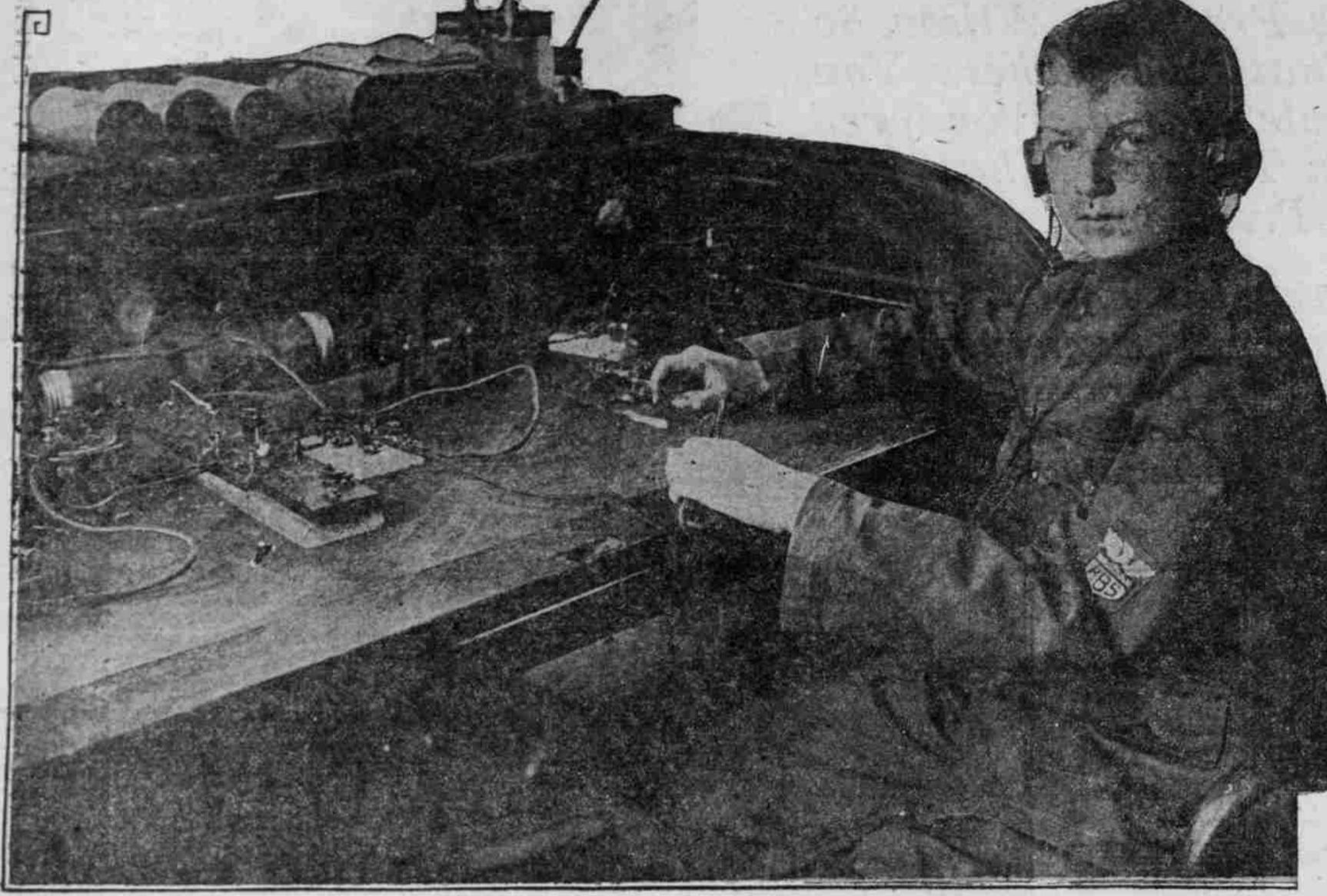
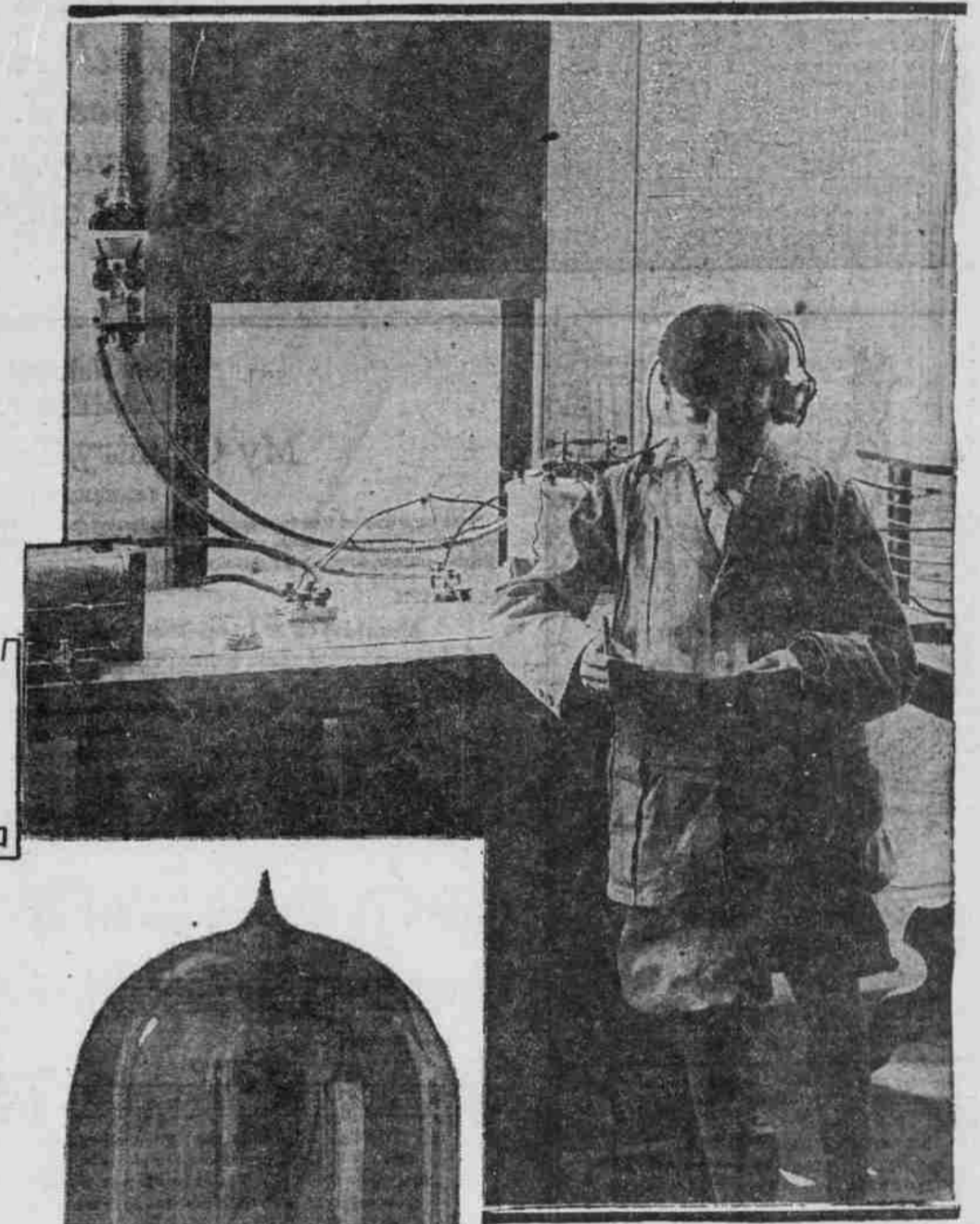


# Now the Boy Wireless Can Get Busy Again

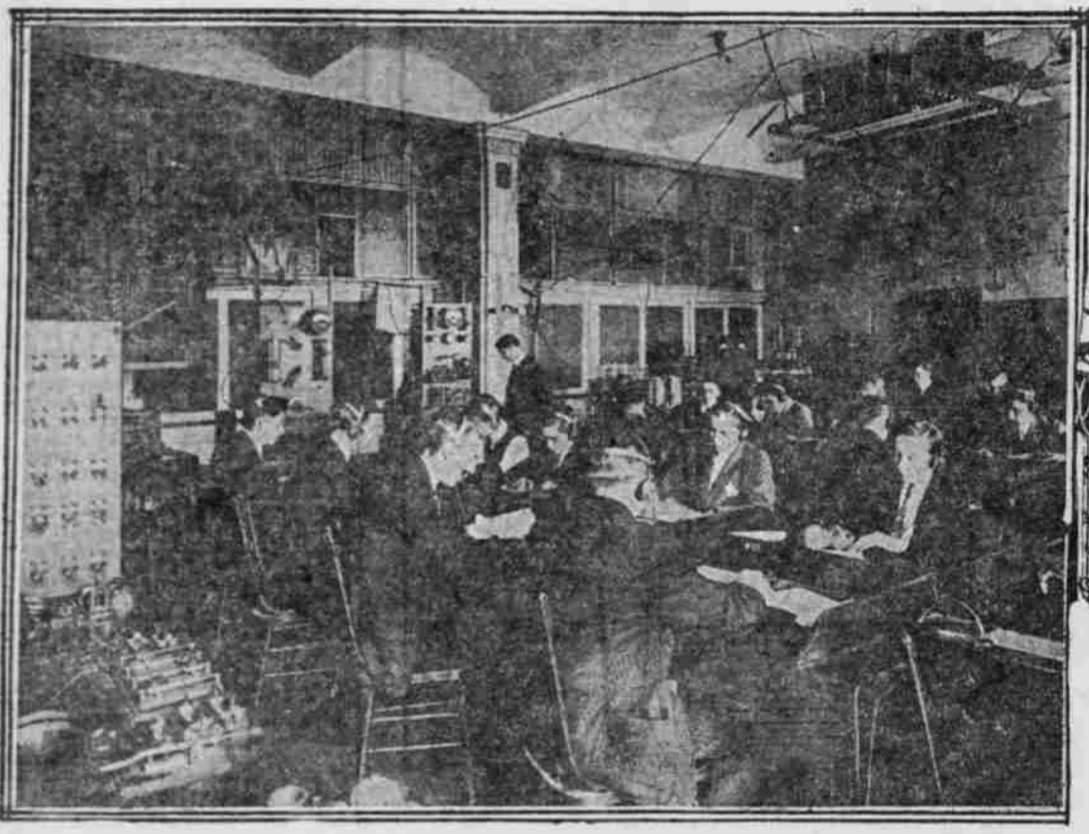
### Surprising Record of Amateurs Called Into Real Service by the War, and Why New Inventions Make It Possible for Clever Youngsters to 'Listen In' on the Great Currents of 'Air Talk'



A BOY WIRELESS STATION FULLY OUTFITTED TO CATCH MESSAGES ONCE RESERVED TO THE VERY LARGEST PLANTS.



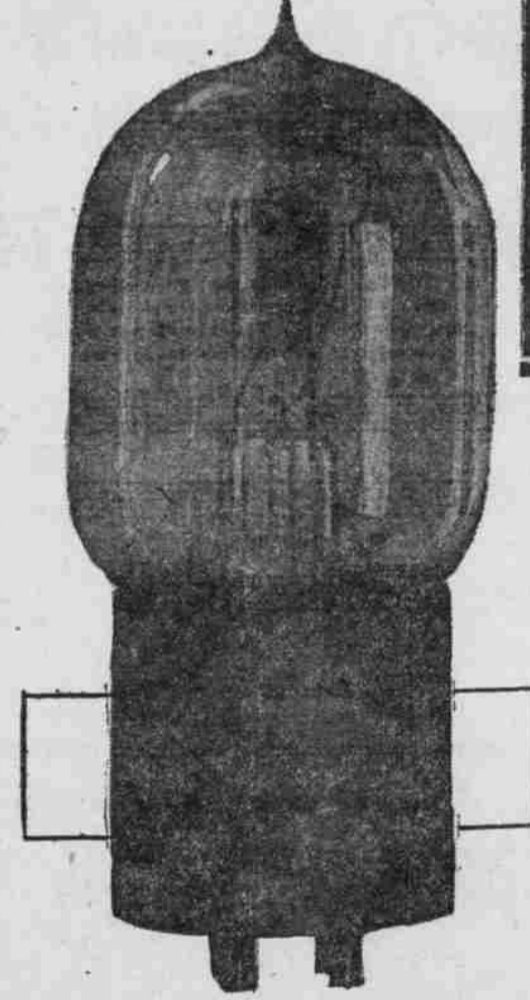
Wireless has appealed to the imagination of boys, and very simple outfits give them a world of adventure.



A WIRELESS STATION SCHOOL IN FULL OPERATION.



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The little Marconi instrument that makes it possible for a boy in an ordinary home station to hear the news of the world.

**BY F. A. COLLINS**

ANYONE can "listen-in" on the wireless telegraph messages sent out by the great European stations. An ingenious American boy with the aid of a home-made apparatus is now able to overhear the Eiffel Tower at Paris or Nauzen, Germany, as well as thousands of other land and sea stations.

No other country in the world may boast so large an army of amateur wireless men as America. It was estimated before the war that there were at least 175,000 amateur stations scattered far and wide throughout the United States. Now that peace is assured the number will probably be even greater. During the war the science of wireless electricity, like other fighting weapons, was advanced in many ways, and the amateur can now take advantage of the new discoveries and listen-in across seas and continents.

A large proportion of the amateur stations are home-made affairs which enable the operators only to listen-in, not to send out messages. Everyone is

familiar with the antennae draped against the skylines of cities large and small and often in remote country districts. The wires might be strung from the roofs of high buildings or from the eaves of some barn to a convenient hayrack, but the ingenuity of the American boy was always equal to the occasion. Many of the amateur operators are school boys who chat among themselves in their leisure hours. The educational value of such training is, of course, very great. With the increased facilities for long-distance work the American boy becomes in a sense a citizen of the world. From his home station, probably constructed in his study room, he enjoys a power which a generation ago would have seemed magical. If he chances to be studying French or German, for instance, he can improve the opportunity by listening to the stations of these countries sending in their native tongue.

The American amateur wireless operator has well earned the right to operate his own station and benefit by any advantages which follow. His record in the war was brilliant. Now that the fighting is over, it is permitted to tell the wonderful record of these amateurs in serving their country. At the beginning of the conflict there were up-

to 300,000 amateur wireless men in the United States. These men or boys were, for the most part, self-taught, but they soon proved themselves to be highly efficient and held their own in competition with professional operators.

When the call was issued for wireless men the response throughout America was instantaneous. Thousands of these men were needed at once to take charge of the wireless stations on the merchant ships, the convoys, and in hundreds of land and sea stations. To train green hands to do the work would have required months of valuable time. The government was able to recruit almost overnight a vast force of experienced men. With a little subsequent training to fit them for special work, these operators were able to fill the most important posts. More than 20,000 wireless operators were recruited in this way. It was estimated that the government saved \$7,000,000 at this time which would otherwise have been expended in preliminary training. When the classes of wireless operators were opened at Columbia university it was found that more than 80 per cent of the enlisted students were amateur wireless men who had already perfected themselves in the science.

From the first the amateur wireless

operator played a conspicuous part. It is not generally known that it was an amateur who overheard the Germans in charge of the high-powered wireless station at Sayville sending out neutral messages, and reported the fact to the government. The Germans, by abusing the courtesy extended to them, were thus sending out messages notifying their ships of the presence of merchant craft and other information of the utmost importance to them. This fact had escaped the vigilance of the government until an alert amateur detected the deception.

In competition with the expert professional amateurs were often select-

ed to fill the highest posts. It was an amateur who was chosen as assistant to the director of naval communication during the war, and the chief operator at Washington was a civilian commercial operator. The amateur wireless men became officers in all the different radio services and served as inspectors and carried on all details of the work.

**The Record of the Amateurs.**

It is a matter of special pride among the amateur wireless men that the radio operator aboard the NC-4 and the NC-1 in their historic flight across the Atlantic were amateurs. The post was one of the most difficult to fill in the service of the army or navy. It was necessary to find expert operators and mechanics as well, who could be

depended upon to employ all their skill and resourcefulness in the face of the greatest danger. It is a great achievement for the American boy that self-taught youths hold the distinction of being the first radio men in history to fly across the Atlantic.

The wireless operator entrusted with the difficult task of transmitting and receiving messages on the SS. George Washington in carrying President Wilson back and forth to France was an amateur. He succeeded in handling, under very exacting conditions, an immense volume of business to the satisfaction of all. The list of amateur wireless men who have distinguished themselves might be continued indefinitely.

Throughout the war the amateur stations were silenced by the govern-

ment. With tens of thousands of wireless stations all over the country and especially along the coast, it would have been impossible to exercise a sufficiently strict censorship. In the hands of an unscrupulous operator the spying of government and commercial messages, for instance, to transmit messages to Mexico or ships at sea, and thus communicate more or less directly with Germany. The problem of the neutrality of wireless messages arose early in the war. It was decided that the invisible waves were contraband and must be controlled. A sharp lookout was held for any wireless spy. It was discovered, for example, that a high-powered wireless apparatus, which was removed in the daytime, was strung from the rigging of an interned German steamer. Under cover of darkness messages were sent to enemy stations in distant lands and to ships far out at sea.

**Regulating the Amateurs.**

Even before the war it was found in some sections that the activities of a number of amateur wireless stations often interfered with the sending of government and commercial messages. To prevent this the amateur operators were obliged to pass examinations and be regularly licensed. It is now proposed to remove as many of the restrictions as possible. By requiring amateur wireless men to employ a certain wave length the danger of interference will be done away with. It is not generally appreciated that many of the amateur stations contain elaborate apparatus, costing thousands of dollars, and the experimental work they carry on often leads to valuable discoveries and the advancement of the science.

As a result of the new wireless apparatus now available for amateurs long-distance work may be carried on with less expense than before the war. The vacuum tube invented by the eminent British scientist, Dr. Ambrose Fleming, enables the amateur to send messages thousands of miles, as well as to listen-in on European stations.

### "GETTING IT FIXED" ONE OF CAR DRIVER'S MANY TRIALS

Auto Doctors Much Like Cost of Living and Often Irresistible—"Nothing-Matter-With-It" Plea Sometimes Doesn't Count at All.

**BY JAMES J. MONTAGUE**  
A TRAGEDY IN ONE ACT.  
Cast of Characters:  
The Garage Boss  
Garage Hand  
Your Wife  
Boss's A Garage

**YOU** (driving a perfectly good car into the garage)—Hello!

Garage hand (in rear of shop)—Hello!

You—Can I leave this car here over night?

Garage hand—What's the matter with it?

You—Nothing's the matter with it. I just want to leave it here.

Garage hand—I'll call the boss. Hey, there! Guy wants his car fixed.

Boss (from the rear of the shop)—What's the matter with it?

You—Nothing's the matter with it. Boss—I'll be right out.

Your wife—Don't let them do any-

thing to it, will you? They're so expensive.

You—Certainly not.

The boss (coming forward). Run 'er on the turn table.

You—Very well.

The boss—Not! Not that way!

The boss—I guess I'd better. (Get's into the car and takes gear shift lever.)

You—Of course, I have.

The boss—Look out! You'll smash that Rolls Royce over there.

You—Suppose you run it in!

The boss—(After driving car on turn table). Wait till I get a socket wrench.

You—Don't use any socket wrench on this car, please.

The boss—It won't cost you much to

find out what's the matter with her.

You—I tell you there's nothing the matter with her.

The boss—Bring me that seven-eighths socket wrench, Bill.

Bill—Here you are.

The boss (bending over gear shift lever)—I told you so.

Your wife—You mustn't do anything to that car.

The boss—It's all right lady. (Busy with wrench. In a moment the gear shift lever is taken out and laid gently to one side). Now let me get a look under the hood. (He looks under hood). Valves are jammed. Bill, hand me the three-eighths socket wrench.

Bill—Here she is.

You—Now please—

The boss—Just a minute. Just a minute! I wouldn't dare let no car go out of the shop in that shape. Hand me the Stilson, Bill.

Bill—Here she is.

The boss—(Busy with Stilson). I told you so. (In a moment small parts of the engine begin to come out from under the hood. Bill gathering them up and depositing them in a bucket).

The boss—I'm afraid she's a little worse off than what I thought she was.

Your wife—Make him put those things back right away.

You—Look here! You haven't got any right to take that car apart, I tell you!

The boss—Slow up there. Slow up! It's lucky you come in here when you

did. She'd have busted on you forty ways in another ten mile. Bill, hand me the monkey wrench.

Bill—Here she is.

The boss—Now take these valve heads. (Handing more parts to Bill).

You—For the love of Mike, put that car together again, or will I call the police?

The boss—Sure I'll put her together, but you don't want to try to run with the cam shaft busted on you, do you?

You—(Not knowing what the cam shaft is). The cam shaft is all right (Holds up a twisted metal rod for your inspection).

You—Well it was all right till we came in here.

The boss—(deprecatingly). Now don't get hasty, Buddy. You brought the car in here for me to fix, and I gotta fix it, ain't it?

You—I didn't bring it in here for you to fix. I brought it in here to keep over night.

The boss—Well, why didn't you say so then?

You—Haven't I been saying so for the last five minutes?

The boss—I didn't hear you say so. Anyway, it's my business to repair cars. We don't store no cars here.

You—All right, give me my car, then.

The boss—Sure, take her away. Get her out of here!

### SUNBURN LOTIONS NECESSITY FOR OUTING AT BEACHES

Salt Water Splendid for the Complexion and Makes the Skin Firmer and Finer.

**WHATEVER** else you forget, don't neglect the provision of sunburn and windburn lotions when you start out on your vacation. Plenty of good lotions are obtainable in town, but few druggists in the small villages near summer resorts carry good cosmetics of this sort. You will find scented powder and bushels of talcum, and even quantities of dry rouge in attractive little boxes displayed under glass near the sodawater fountain; but when you come to ask for less obvious preparations the country druggist has not heard of them. His idea of cosmetics is something "city girls make up with."

Salt water is splendid for the complexion. It makes the skin firmer and finer partly because it is cold, partly because its particles of salt and sand supply friction; but the glare of sea and sand is anything but good for the complexion—and, of course, the wet skin with evaporation taking place,

burns most quickly. Salt air and foggy moist air are also good for the complexion. A motor boat trip in rain and fog is a fine bleach for the skin. But wind combined with sun is another matter, and when dust is added—on a motor-car spin—as for a fine-grained, delicately-tinted complexion! Before going in bathing, or on a sailing or motor boating, or a long motor drive, rub protective cream (its other name is vanishing cream) well into any part of the skin that will be exposed to sun or wind. Further over the surface with talcum as a dustier protection—and to take off the shine—and then valiantly face the sun, sand, sea-glare, wind and dust. There is a splendid sunproof and windproof protective cream on the market which sells for about \$1 the jar. After the sea bath pat the skin dry—do not rub it—and at night rub in a light cleansing cream and omit the dusting of talcum. A bad case of sunburn may be relieved with one part of alcohol and three parts of witchhazel.

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