

THE ANSWER TO THE "ZEPPELIN"

A COMPLETE DEFENSE against the *Zeppelin* has been found in the new quick-climbing aeroplanes now constructed by the British, if we are to believe an editorial writer in *The Scientific American* (New York, January 20). Despite the tendency to exaggeration in the reports of new war material in Europe, it is possible, this writer thinks, to sift out the true from the false, and he sees reason to believe that the British in their latest aeroplanes have, at last, really found an effective answer to the great German air-ships. He writes:

"When the first raids on London were made, the British possessed neither the guns nor the aircraft in sufficient numbers or quality to meet, destroy, or drive back the latest *Zeppelins*."



THE NIGHTMARE.

ZEPPELIN—"Oh, those wicked English, they have overcooked my sausages!"
—Echo de Paris.

The anti-aircraft guns could not reach effectively the great heights to which the *Zeppelins* could rise, nor could the aircraft rise in time to attack. Since that time both guns and aircraft have become thoroughly efficient for the work. Just in what numbers and of what caliber are the anti-aircraft batteries with which London is now so well defended is not known; but because of the great value of high velocity and a straight trajectory for anti-aircraft gunfire, it is a pretty safe guess that there are many batteries of guns larger than the 3-inch. The 50-caliber 4.7- and 6-inch guns, if fired at high angles of elevation, have a trajectory of slight curvature and the time of flight is small, elements which simplify the task of the gunner in finding and keeping on a moving target.

"Information is now available as to the new anti-*Zeppelin* aeroplanes, and Lieutenant Faulkner, of the Royal Flying Corps, who recently landed in New York on furlough, has given some details which agree with information we have received from another source.

"The problem has been to build an aeroplane with climbing powers sufficient to enable it to reach *Zeppelin* altitudes in time to meet the raiders and bring them down. The latest machines are of comparatively small wing surface and are driven by unusually powerful engines, capable of making speeds of one hundred and twenty to one hundred and forty miles per hour. The increase in climbing speed in the past few months has been truly astonishing, having progressed from an ascent of ten thousand feet in six minutes to fifteen thousand feet in seven and one-half minutes.

"The scouting service, both on the North Sea and along the East coast, is now so effective that London is warned of the approach of the *Zeppelins* in time to permit the *Zeppelin*-chasers to take the air and be in position for an attack before the raiders reach their objective. Various means are used by the airmen to bring down the enemy, the most effective of which is the incendiary bullet."

TEACHING EUROPE TO BATHE

UNTIL a comparatively few years ago, even modern apartment-houses in continental Europe lacked the most approved type of bathtub, the zinc or tin tub being still in full sway. In many pretentious houses it was customary to provide a bathroom, but no tub, the tenant being expected to install his own fixtures. Even to-day stationary wash-stands are rare. Within the last decade or so Europe has learned from America how to bathe, if we are to believe John J. Laferme, who contributes to *Domestic Engineering* (Chicago) "Some Reminiscences of a Salesman Who Sold American Sanitary Ware in Foreign Countries." According to Mr. Laferme it was the Paris Exposition of 1900, where American sanitary plumbers made a fine display, that really stimulated the effective demand for such fixtures. He says:

"The great influx of American visitors to the Exposition also served to further this demand for better bath accommodations at the hotels, as all Americans would demand rooms with a bath, which hotel-managers were unable to provide to any adequate extent.

"The hotels, finally realizing the need of more and better bath facilities, soon took up the question of remodeling the rooms.

"The manufacturers of sanitary ware in Europe, upon seeing how perfect was the quality of American sanitary ware, immediately began to imitate the patterns, selling bathtubs under the motto, 'American Pattern,' which pattern, by the way, was far different from those used in Europe. For instance, on the continent, where they do not bathe as frequently as the Anglo-Saxon race, they want a very deep bath—twenty-four inches deep, it being their habit to soak in the hot water for an hour or thereabouts.

"In the United States, where the power of advertising is tremendous, we are able to educate the people to the use of the things we wish to sell them. In Europe, the power of advertising is less persuasive, the result being that you have to sell the people what they have been accustomed to and what they know by practical experience is best for them.

"American manufacturers have had to overcome many prejudices against their patterns, shapes, fittings, as well as the existing sanitary regulations, so different from those in the United States.

"When I had made up my mind to go into the propaganda of selling American sanitary ware in Europe, I considered it a lucky omen and 'a case of good judgment,' when, upon arriving in Paris, I was greeted with the welcome and familiar sight of the old-time bath-house man, pulling his cart of hot water and tin tub ready to deliver a bath to somebody's house, for which luxury his customers paid about twenty cents, and for which sum he might have to carry the five-foot tin tub up six flights of stairs, and then draw the hot water from the cart tank into a bucket, and climb up those stairs as often as necessary to fill the tub. This exercise might be considered a joke, but if so it was on the bathman. The system still prevails in many parts of Paris where modern sanitary methods have not yet been installed. Strange as it may appear to Americans, there is practically no hot-water distribution in even the up-to-date French, English, and continental apartment-houses, but those which are provided with bathrooms have gas water-heaters.

"Not only the present King of England, but also other crowned heads and Presidents abroad have purchased bathtubs made in America; for instance, the King of Italy for his palace in Turin; King Albert of Belgium; the Empress of Russia, and other royal personages.

"I remember a humorous incident in connection with the sale of a number of bathtubs to the late King Edward, which were installed in Buckingham Palace.

"One of the tubs, in which the King was in the habit of disporting himself daily, was ordered by the latter to be encased in mahogany, covering the rim of the tub. The physician to the King summoned me to the palace one day on 'important business.' When I arrived there, he told me that the King was very well satisfied with the tub he was using, but that he had decided to have it cased in. 'You see, his Majesty is very fond of sitting on the rim of the tub when he takes his bath, but he found it so infernally cold that he thought it a jolly good idea to have it cased in, so that he might sit on wood

instead of cold porcelain.' When the physician had delivered himself of this solemn statement I breathed a sigh of relief, for I had expected that something far more serious than the casing on the rim of the tub had transpired.

"The American traveling in European countries, be he salesman or tourist, is certain to happen upon many peculiar customs, some of which are both humorous and vexing.

"I remember that while touring on the continent I arrived in a small town where the leading hostelry proudly announced in the office that 'baths were to be found on each floor.' These baths I discovered were very old-fashioned, copper-lined tubs, much the worse for wear, but to my intense horror and astonishment, I learned that owing to the scarcity of water, I would be obliged to immerse myself in the water that had already been used to excellent advantage by another guest. I absolutely declined the invitation (and without thanks) notwithstanding the hotel-manager's kind offer to have the water in the tub skimmed for me.

"It is well known that no civilized nations bathe as much as the American and English, and in France one often hears Frenchmen expressing their surprise to the effect that we must be very dirty people since we have to bathe every day.

"Perhaps, however, one of the persons most opposed to bathing is the Russian peasant, of whom it is said he only bathes three times—at birth, before his wedding, and before being put to rest in the grave.

"It is not surprising that dealers are sometimes asked by visitors from rural districts what bathtubs are for, obviously not having seen such fixtures before.

"There is a great field for American-made sanitary ware in all the foreign countries, and if this export trade is worth going after, its requirements are also worth studying. To the American manufacturer who will study these requirements there will be more than an adequate reward.

"The present war and its path of destruction have been largely responsible for the withdrawal of various American concerns, who used to export large shipments of sanitary supplies. The war has operated not only to destroy residential and public buildings in different parts of Europe, but has also destroyed the best sanitary-ware factories of France, the districts in which these were situated having been the first scene of hostilities."

ASKING THE DOCTOR—

"Ask papa," replies the blushing maiden in the early Victorian stories, when her equally bashful swain pops the question. We are substituting the rejoinder, "Ask the doctor," says *American Medicine* (New York), quoting a writer in *The American Journal of Clinical Medicine*:

"In former years nobody thought of asking a physician for permission to get married. . . . The parents would investigate the young man's social standing, his ability to make a living, his habits perhaps, whether he was a drinking man or not, but to ask the physician's expert advice—why, as said, nobody thought of it. And how much sorrow and unhappiness, how many tragedies the doctor could have averted, if he had been asked in time! Fortunately, in the last few years, a great change has taken place in this respect. It is now a very common occurrence for the intelligent layman and laywoman, imbued with a sense of responsibility for the welfare of their presumptive future offspring and actuated, perhaps, also by some fear of infection, to consult a physician as to the advisability of the marriage, leaving it to him to make the decision and abiding by that decision."

A VERY NARROW SPECIALTY

IF ANY GROUP OF MEN is entitled to write the word "limited" after its name, it is surely the American Association of Variable-Star Observers, whose fourth annual meeting, held at the Harvard Observatory, is chronicled in *Popular Astronomy* (Northfield, Minn., January). The existence of this body bears testimony both to our close modern specialization and our love for gathering into associations groups of workers on similar problems. As will be seen from the picture, two of the observers present were women. One of them, Miss A. J. Cannon (the rear one of the pair), is the greatest living expert in stellar photography. Says the reporter:

"Before dining, the members gathered to observe with the 12-inch Coudé [elbowed equatorial], selecting the celebrated Variable SS Cygni, and thereupon establishing a new astronomical record: for the first time in history, nineteen astronomers experienced in variable-star observing, estimated the brilliancy



Courtesy of "Popular Astronomy," Northfield, Minn.

A GROUP OF ASTRONOMICAL SPECIALISTS.

The American Association of Variable-Star Observers at their recent meeting at the Harvard Observatory.

of the same star, with the same telescope within the same hour; the most remarkable of all, the mean difference of their estimates showed a deviation of only 0.14 of a magnitude.

"At dinner the guests found place-cards, bearing a golden five-pointed star and the words 'Position,' 'Motion,' 'Spectrum,' 'Color,' and 'Brightness,' the five stellar conditions desired to be ascertained. Great interest was shown in the director's anecdotes of his early experiences and in the very substantial manner in which he showed his appreciation of the work of the Association and his desire for closer cooperation between this work and that of the larger observatories.

"After dinner all repaired to the dome of the 15-inch Refractor—the first telescope in the world to be used for celestial photography—and that historic instrument was set in turn upon Jupiter, the Orion Nebula, and Saturn, during which fourteen observers made naked-eye estimates of Mira, with an average deviation of only 0.16 magnitude.

"It was close upon 2 A.M. when the members finally reached their quarters in Boston."