

# Electric Sirens Warn Paris of Air Raids

**A**MERICANS are not just yet accustomed to aerial raid warnings, but those who live in cities near the Atlantic Coast are shortly to be initiated in all the arts and graces of "crawling into a rat hole," when the

bother it here. The French do not use stoves the way we do; they are acclimated to the chilling air which often blows over this part of Europe and it greatly amuses a Frenchman to see a Yankee shivering like a leaf, and calling loudly for "heat."

waves set up in the air by the siren must have a clear way thru the air in all directions to carry any appreciable distance; they must not be impeded by any obstruction or else they will be greatly weakened, or even dissipated in a very short distance.

These powerful sirens are practically all electrically operated and controlled and involve many unique features. Some of them operate on a blast of compressed air, which is caused to blow a large whistle or vibratory diaphragm whenever a magnetically controlled valve is opened. Others are designed upon the principle of the true siren as found in the physics laboratory, and based upon the fact that if we rapidly rotate a perforated disc in front of a stream of air, such as from a nozzle, then a shrill, whistling sound will be produced and the higher the speed of the disc the higher the pitch of the sound. The blast of air to be thus chopt up by a perforated disc or drum need not be supplied from a source of compressed air but may be that due to the high velocity of a revolving perforated drum, as is the case with the siren illustrated in Figs. 1 and 4. In this design of sound producer there are two similar drums or rings, each perforated with an equal number of peripheral openings as shown. The outer drum is stationary, while the inner drum is rapidly revolved by an electric or other motor. The inner revolving drum is designed to give a fan effect and sucks in the air, in this way creating a strong air blast thru the openings in the two drums as they are rapidly opened and closed. The faster the drum rotates, the higher the pitch of the note produced. Some of the large sirens require a motor of several horse-power, the revolving siren blade measuring 10 to 15 feet in diameter.

The powerful Blériot (French) electric siren of the vertical motor-operated type illustrated at Fig. 3, is interesting. Here

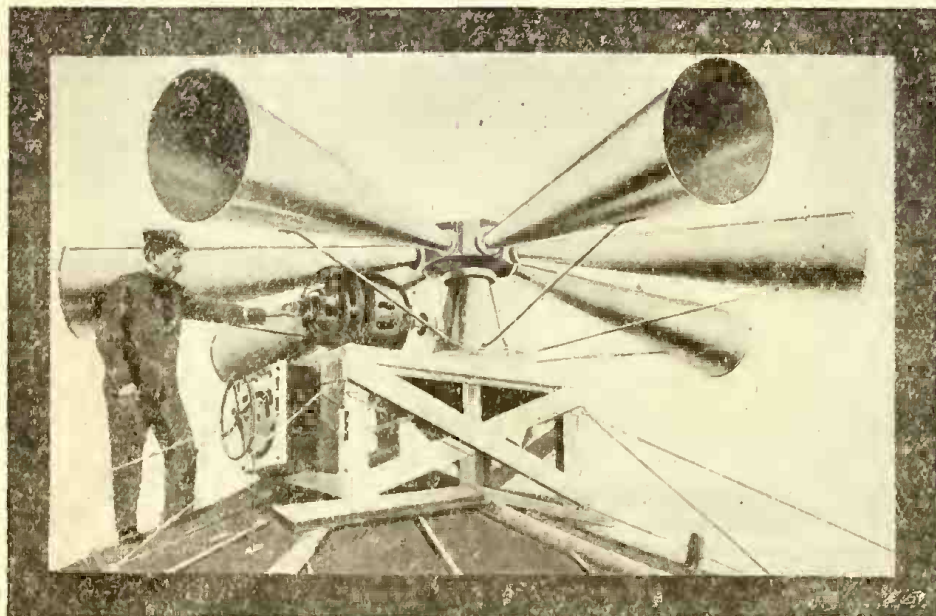


Fig. 1. This Gigantic Electric Siren, Installed on the Tower of Notre Dame, is but One of the Twenty-six Fixed "Aerial Alarm" Sirens Installed All Over Paris to Warn the People.

giant alarm sirens sound. In Paris and London the people are thoroughly trained in the procedure to run for cover when an aerial raid alarm sounds. Suitable underground caves and caverns are provided and properly labeled, so that the inhabitants can quickly find cover. In Paris there are now several underground theatres, as well as a host of subterranean restaurants and cafes. Even blasé "little old New York" has awakened to the imminent danger of being attacked by U-boat hydroplanes at night, and the military and police authorities have had a number of powerful electric sirens installed, as well as numerous anti-aircraft guns.

The gigantic siren shown in Fig. 1, is placed on the tower of Notre Dame in Paris and is one of the 26 fixed sirens that are being installed all over Paris to warn the people of air raids or the approach of the shells from the long range 76-mile German gun. The sound from each of these sirens will carry a distance of 1,500 meters, or for nearly one mile. One of these sirens will be placed on each of the other prominent Paris monuments. The operating motor is observed near the electrician's hand. It requires quite a powerful electric motor to whirl the siren blades of these extra large warning signals.

The illustration, Fig. 2, shows another installation of an "air raid" warning siren on a Parisian house-top. Note the three electric feed wires running over to the motor, which is located in the base of the siren. This particular siren is installed on the top of a chimney, as are many others in Paris, but this would hardly prove pleasant for the machinery, in America, as the Yankees make use of all their chimneys more or less regularly. In Paris, however, the chimney-top is a safe location for any such device, for smoke and heat will not

The chimney is a long beloved mark of distinction and artistic display on Parisian houses and some are quite large affairs. At last the war has found a practical use for them, for the chimneys, projecting up above the roofs as they do, provide the necessary elevations on which to mount the siren alarm equipment. The acoustic sound

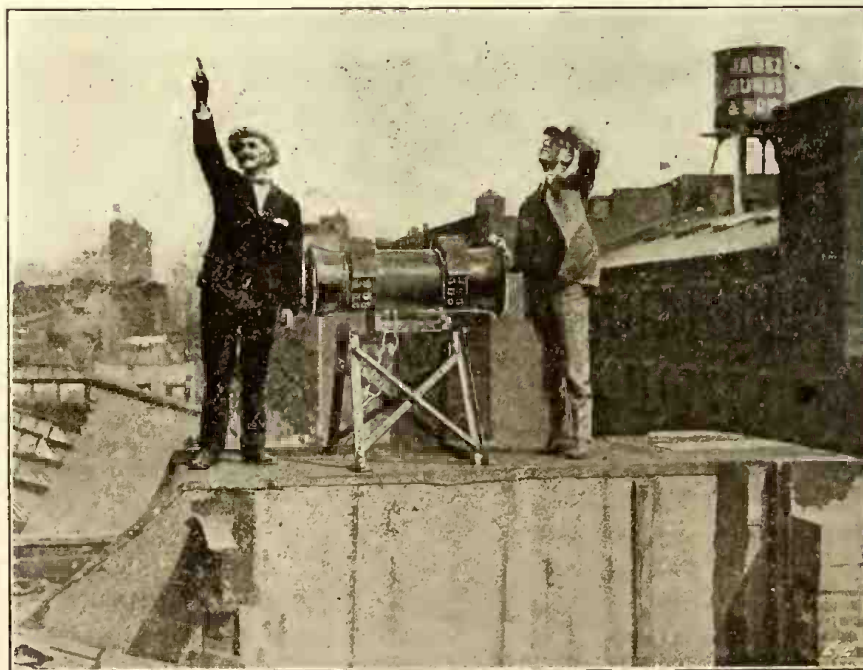


Photo © by Underwood & Underwood

Fig. 4. First Electric Siren Installed in New York City in the Theater District for Warning Against Aerial Attacks. Many of These Will Be Used Thruout the City.



the base 1 contains the electric motor which drives a vertical spindle or shaft, to which are attached the necessary fan and siren elements within the casings 5 and 6. The air is drawn in thru opening 10. The siren sound waves emerge from openings 6, at the top. An electric "commande" or controller is fitted at the top of this siren, in the cap 7. To this magnetic controller there is connected a circuit linked up with a source of power and a Morse key 9. It is thus possible to actually telegraph with this siren, its shrill-piercing note having been heard at a distance of 2,500 meters or about 1½ miles when the actuating motor and siren drums revolved at 5,000 revolutions per minute.

The internal arrangement of this electric telegraph siren is very ingenious. To shut off the sound rapidly, as in telegraphing, the inventor provides a third or intermediate perforated drum having openings equal in number and size to the usual fixed and revolving members. This intermediate drum can be moved back and forth around its axis by means of the electro-magnetic controller 7, so as to more or less line up its openings with those in the fixed and rotary drums; the nearer the openings in the three drums align, the greater the volume of sound liberated from the apparatus. The driving motor 1 revolves at constant speed. Where the signals are to be broken up at relatively long periods, say every five minutes, then it is only necessary to utilize a plain type of motor-driven siren, when by opening and closing the motor switch the desired intermittent signals will be given. Figs. 4 and 5 show an American type of Duplex siren, driven by a two-horse electric motor. At one of the southern flying fields in Texas, there is in use a powerful electric siren that gives out the "fog" and other warnings to aviators, which can be heard five miles away.

**ACCOUNTING FOR THOSE 100,000 READERS.**

By THOMAS REED

IT was a big surprise, eh, Bugs, to learn that our Magazine had grown to 100,000 circulation? What do you think of our Little Maggie hot-footing it down the road

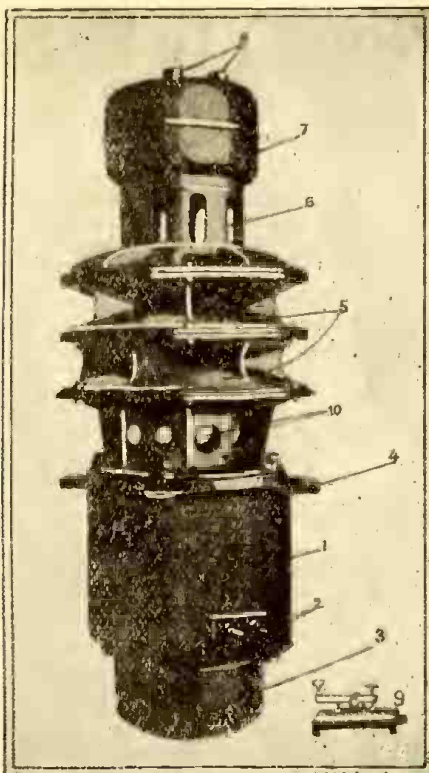


Fig. 3. A French Electric Siren of the Bleriot Vertical Type. It is Operated by a Motor in the Base and is Provided With a Magnetic Controller at the Top, which Permits of Rapidly Opening and Closing its Raucous Throat, So That Telegraphic Signals Can Be Transmitted When Desired.

in a cloud of dust, in the wake of the Saturday Evening Post? I'll say that's going some!

We've got to account for it in some way, same as any other weird phenomenon—make up our minds what it was punched Maggie's accelerator so. And my guess is that it's our Editor's propensity for "starting something."

I'll bet that fellow starts things in his sleep. He isn't satisfied with digging up for us the newest apparatus and processes, and researches and theories, but he must have our laboratory-pictures, and "dope" how to make things with nothing to make 'em of, and burned-out lamp competitions—all sorts of stimulants to keep us awake and thinking. If one of his suggestions seems to go dead, no matter, he leaves it and starts something else.

But do they ever go dead? I don't believe so. Now and then one of 'em may appear to bury itself in the soil of Bugdom, like the "dud" shells they talk about, and be lost; but somewhere or other I'll warrant there's an obscure but diligent Bug sitting on the lost idea, prying away at its nose-cap with a screw-driver, bent on making something out of it, and in a fair way to succeed if he lasts long enough.

Different minds are open to different ideas, you see. For instance, mine's absolutely closed to this utilization of burned-out lamps. I might as well be a wooden man, for all the chance I stand in the contest. I rack my weary bean, and nothing comes out but an opaque Fool Idea, that stands in the door and blocks the passage for anything sensible. What do you suppose it is?—a nest-egg! It's dead wrong—don't lec-

ture me, I realize it. A china nest-egg's demoralizing enough, but at least it's full of air, and the hen is encouraged to put something inside her product. But an actual vacuum—no; if she ever got wise that people paid money for that sort of contents—good night!

But, because I'm floored is no sign that some other Bug won't come across with a wonderful use for defunct Mazdas—something that will lift the mortgage from the home, maybe, or provide Big Sister with a beau. Give him time.

Meanwhile, let's give due credit to our hard-working Ed. Give it to him now, while it's worth something—not wait till he's so obvious that the Sunday supplements are writing him up. If you wait till then before you say "Him? Oh, yes, I useter know him," you're liable to get back a sarcastic "Yes, you did! You knew all the celebrities, didn't you, from Steve Brodie to the Ahkond of Swat!" Wouldn't that be tough, when you really did know him after all?

I'll say right now that I'm looking for some Bug to develop an idea from "E. E." into one of the big inventions of the world. It might surprise the Ed., tho it wouldn't me, if some day one of those conscientious insects should stroll into 233 Fulton Street with a bag full of bills, and remark, "Doc, the wife says your paper was what started my invention, and here's a million dollars she held out of the last pay-envelope for you, with our compliments!"

Success to "E. E." and the next 100,000 soon!

\*Thanks, awfully, Tom! I compromise with the "insect" on 50% i.e., \$490,000, (the \$10,000 deduction represents a cash discount of 2%) if he or it shows up at once!! And if the "insect" insists that I take the other 50%—well, I'll not be harsh. I'll get out a fine supplement for the next issue, presenting each reader with a \$5.00 W. S. S.!! For you see, it's the readers who by their support make possible the "E. E."—"Ep."

**"GARABED" A FAILURE, SAY GOVERNMENT EXPERTS.**

"Garabed," which was to revolutionize the world by the production of an unlimited free energy, is a failure. This was the report of the board of five scientists appointed by congressional resolution, made public by the Interior department July 1.

The report says the principles of the invention of Garabed T. K. Giragossian are unsound.

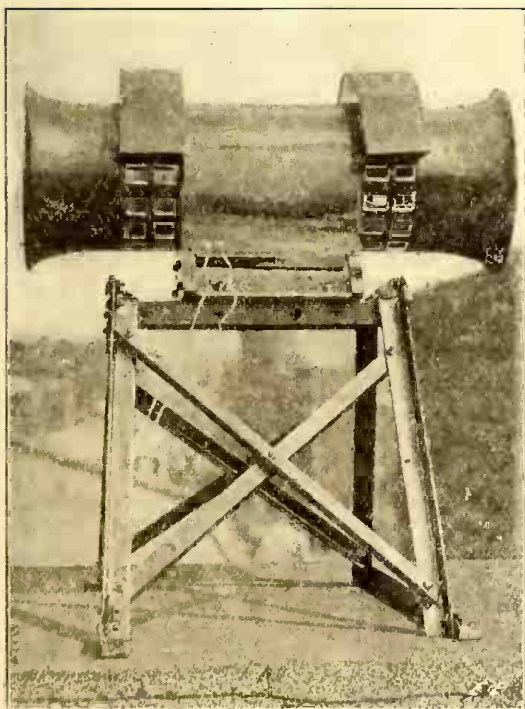


Photo © by Underwood & Underwood

Fig. 5. Another View of the New York Electric Siren Shown in Fig. 4. It is Fitted With a Two Horsepower Motor and Can Be Heard for Two Miles.

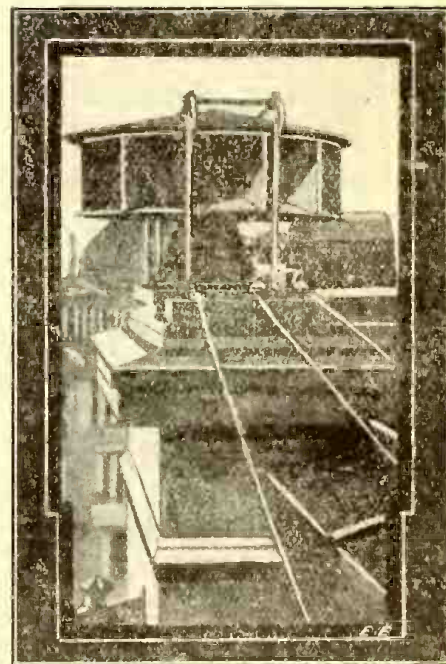


Fig. 2. Paris Has Many of These Electric Sirens Installed on Chimney Tops and Other Elevated Points to Warn of Aerial Attacks.