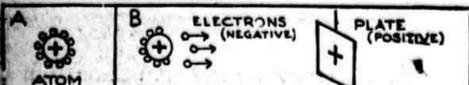
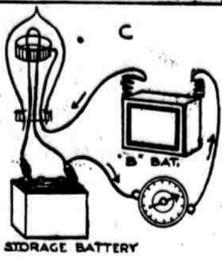


RADIO IN THE HOME

By HENRY M. NEELY



In the above illustration, gives a rough idea of what an atom is. It shows a nucleus, containing a charge of positive electricity, surrounded by a number of electrons, each containing a negative charge. The positive and negative charges are placed in such number that the negative exactly equals the positive. B shows the atom disrupted by the heat when the filament of the electric light is lighted. The positive electricity on the nearby plate attracts and captures the negative electrons thus liberated. Below is the bulb devised by Fleming with the plate made in the form of a ring around the filament and the flow of electrons causes a flow of the electricity in the circuit containing the measuring instrument, the "B" battery and the plate.



How Fleming Used the "Edison Effect"

In the last article we talked about the part that the tiny little mite known as the electron plays in radio work. When Edison discovered that something or other took place inside his electric bulb when he lighted the filament and that this something, whatever it was, furnished a good conducting path across the space between the plate and the filament when the plate was charged with positive electricity, but not when it was charged with negative, he was too busy with other matters to hunt for an explanation, but some years later when the telephone companies were seeking means of carrying the human voice across the continent and which wireless companies were handling some method of extreme delicacy for receiving weak signals, they began studying this "Edison effect," and the results have been remarkable.

positive or negative—but you needn't worry about that because we are concerned only with electrons and they are always negative. The heat that is caused when the filament of an electric light is lighted disrupts the atoms of which it is composed. A certain number of electrons are released and expelled. Now we know from our school books that positive electricity will attract negative, but will repel positive. In other words, like repels like, but attracts that which is unlike. Consequently, when the plate inside the bulb is charged with positive electricity it will attract these negative electrons which are being expelled by the filament.

Briefly, the conclusion arrived at is this: The atom is not by any means the smallest subdivision of matter. According to the theory now held, the atom is a group of infinitely small particles. In the center is the largest of a group which is called the nucleus. This nucleus is surrounded by a number of still smaller particles which we call electrons. The atom, in other words, is built much like a blackberry, the nucleus being the center of the blackberry and the electrons being the little berries around it, only the atom is as much smaller than the blackberry as the blackberry is smaller than the entire earth.

There are two ways of explaining what takes place after that, but whichever one you prefer, the result is the same: the electrons permit a distinct current of electricity to flow from the dry cell to the plate and apparently across the open space from the plate to the filament.

Scientists now believe that, in its natural state, this nucleus contains a certain charge of positive electricity and that each electron contains a charge of negative electricity. In fact, it would be more nearly accurate to say that an electron is a charge of negative electricity rather than a particle of matter. This conception of the atom assumes that the positive charge of the nucleus exactly equals the total negative charges of the electrons attached to it and consequently as these two charges exactly equal each other the atom itself is without measurable electricity. If we were to take away some of the electrons there would then remain a larger positive charge than a negative charge or if we were to add electrons to it there would then be a larger negative charge than positive charge. When this is done we call the atom an ion, either

One explanation is that the electrons themselves form a path and that the positive electricity flows across this path in the opposite direction from which the electrons are flowing much as Richard Barthelme carried the unconscious girl up stream across the down-flowing blocks of ice in that marvelous scene in "Way Down East." The other explanation is that each electron, as it strikes the plate, combines with a tiny charge of positive electricity and that when there are enough electrons to equal the positive charge they simply neutralize each other and become nothing. This would mean that there was really no positive charge flowing across the space, but it would cause a current to flow through the battery circuit because the dry cell would constantly be called upon to furnish more positive electricity to meet the demands of the negative electrons landing upon the plate and neutralizing the positive charge that was there.

Uncommon Sense : Overloading Tomorrow

By JOHN BLAKE

THE man who expects to do great things tomorrow will do well to provide the time for doing them. Most of our tomorrows are already overloaded with the work of today, yesterday and the day before yesterday. When they arrive this work has to be got out of the way before we can start the Big Job. By the time they are clear we are too tired and sleepy to undertake it. THE men who get things done are the men who arrange, in advance, for the time in which to do it. No lawmaking body can provide a day with more than twenty-four hours in it. If six or eight of those hours must be spent catching up with past work there will be no time for new, legislative business, is called "new business."

dred to you are going to need it for something else. The tomorrow that is not overloaded, that is a clean page on which to write fresh needs, may be the turning point in your career. THE tomorrow whose time is all mortgaged, and on which principal and interest must be repaid, will be of very little use saving for "making up" lost time. The worker who counts his days ahead and arranges that each shall be allotted its eight hours of work will soon find himself getting ahead and accumulating the leisure in which to do the big, important things we all want to do. The man whose tomorrows are all overloaded is going to find each of them more wearisome and more nerve-racking than today.

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Today's Programs

Philadelphia Station (WFI) (Strawbridge & Clothier)
1:16 P. M.—Public Ledger radio news bulletin.
2:30 to 4:30—A varied and interesting concert program by Margaret Oak Tuohy, soprano; Caroline Hoffman, pianist; Edwynd Lewis, tenor; and Harold Simons, bass. Solo by Archie McKown, boy soprano.
5:30 to 6—Baseball scores.
Philadelphia Station (WIP) (Gimbel Brothers)
Boys' Central High School.
8—Dance music.
8 to 9:30 and 9:30 to 10—Dance music being played at the Cafe Alston, but broadcast from Gimbel (WIP) radio station.
Pittsburgh Station (KDKA) (Westinghouse)
8:30 P. M. and at fifteen-minute intervals thereafter—Baseball scores.
9—Baseball scores. News.
9:15—Government market reports, and a report of the New York Stock Exchange.
10—Baseball scores.
Hints to Children Leaving School to Enter Vocations, by Dr. C. M. Jarwood, associate superintendent of the Pittsburgh Public Schools.
The Tale of Benjamin Bunny, a bedtime story for the children. Uncle Wiggally's bedtime story.
9:15—Musical program by Robert L. Rice, bass soloist; Miss Elizabeth Handerson, accompanist; Herz's String Entertainers, C. J. Herz, manager.

My Boyhood Hero : : —By J. P. McEVoy

THE hero of my boyhood days (His image I recall!) Was not Aladdin, Charles the Great, Nor Brian Boru nor Paul, Nor Socrates nor William Tell, At all, at all, at all!

But he who claimed my fealty And undivided cheers, Whose form I see as I retrace The trail of vanished years Was he who sat in front of me And deftly wagged his ears.

I never longed when I was young To own a massive brain, Nor lead a million men to war Nor sail the Spanish Main, Nor roam the world from pole to pole For honor or for gain. * * *

No great ambitions such as these Excited me to tears, One thing alone I yearned to find

Within my span of years * * * I only prayed that I, some day, Might learn to wag my ears, P. S.—I have.

FORMER PATRIARCH JAILED

Five-Year Sentence on Tikhon for Opposing Church Seizures
London, June 6.—According to a dispatch to the Daily Telegraph from Copenhagen, the Most Reverend Dr. Tikhon, who recently resigned as

Patriarch of all Russia, has been sentenced to five years' imprisonment for having opposed the seizure of church treasures by the Government. The dispatch adds that sentences were passed on Bishop and another high ecclesiastical dignitary.

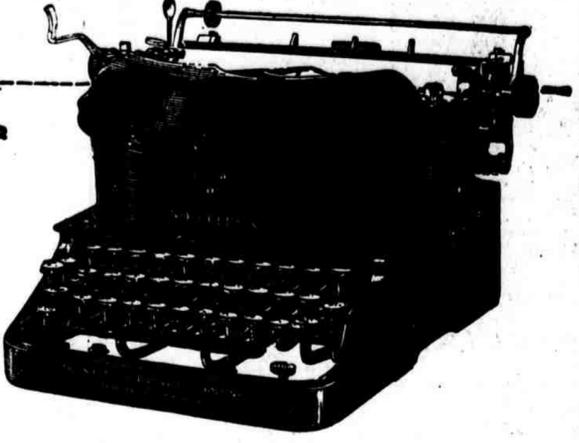
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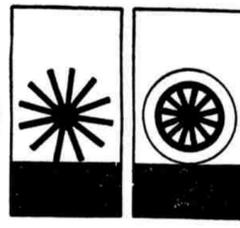
A short, simple explanation of

- (1) Why The Noiseless is the only inherently quiet typewriter.
- (2) Why it is the fastest stock machine built.
- (3) Why it has the lightest touch of any typewriter.
- (4) How it makes neat, clean carbons and produces accurately aligned work of the highest character.
- (5) How its construction makes it so unusually durable.
- (6) Why we claim it to be the most economical typewriter built!



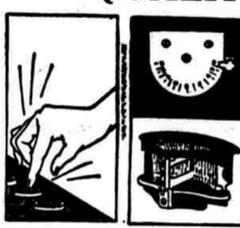
QUIET

A wheel, composed of spokes only, would rattle and bang every time it turned. But put a rim around the spokes and you get an even pressure with no noisy, hammering blows. The Noiseless Typewriter writes by pressure. Every type bar prints by pressing firmly, but noiselessly, against the platen.



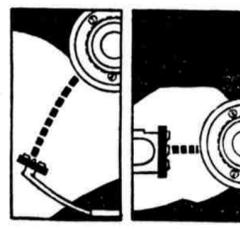
QUALITY OF WORK

You do not pound the keys of The Noiseless to increase the strength of the type impression. An adjustable pressure dial varies the writing pressure so as to produce any reasonable number of carbons with minimum effort. The double type control assures accurate alignment, even spacing and beautiful work.



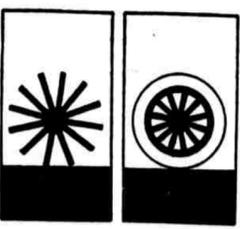
SPEED

The keyboard and mechanism of The Noiseless were designed for the touch system of speed writing. The type bars of The Noiseless travel a distance of only 3 inches, as against 8 to 10 inches on the ordinary typewriter. The printing movement of The Noiseless is one-third that of any other typewriter.



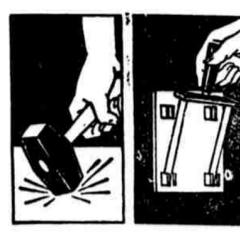
DURABILITY

The blows from a rimless wheel would soon jolt a car to pieces. The elimination of the hammer blow method of writing increases the durability of The Noiseless. The dust-proof construction protects the mechanism from wear caused by exposure to dust and dirt.



LIGHT TOUCH

Machinery has taken the place of much tiring work that heretofore was done by hand. Instead of actually doing the work—the operator now only throws a switch. With The Noiseless the gentlest touch of the finger causes the mechanism to write—a great improvement over the fatiguing finger work necessary in other machines.



ECONOMY

A man's capital is his thinking power. The Noiseless permits and encourages concentration of thought. It eliminates the hobble of NOISE and gives free rein to the increased productive power of quiet. It does not interrupt telephone calls or conferences. It pays for itself by saving valuable office space. Stenographers can work swiftly, silently and more efficiently close at hand.



We would like to demonstrate these features of The Noiseless in your office. There will be no obligation on your part whatever. We simply want you to know the truth about The Noiseless and how it actually represents a great improvement in every phase of typewriter service. Call, write or phone.

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