

is so slight as to be of no importance. This assumes that ties and timbers are properly treated and not injured by steaming or excessive heat during treatment. The drier that wood is kept, in ties and timbers, the stronger and better service they render.

The very great value derived from the treatment of wood is not only the prevention of the rot which makes the wood useless. The treatment maintains the original strength of the timber, especially in the case of ties treated with oil, and

causes it to resist mechanical abrasion and wear longer. Furthermore, when ties are properly seasoned before treatment and preserved with creosote oil, the oil resists moisture and prevents the ties from becoming soft and spongy.

The added life due to creosoting depends upon the quality of treatment, and upon the kind of timber and the manner in which it is used. It is only fair to say, however, that creosoted ties will last from three to five times as long as untreated ties, while the cost of treatment does not

double the cost of the tie. Therefore the great saving in the use of treated instead of untreated ties is apparent. This saving is even more pronounced in the case of other timbers.

CIVIL AVIATION.

(Continued from p. 481.)

partment, showing that during 1920 close on to a thousand aeroplanes were turned out by French shops. The number of passengers carried in twelve months was 7,000, against 960 in 1919. Traffic in merchandise followed the same rate of progression, increasing 850 per cent within a year—although the period was really supposed to be one devoted to special study and reconstruction. The figures have been eclipsed this year.

Flying Pigs a Reality.

Not only passengers are carried on these air lanes, which French planes have extended over most of Europe. Strange cargoes pass through the air these days. For instance, says the writer:

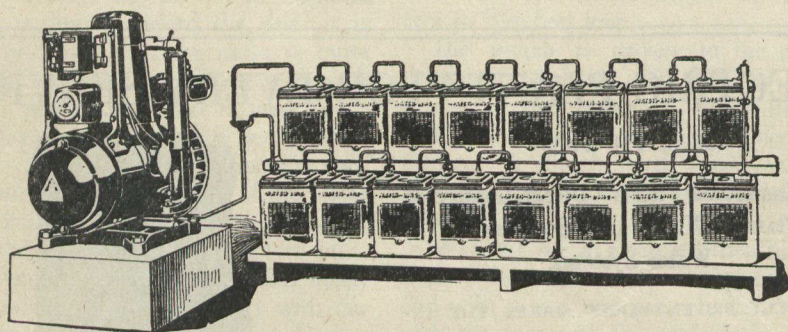
Flying pigs have now become an actuality, although they did not take kindly to the air. A crate of porkers was sent from the French capital to Croydon recently, where the distinguished travelers, the first of their race to realize the ambition to fly, were hustled into a taxicab and rolled to the national British stock show.

Millinery, a cargo of lobsters, boxes of early strawberries, trays of jewels and watches, and even cases of rare wines and champagne have been included at times among the freight shipments handled by air, for in addition to the fact that the fragile goods are less roughly handled in their flight by air than by train, there is also far less danger of theft than in the open baggage rooms of the railway station.

In the operation of all her airways, we are told, France uses every precaution of safety. While in December, 1918, the government controlled only four flying centers, and each one very incomplete—

There are now dozens of these air ports scattered over the country. Where formerly the pilot had to trust to luck when attempting a landing, he can now circle down over a field as level as a table, where he can be sure of landing his passengers and freight in absolute safety.

A large number of main air ports, fitted with hangars and workshops, control their chain of intermediate posts and aid stations. Flares visible at a distance of 25 miles are in use on the principal landing grounds, and two flames for which visibility at a distance of 94 miles is claimed, are being installed this year to guide air-men across the waters of the Mediterra-



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