

The Magnetic Storm

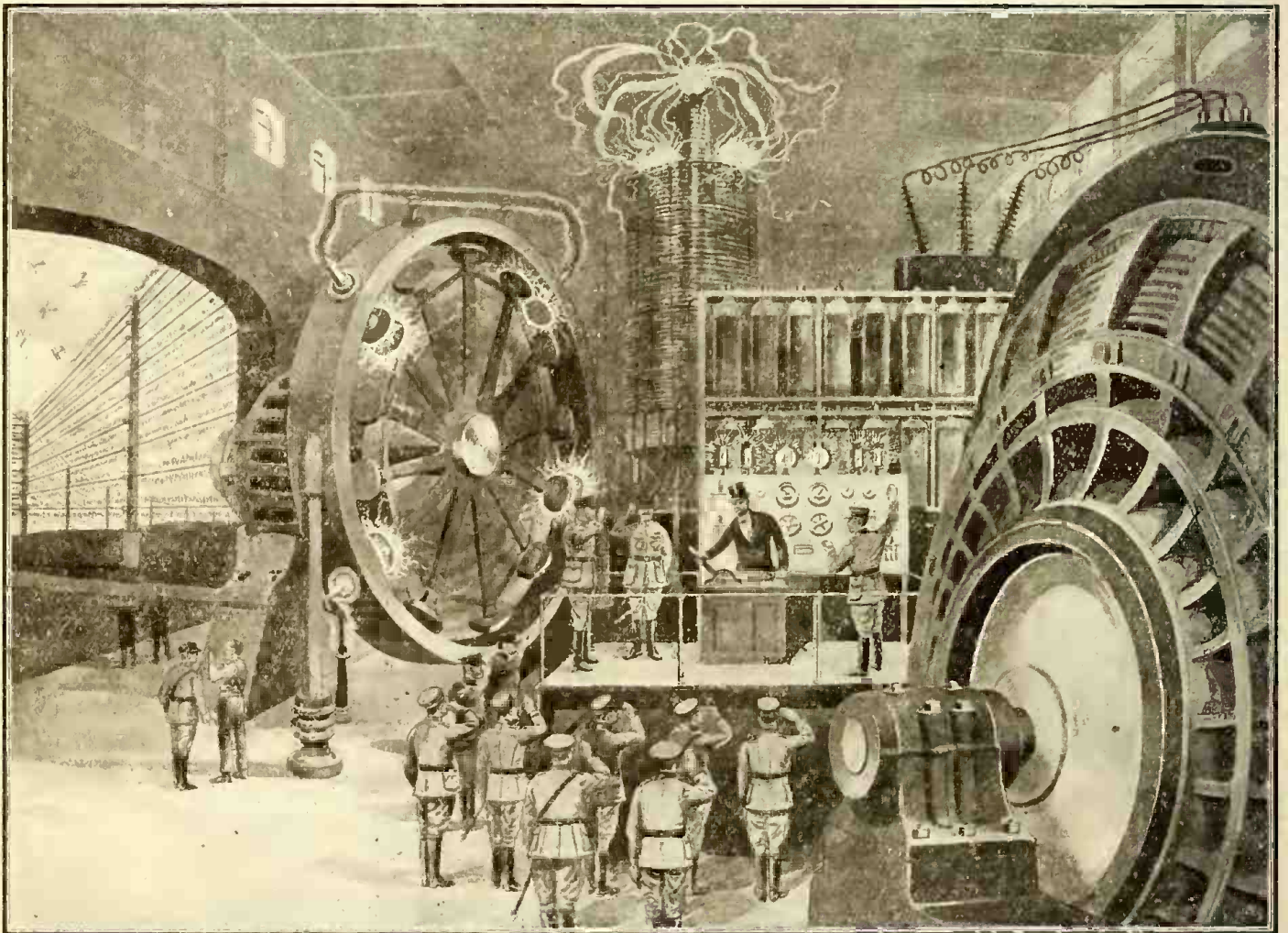
By H. GERNSBACK

“WHY” Sparks had stopt reading the *New York Evening World*: He contemplated his old meerschau pipe meditatively while with his long and lanky index finger, stained by many acids, he carefully rubbed a long, thin and quivering nose. This was always a sign of deep, concentrated thought of the nose's owner. It also, as a rule, induced the birth of a great idea. Again, and very slowly he re-read the article, which millions that same day had read

disturbances affected all telegraph and telephone lines extending between Chicago and the eastern cities. On telegraph wires of the Postal Telegraph Co. without regular battery being applied at terminal offices, grounded lines showed a potential of 425 volts positive, varying to 225 volts negative; the disturbance continuing between 12:15 A. M. and 9:15 A. M.

At Newark, N. J., in the Broad Street office a Western Union opera-

fore you had uttered five words. His clear blue eyes, lying deep in their sockets, sparkled with life and intelligence and what Sparks did not know about electricity was mighty little indeed. I believe there is no electrical book in existence that Sparks had not devoured ravenously in his spare hours, while having lunch or else while in bed, in the small hours of the morning. His thirst for electrical knowledge was unbounded, and he soaked up every bit of information like a sponge. Yes, and he re-



. . . The President of the Glorious French Republic Shouts Dramatically: "Messieurs . . . le Jour de Gloire est Arrivé . . . VIVE-LA-FRANCE!!"—and Throws In the Huge Switch With Its Long Ebonite Handle. . . .

casually, without a quiver, let alone, a nose quiver. The newspaper item was simple enough:

NEW YORK, Aug. 10, 1917.—An electromagnetic storm of great violence swept over the eastern section of the United States last night. Due to a brilliant Aurora Borealis,—the Northern Lights,—telegraph and long distance telephone, as well as cable communications were interrupted for hours. No telegraphic traffic was possible between New York and points West. It was impossible to work any of the transatlantic cables between 12:15 A. M. and 9:15 A. M., every one of them having "gone dead." The Aurora Borealis

tor was severely shocked, trying to operate the key, while long sparks played about his instruments.

Sparks rose excitedly and began pacing the cement floor of the vast Tesla laboratory, totally oblivious to the fact that he was sucking a cold pipe. The more he paced about, the more excited he became. Finally he flung himself into a chair and began feverishly to make sketches on big white sheets of drawing paper.

"Why" Sparks had been just an ordinary "Bug," an experimenter, when he entered Tesla's great research laboratory at the beginning of the great war in 1914. Tesla liked the keen, red-haired tousled boy, who always seemed to divine your thoughts be-

tained it, too. In short, the young prodigy was a living electrical cyclopedia and highly valued by his associates. No wonder Tesla in three short years had made him superintendent of the laboratory.

Of course, Sparks' first name was not really "Why." But someone had dubbed him with this sobriquet because of his eternal "But why is this,"—"Why, why should we not do it this way"—"Why do you try to do that?" In short his first word always seemed to be "Why"—it had to be, in his unending quest for knowledge. And his "Why" was always very emphatic, explosive-like, imperative, from which there was no escape.

Ah, yes, his first name. To tell the honest

truth I don't know it. Last year in the spring when I went up to the laboratory, I thought I would find out. So when I finally located the young wonder, behind a bus bar, where he was drawing fat, blue sparks by means of a screwdriver, I told him that I intended to write something about him and his wonderful electrical knowledge. Would he be good enough to give me his real first name?

He was watching a big fuse critically, and in an absent-minded manner exploded: "Why?" That finished my mission. So for all I know his real name is "Why" Sparks.

But we left Sparks with his drawings, in the laboratory. That was on a certain evening last fall. To be exact it was about 10 o'clock. At 10:05 Tesla accompanied by two high Army officials strolled into the laboratory where Sparks was still feverishly engaged with sketches lying all about him.

Tesla who was working out a certain apparatus for the Government had dropt in late to show Major General McQuire the result of six weeks' labors. The apparatus had been completed that day and the General, a military electrical expert, had come over specially from Washington to see the "thing" work.

But before Tesla had a chance to throw in the switch of the large rotary converter, Sparks had leaped up, and was waving excitedly a large drawing in Tesla's face. He gushed forth a torrent of sentences, and for fully five minutes Tesla and the two Army officials were listening spell-bound to the young inventor. For a minute or two the three men were speechless, looking awestruck at Sparks, who having delivered himself of his latest outburst, now became normal again and lit up his still cold pipe.

It was Tesla who first found his voice. "Wonderful, wonderful. Absolutely wonderful, Sparks. In a month you will be the most talked of man on this planet. And his idea is sound." This to the General. "Absolutely without a flaw. And so simple. Why, oh why! did I not think of it before? Come, let me shake the hand of America's youngest and greatest genius!" Which he did.

There then followed an excited thirty-minute conversation with the two army men and an endless long distance talk with the War Department at Washington. Then there was a rush trip to Washington by Tesla and Sparks, conferences at the War Department, and finally a few days later Sparks went to the White House and was presented to the President, who was highly enthusiastic about the model which Sparks and Tesla demonstrated to the head of the Nation. Still later there were certain rush orders from the War Department to the General Electric and Westinghouse Companies for many big, queer machines, and these same machines were shortly . . . But here the Censor bids us an emphatic "Halt." One may not even now divulge certain military information. You appreciate that.

Baron von Unterrichter's flying "Circus" was getting ready to bomb a certain American depot behind the lines. The Americans of late had shot down entirely too many of the Baron's flyers. Only yesterday von der Halberstadt—a German ace himself—and one of von Unterrichter's closest friends had been downed, and killed right inside of the German lines. So the Baron was out for blood this sunny morning. As he put it:

"Verdamnte Yankee Schweinehunde.* we will show them who is master of the air hercabouts," shaking his fist at the American lines beyond.

*For translation of foreign terms see end of this story.

"Sie, Müller," this to an orderly. "Zu Befehl, Herr Leutnant," replied the young orderly as he came on the run, clicking his heels together, hand at his cap.

"Versammlung, sofort," barked the chief, as he hastened Müller off to summon post haste every man of the aerial squadron for the usual conference before the attack.

In less than ten minutes the thirty flyers were standing drawn up at military attention before their chief, forming a half circle about him. Von Unterrichter's instructions were simple enough. This was a reprisal raid; von der Halberstadt's death must be avenged, fearfully avenged. No quarter was to be given.

IN THE SEPTEMBER "E.E." YOU WILL FIND:

"New Aerial Lasso to Destroy Enemy Aeroplanes," by H. Gernsback.

"Recent Electrical Ideas Applied to Submarines and Torpedoes."

"Telephoning Directly To and From Moving Trains."

"A New Wave Motor That Uses the Energy in Every Motion," by E. D. Stodder, an expert on Wave Motors.

"The Einthoven Galvanometer—Its Theory and Construction Details with Photos of Instrument Actually Built," by Samuel D. Cohen.

"Coney Island's New 1918 War Feature—'Over There'—Read How Electricity Works the Whole Show," by George Holmes.

"Artificial Diamonds and Rubies—How They Are Made in the Electric Furnace."

"The Phenomena of Electrical Conduction in Gases V—Weighing an Ion," by Rogers D. Rusk, M.A.

"An Electrical Laboratory Switchboard—How to Build a Real One," by Harlan Danner.

"Glass-blowing Lessons—How to Heat and Bend, As Well As Build Glass Chemical Apparatus—Part I," by Prof. Herbert E. Metcalf.

"Ohm's Law Applied to Alternating Current Circuits—A Clear Exposition of All the Usual Problems," by Arno A. Kluge, Instructor in Radio, University of Nebraska.

"New Direct Reading Radio Chart Which Solves All Calculations in Wave-length, Inductance and Capacity," prepared by a Marconi Radio Engineer.

"Popular Astronomy — Third Paper," by Isabel M. Lewis.

"How and Why of Radio Apparatus—Part X," by H. Winfield Secor.

"Dieses Amerikanische Gesindel!"—here his voice rose to a shrill pitch, "must be taught to respect us, as never before. The orders are to bomb every American base hospital within the sector. . . ."

At this several of the men recoiled involuntarily, which did not escape the keen eye of von Unterrichter, who now incensed to blind fury, by this show of "softheartedness," as he put it, exhorted his men in his harshest possible terms. "And as for their flyers, you must not give quarter. You must not be satisfied with disabling their machines. Kill them! Schiest die Lumpen zusammen! Pump nickel into them, if you see that they may land unharmed"—this in direct violation of all flying etiquette—a thing abhorred by any decent flyer as a rule. It is bad enough to have your machine shot down, but "sitting on a disabled enemy's tail," and pouring machine gun fire into a helpless man, strug-

gling in mid-air,—where was German prestige coming to with such methods. Plainly the men did not like such liberties with their honor, but orders are orders. They grumbled audibly and cast not very encouraging looks at their chief. Even his parting shout: "Vorwärts—für Gott und Vaterland," failed to bring the usual cheers.

Promptly on the minute of 10 fifteen flyers of the "Circus" rose, like a flock of big white sea gulls, heading in "V" formation towards the American lines. Von Unterrichter was leading his herd in a big Fokker. He was out for blood and he meant to have it. His face was set, his jaws clenched like a vise. Hate was written in large characters over every feature of his face. . . . Why didn't these Dollar-jäger stay home and mind their own business chasing their dollars? What right did they have in this fray, anyway. "Elendige Schweinebande," he spoke out loud, to better vent his overpowering hate.

But where were the Yankee Flieger today? The Baron's "Circus" was up one thousand meters and less than a mile away from the American first line trenches, but still no machine in sight, either American or French. Strange. Quite an unheard of occurrence. Afraid? "Unsinn," he muttered to himself, they were not the sort to be afraid. Von Unterrichter knew that. For the first time he felt a vague sort of uneasiness creeping over him. He could not understand. There was not a Flieger anywhere in sight. None on the ground either, as he scanned the vast saucer below him thru his Zeiss. Was it a new trick, was . . .

Before he finished his train of thought, his engine stopt dead. Cursing volubly he made ready to "bank" his machine in order to volplane down behind his own lines. He congratulated himself that his engine had not stopt later while over the enemy's lines, but his pleasure was short-lived. For he suddenly became aware of the fact that there was a supreme quiet reigning all about him. Why did he not hear the loud roar of the other fourteen engines, now that his own engine was quiet? Looking around he perceived with horror that every one of the fourteen machines of the "Circus" had simultaneously "gone dead," too, all of them now volplaning earthward.

Sick with an unknown terror, von Unterrichter made a clumsy landing in the midst of his other flyers, all of them pale, some shaking, some with a strange animal expression in their eyes. What unknown, invisible hand had with one stroke disabled the fifteen engines, one thousand meters above the ground?

"Himmelkreuzdonnerwetter," shrieked von Unterrichter jumping to the ground, near his airdrome. "I . . . I . . . cannot" . . . here his voice broke. For the first time in his life the young Prussian was speechless. He then stamped his foot in a frenzied fury, but finally gave vent to a full round of cursing, as only a Prussian can curse. At last he collected his senses sufficiently to look for the cause of the mysterious occurrence. It only took five minutes to find it. His mechanic pointed to the magneto.

"Kaput," he said laconically, if not grammatically. "Auseinander nehmen," commanded the chief.

It took the deft mechanic a minute to take the magneto apart, and to withdraw the armature. He gave it one look and with a sickly smile uttered:

"Ausgebrannt, Herr Leutnant." Herr Leutnant took the armature into his own hands and inspected it critically. Sure enough it was burnt out, if ever there was a burnt out armature. Perhaps fused would be a better term. The armature was

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