUR.

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either of two ways, which are known among wood finishers as the "quick" and the "slow" methods of polishing.

The quick method is as follows: Dip a handful of raw cotton into a mixture of half peanut oil (refined cottonseed oil will do), and half alcohol, and rub the surface with a rotary motion, which will give a fine lustric in a short time.

The better of the two is the slow process. After the work has been brought to the dead finish mentioned above, put on an extra coat of finishing varnish, allow it to dry, and rub down again with FF pumice stone, cleaning up carefully. Then rub ground rotten stone over the surface with a soft chamois skin, using a circular motion, and when this is dry, rub it off with the palm of the hand.

There are several other kinds of polishing, notably wax polishing and oil polishing, which may be used if desired. In wax polishing the polish is put on at the same stage that the varnish would have been applied, using any method convenient to get the wax on the work. Perhaps the best way is to warm the wax and apply it with a brush, the same as varnish. This gives an even coat of wax, which is then polished with a hand cloth. There are a number of manufactured waxes on the market, any of which will give the desired results. The chief objection to wax polishing is that it mars very easily, but it is also renewed very easily, hence this is not such a serious objection for many kinds of work.

Oil polishing is the most durable of any, and therefore is often used for table tops, counters, etc. The process is very simple, but heartbreaking. It consists of applying either raw or boiled linseed oil upon the surface, and then rubbing it until a polish is secured. The polishing is done by means of a piece of felt wrapt around a heavy block, to give it weight.

This is about all that need be said about the various processes used in wood finishing, but a brief description of the various kinds of woods commonly used by the experimenter would not be out of place. A perusal of the list will often help determine the kind of wood required for any particular piece of work.

**Birch.**—Black birch takes on a fine polish, as it is close grained. Its natural color is light, so it is usually stained in imitation of black walnut or mahogany. Owing to its close grain, a filler is not absolutely necessary, but when staining this wood to imitate some other, a properly colored filler gives it a better coloration.

**Cherry.**—This wood is very close grained, and will take a high polish. It has little tendency to warp, and because of its close grain filling is not necessary, and shellacking will prepare it for any of the finest polishes.

**Oak.**—Oak is the "King of woods", and is very useful. It has a medium openness of grain, and must always be filled before shellacking. Almost any sort of polish may be used for finishing oak, one of the most beautiful being the "antique" method, a formula for which has already been given. The linseed oil polishing will also make an excellent and durable finish. There is but one objection to this wood for wireless apparatus, which has made it unjustly unpopular, and that is that the acid in the wood has a peculiar effect upon hard rubber panels.

**Mahogany.**—If expense were not an objection in most cases, mahogany would be an ideal wood for every purpose. It is coarse grained, requiring a filler, but is sus-

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