

PENCHANT FOR THE TELEPHONE.

Of the 22,000,000,000 telephone calls that passed through the central offices of the world during 1911 no less than 34,500,000,000, or 60 per cent, were from Americans. In other words, Uncle Sam took down the receiver just about twice as often as all the rest of the world combined. With this fact in mind, it is not at all surprising to learn that of the 12,453,000 telephones in the world the United States has no fewer than 8,362,000, or that the American telephone investment is \$1,025,000,000, compared with a world's total of \$1,729,000,000. Most of these things should occasion no astonishment. The telephone is an American invention, its utility was first appreciated by Americans, and Americans have been most persistent in employing it and making it an important factor in their everyday lives. Everybody knows this, says the Cincinnati Times-Star. But one thing not so generally known is that the wide use of the telephone in this country has been accompanied by corresponding neglect of that other and earlier American invention for eliminating distance—the telegraph. When the figures concerning the world's employment of the telegraph are given it is a different story. Only 17 per cent of the 579,000,000 telegrams sent in the world in 1910 were forwarded in this country.

There is a widespread use of the vapor, or Turkish bath. Even in arctic Lapland the use of a Turkish bath of very primitive form is common. It consists of a hut attached to every farm, says Harper's Weekly. In the middle of the hut is raised a kind of beehive of the rough stones and in this a fire is lighted. When the stones become red hot they are drenched with water, so that the place is filled with vapor. Then enter the bathers, who are armed with birch twigs, with which they belabor one another until all are in a state of profuse perspiration. Then all leave the hut and roll in the snow outside. This last function, it will be observed, is equivalent to the cold plunge which is the final experience in the Turkish bath as known to us all.

A society of Gotham brides have organized an anti-nuptial club, with rules denouncing the new woman who knows nothing of housekeeping, and prescribing that husbands shall have their breakfasts at any old hour, served by neatly dressed wives, that husbands shall be kissed only on their return, and have an evening off every week to spend how and where they please. The praises of this club will be fervently sung throughout the land and its members will be held up as exemplars for their sex, but the pessimistic will recall that these members will not stay brides.

Statistics recently compiled at Washington show that the value of the American farm land is now over \$41,000,000,000, an increase in value of \$21,000,000,000 in 20 years. There are over 6,000,000 farms, covering close to 900,000,000 acres. A large majority of these farms are worked by their owners, the small farmers, who number in round figures over 5,600,000 voters, forming the largest single class of voters in the United States and the one that is least likely to be reached by socialistic appeals.

Today the tree lunch is one of the deepest-rooted trees in our forest of hardy conventions. Occasional efforts have been made to tear it up from the friendly American soil, but without avail, says the New York Sun. To be sure, some of its greatest luxuriance has been lopped off; such free lunches as some set forth in that Augustan age known as the "Jim Fisk Renaissance" no longer stimulate the vitals of the casual visitor to even the most open-handed caterers to the public thirst.

There has always existed in America a strong admiration for the Spanish people, a sentiment of good will as persistent as it is difficult to define or account for on materialistic grounds. One can only record that a hustling new world people, busy at the task of conquering a primitive continent, have felt more than ordinary good will for a reserved and dignified race no longer the first in military power but excessively proud of its glorious history.

Mona Lisa, the picture that so mysteriously vanished from Paris, is now reported to be in Russia. Given a little more time and patience, the lady of the inscrutable smile will be found finally to have circumnavigated the globe.

A Cincinnati woman claims to have married a man without a fault. She may yet get up barefooted some night and discover that he throws his wooden laundry studs on the floor.

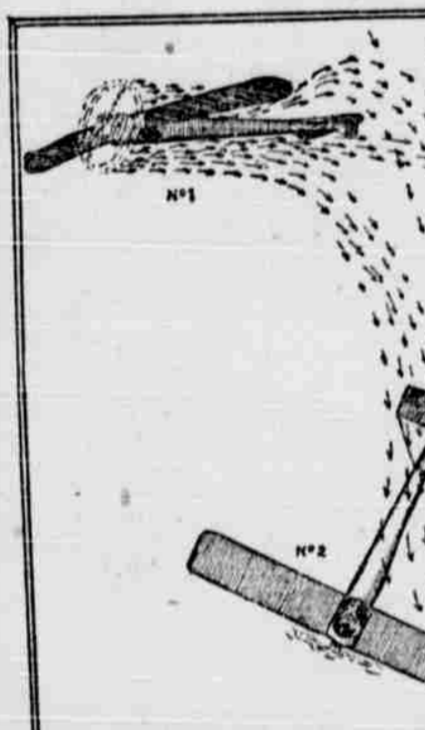
Now a Chicago pedagogue wants girls taught cooking instead of the classics. They are all coming around to the theory so brutally expressed, that woman's work is "to feed the brute."

A judicial Solomon has decided that no court on earth can prevent a wife from worrying her husband. Possibly the decision is based on the wife's constitutional right to the pursuit of happiness.



HARVEST QUINBY AIRCRAFT DESIGNER

THE ever-growing number of human lives sacrificed to the advancement of aviation gives us ample reason for pause and serious thought. The toll so far paid is rapidly nearing a total of two hundred since the death of Lieutenant Selfridge, of the United States army, in September, 1908. Naturally, some of these fatal accidents were to be expected after flying became a money-making spectacle in some directions. The professional aviator felt obliged to make his flights thrilling in the eyes of the spectator, and to that end he has done things of a venturesome nature for which he has paid dearly more than once. We are not concerned with this phase of the art. Foolhardiness is no real part of the effort to advance human flight, even though attendant mishaps may teach useful lessons. What is of serious concern is the loss of life of those earnestly devoted to the furtherance of the science



DOWNWARD REACHING AIR CURRENTS CAUSED BY NOT BRISTLING NO. 2

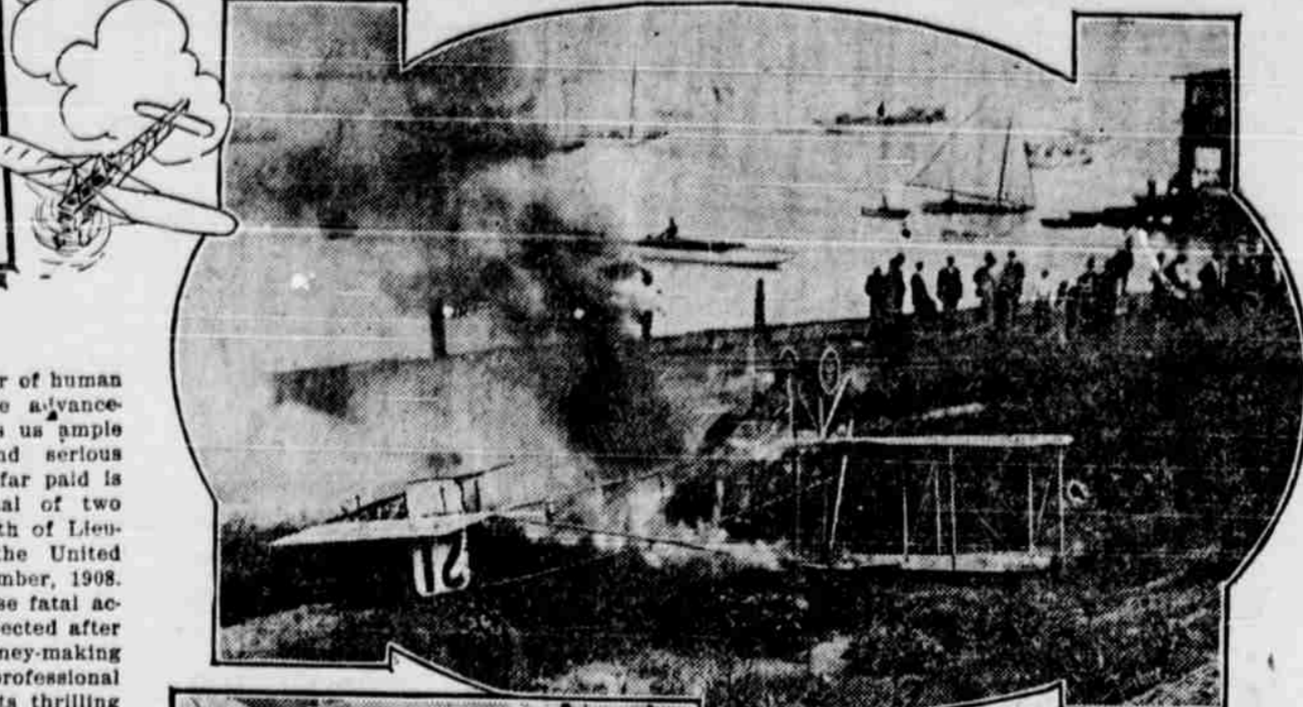
and the adaptation of the flying machine to the needs of the army and the navy in time of war. These officer students have gone into the work with that spirit of professional devotion which is of the utmost value to the promotion of helpful knowledge, and they have generally avoided those hair-raising performances which are valuable only as an asset for the showman. These calm-minded devotees—the term enthusiasts might be misleading—have earnestly striven to make the most out of the instruments placed in their hands, but in doing this they have made more than one fatal stumble despite their caution. The use of the aeroplane in recent military maneuvers has exacted its deadly price, and it is time that due thought was given some of these many accidents. Strange as it may seem, the recent mishaps which have been most suggestively illuminating have been those that were generally not fatal in their consequences, although some have exacted the lives of the participants.

On March 13 at Johannisthal, just outside of Berlin, a flying machine driven by Schade and an aeroplane handled by Hottinger came together while in the air a short distance above the ground. The machines were instantly smashed and sent crashing to the earth. Neither of the aviators was injured, but a passenger was hurt. Unquestionably, this collision was brought about by the mutual effect of the disturbed air between the two machines. The next mishap of a kindred character occurred at Douai, France, on June 19, but with disastrous results. Captain Dubois and Lieutenant Meignan, both of the army, were operating aeroplanes during a dense fog, and drove into each other while going at high speed. Lieutenant Meignan was killed almost instantly, and Captain Dubois died in the hospital a few hours later. The machines were splintered by the collision. Here we have a counterpart of conditions which have so often caused trouble upon the water, but conditions which may be even more frequent aloft under atmospheric circumstances of common occurrence. Of course, the gravity of a collision in the air is unfortunately increased by the necessarily high speed at which the flying machine must advance in order to sustain itself in flight.

On June 20, at Aix-les-Bains, Mlle. Helene Dutrieu, while aloft, fell upon two ascending aeroplanes, and all three machines dropped to the ground in a heap. The two other aviators were pretty seriously bruised, but Mlle. Dutrieu was unharmed, fortunately falling upon the underlying machines and thus having the force of her drop greatly lessened. Undoubtedly, Mlle. Dutrieu hit a "hole in the air," and her monoplane started earthward before she could check or control its descent by a gliding volplane. The question is, What caused that hole in the air? Did the movement of the two ascending aeroplanes create the disturbance which narrowly escaped causing a serious catastrophe? This has been answered by subsequent accidents.

Two French army officers, Lieutenants Briez and Buriez, on July 6 started for Bellefontaine on the eastern frontier, leaving the aeronautic station at Villa Coublay, just outside of Paris. Lieutenant Briez had the start of his associate, and was

# SEEK SAFETY FOR AIR SPEEDERS



RALPH JOHNSTONE, KILLED IN AIRCRAFT ACCIDENT

already about six hundred feet up, when Lieutenant Buriez overtook him, passing at greater speed something like a hundred feet above. Lieutenant Buriez's machine created, so it is said, a downward moving "hole in the air," and this struck Lieutenant Briez's monoplane in such a manner as to destroy its equilibrium. Lieutenant Briez and his machine were dashed to the earth, the aviator having both legs broken and being otherwise seriously but not fatally injured. In this case the innocent cause of the accident was the movement of the aeroplane passing above at a height of a hundred feet, while Mlle. Dutrieu's drop was probably brought about by the maneuvering of the two aeroplanes beneath her. These accidents have brought us face to face with new problems in the art of mechanical flight—they show us that we have much to learn about the air in which we are seeking to vie with the bird.

The man in the street has a mistaken notion of what these air holes really are; he imagines that they are areas of partial vacuum which fall to give the flying machine proper support. The hazard they present is reasonably pictured all the greater because there is no visible sign of their presence—the aircraft just suddenly starts to drop and may fall several hundred feet before the movement can be corrected, if corrected at all. If successful, the nicest judgment is required on the part of the aviator lest he suddenly bring pressure to bear upon his planes in excess of their reserve of strength. Collapse of this sort has happened with dire results upon a number of occasions. But, notwithstanding these physical evidences of something wrong, still, in the strict sense of the word, the term air hole is a misnomer, and a cavity as such does not really exist. Did you ever watch the surface agitation of a boiling pot? Well, that is substantially a duplication of just what is going on in the air about us. The earth acts like a great reflector of the sun's heat and starts the air boiling below here where we are and sends it upward in great columns of rising atmosphere like the movement of the boiling water in the pot. This is what the meteorologist calls "convective disturbances" of the atmosphere, and he tells us that this state of things would not annoy the aviator if the venturesome airman would only keep aloft at a height of from four to five miles—matter of from 21,000 to 26,000 feet in round numbers! Georges Legagneux has recently reached the amazing height of 18,766 feet.

We are all familiar with the old saying, "What goes up must come down." In the agitated belt of air the upward rising column of warm air is replaced by a descending column of cooler air. The downward moving column is what really constitutes the so-called "holes" of the aeronaut's parlance. The layman scarcely appreciates the conditions that are bringing about this convection or boiling motion. When the air strikes the earth the air is heated and rises; in the shadow of a cloud the air is cooler and descending. This see-sawing is of greater or lesser magnitude, depending upon the directness of the sun's rays and the temperature of the air when shaded.

The evenness of the aviator's flight or the uniformity of his line of advance—whichever you choose to call it—is controlled by the constancy of the pressure which the air exerts on the under or lifting side of the planes as his machine is driven forward by its motor. The net result is a sustaining or lifting moment, as the engineer expresses it. If the approaching air, instead of

moving horizontally or upward in opposition to the surface of the planes, should be falling, then the support of the flying machine is suddenly diminished to that extent, and the aeroplane drops. Again, if the aviator is traveling against a stratum of wind of a definite speed and then purposely descends, reaching an air belt of lower speed or altered direction, these changes may reduce the force of the air striking the surfaces of his planes, and this drop in pressure may cause his machine to fall speedily earthward. This is another proof, of course, of the imaginary vacant places in the air.

We must bear in mind that the problem of the flying machine is quite distinct from that of the balloon. The balloon floats because it is either lighter than the air it displaces—when it rises—or remains at a fixed altitude because there is a perfect balance between its weight and that of the air which it thrusts aside. It remains aloft whether drifting with the wind or being driven by a motor. The heavier-than-air flying machine, on the other hand, is sustained in flight only so long as its movement forward arouses sufficient opposition on the part of the air to lift or to sustain it. When the propellers cease to revolve the aeroplane starts earthward, and disaster can be avoided only by volplaning or performing a sweeping spiral descent. A maneuver of this sort is nothing more nor less than a modified drop. The safety of the aeroplane, therefore, when in mid-air, depends upon the nice balancing of the machine and the proper equalizing of pressure upon the planes. Eddies in the air or any other disturbance which will bring the aeroplane into conflicting atmospheric belts or zones will imperil the stability of the machine and the life of the aviator unless he is ever watchful, and there are some of these conditions against which he cannot sufficiently guard.

The flying machine, in going ahead, hits the air a succession of rapid blows, and by this causes an area of compression which is equal in the force of its reaction to the weight of the flying machine. The fact of it is, this compression actually affects a volume of air equal in weight to the air craft it sustains, and as a cubic foot of atmospheric air weighs only .08 of a pound at the freezing point, a little figuring will show how wide is the area upon which the aviator must draw for his support.

What happens then when the flying machine has moved onward and the atmosphere tries to resume its normal state? The reaction is like the release of a spring, and the air acquires a vibratory motion—greatest in a vertical direction—akin to the prolonged bobbing of a partly water-soaked log after being hit a blow. But this is not all.

We are living at the bottom of an ocean of air, and we are living in that region of the atmosphere where it is densest. The natural tendency of the atmosphere is to fall when not made lighter by heat and caused to rise. An aeroplane shooting through this lower belt is substantially knocking out the foundations from beneath the atmospheric columns reaching many thousands of feet heavenward, and we have in the air a virtual duplication of our bobbing log many, many times repeated at every stage of the onward movement of the flying machine and the successive reactions of the compressed air which has momentarily sustained that mechanical flight. Isn't it clear, then, that an aviator when passing above or below another aviator is either stumbling into air holes thus created or producing a similar condition to menace his nearby fellow? The airman advancing at the greater speed will produce the wider area of disturbance and, within any prescribed limit, the more dangerous reaction.

The flying machine when aloft is in a state of decidedly delicate equilibrium, otherwise the mere flexing of wing tips would be incapable of correcting its horizontal position. Any change of pressure at the extremity of its wings is equivalent to adding or reducing the weight at the one or the other tip, and an upsetting movement is started. It is quite probable that even though one aeroplane may be a full hundred feet above or below another, still the greater speed of the overtaking machine may cause a sufficient downward movement on the part of the air to overweight suddenly one wing of the other machine. This is certainly what happened in the case of Lieutenant Briez, Mlle. Dutrieu and a number of others.

The task set the investigators is that of finding how wide is the region of agitation created by a flying machine in flight, and, with this knowledge, to prescribe the proper distances which aviators must observe when approaching one another.

Fortunately, the flying machine is now studied in the laboratory, and recent progress in experimental aerodynamics is doing much toward clearing the way for safe advance in the near future, but the public must be patient and it must realize that flying is full of hazards at best, and we are really scarcely much more than upon the threshold of this wonderful science.

## IDEAS FOR HOME BUILDERS

BY WM. A. RADFORD.

Mr. William A. Radford will answer questions and give advice FREE OF COST on all subjects pertaining to the subject of building, for the readers of the paper. On account of his wide experience as Editor, Author and Manufacturer, he is, without doubt, the highest authority on all these subjects. Address all inquiries to William A. Radford, No. 178 West Jackson Boulevard, Chicago, Ill., and only enclose two-cent stamp for reply.

Although the house here shown is not large, being 28 feet wide and 48 feet, 6 inches long, it gives the observer the impression of largeness.

It is an excellent type of residence for a city in which the lots average 50 feet, a size that will admit of room for a lawn and plenty of space for light and air. A house thus set out amid pleasant surroundings will have all the good points of its design fully appreciated and displayed to the best advantage.

The tendency in the city is toward crowding, on account of the increasing value of land, of course. This is to be regretted because when lots are too narrow houses cannot be shown to good advantage, no matter what the excellence and artistic qualities of their design may be.

Fifty foot lots are large enough to meet most builders' requirements, but in many cities, as in Chicago, for instance, the rule is 35 feet. This disadvantage is often made greater by the owner's insistence on a very large house, or by an arrangement of the rooms that requires that the building be wide.

Too often the residence is suited to the builder's demands rather than to the lot and its surroundings. Houses of this sort usually have several dark rooms and often are not well ventilated. In a great many cases they are not much better than apartments.

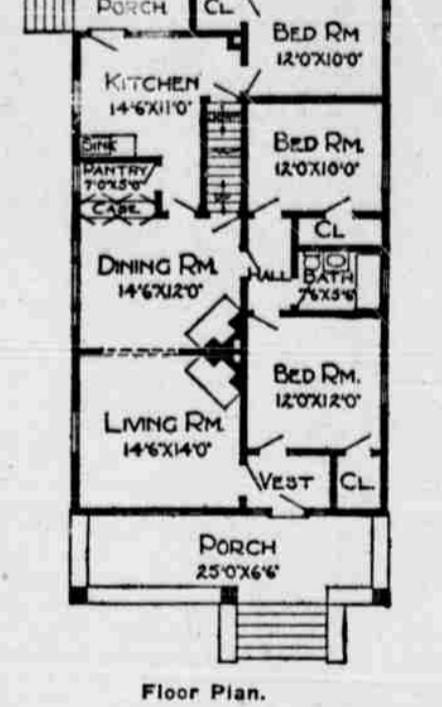
Of course, this difficulty might be avoided by making one fairly large lot of two small ones, but frequently the builder does not feel that he can afford a second lot, and he often forgets the objects to the keeping of a large lawn. But to the normal man the lawn is the chief joy of the home.

The alternative is usually to adapt the house to the lot, to sacrifice some desired feature of the interior arrangements, or even a room or two, in order to attain the really essential light and air.

Now the house here shown is

adapted to a lot of small size, and yet there will be plenty of room for light and air. It is especially suited for a west frontage, giving the sunshine to all the bedrooms and shade to the living room, the dining-room and the kitchen. And every housewife will agree that a shady kitchen is one of the greatest comforts imaginable.

This is a frame cottage or bungalow.



Floor Plan.

The exterior might be treated with rough boards and stained, or cement plaster might be used. It all depends where the house is to be built as to the exterior finish.

The front porch is 25 feet by 6 feet, 6 inches. Entering the house you pass into a vestibule which opens into the living room and also into the front bedroom. The bedrooms, of which there are three, are 12 by 10 feet in size. The living room is 14 feet, 6 inches, by 14 feet, and the dining-room is two feet narrower. The kitchen has a length of 14 feet, 6 inches, and a breadth of 11 feet.

The total cost of this complete and cozy little home should not exceed \$1,800.



## VIENNA'S WAY WITH WOMEN

Georgian Who Did Not Understand and Resented It Was Forced to Leave the City.

"Vienna is no place for an American to go with his wife," said a man who has just got back from spending part of his honeymoon in the Austrian capital, according to the New York Times. "My own experience was embarrassing, but that of a Georgian who was there during the summer was humiliating."

"I was told that it was considered good form for a man to offer to buy a drink for any woman he met on the street unescorted. If she replied his advances he apologized and walked away, and both were supposed to forget the incident."

"The wife of the Georgian was out alone one day when an officer, with a smile, bowed to her and invited her into a nearby cafe. She was indignant and ordered him away. He bowed again and went."

"Later in the day the woman was out walking with her husband. She had told him about the incident of the morning and he was feeling like almost any southerner would feel if a strange man had accosted his wife. The same officer passed them and the woman drew her husband's attention to him. That was enough for the Georgian. He sprang after the other."

"What do you mean by insulting my wife?" he demanded, with other words which some might consider appropriate to such an occasion. Then he hauled off and knocked the officer down.

"When the Georgian and his wife reached their hotel at dinner time two officers were there with orders that the trunks of the Americans should be packed and that they be escorted to the next train leaving for another country. The Georgian protested, but the others insisted, and they escorted him and his wife to the train and saw that they left on it."

creator of mechanics institutes, but better known to Londoners as the founder of Birkbeck college. A few years ago the school was presented with a magnificent chapel of remarkable architectural design by Mr. Walter Morrison.—Westminster Gazette.

We All Read 'Em. Albert B. Kelley, an advertising expert of Philadelphia, sat in the Markham club, turning the seventy or eighty pages—mostly advertising matter—of a weekly.

"Advertising is such an art," he said, "that many people actually buy periodicals as much for the advertisements as for the reading matter."

Mr. Kelley smiled. "I sat in an editor's office the other day," he continued, "when a poet entered."

"Glad to see you've accepted that sonnet of mine," the poet said, feverishly pushing back his long hair. "I do hope it will be widely read."

"It's sure to be," said the editor. "It's sure to be. I've placed it next to one of our most striking ads."

Bible Was Put into Rhyme. Versifications, not only of the Psalms but of the other books of the Bible, were numerous in the sixteenth century. One of the most prolific versifiers was William Hunnis, who, under such fanciful titles as "Seven Sobs of a Sorrowful Soul for Sin," "A Handful of Honeysuckles," "A Hiverful of Honey," etc., published a number of rhyming versions of Genesis and Job, which are now worth their weight in gold to the bibliomaniac.

Give Good Cheer. There is contagion in a sweet and beautiful character, for health is contagious as well as disease. We are all the time giving to others either wholesome or unwholesome moods—poisoning their atmosphere with doubt and suspicion or clearing it with helpfulness and good cheer.—Phillips Brooks.

Way to Work It. "What am I to do? My girl wants me to stop smoking cigarettes." "Pay no attention to her." "It is either give up cigarettes, or give up the girl." "Nonsense. Use diplomacy. Get her interested in the coupons, my boy."

Just About. The man who, for fear of being called a thief, deprives the children of their rights is about the most despicable specimen of humanity that one can mention off-hand.

## EGYPT TO BE A KINGDOM?

General Belief in That Country That Ancient Glory Is to Be Partially Restored.

There is a general conviction in Egypt that the country is to be declared a kingdom, that the present khedive will be its first king, and that England is only waiting the conclusion of the Turkish-Italian war to make the necessary announcement to which

make no practical difference to the state of Egypt. It would be a decoration, nothing more. The English protectorate, that is to say control, would be unchanged. In fact it might even be strengthened, since a part of the story is to the effect that England will pay to Turkey the sum of \$100,000,000 for the relinquishment of her suzerainty powers, such as they are. The story may have no foundation but it should be true let us hasten to make a suggestion for the further stimulation of the Egyptian national pride.

If the title of khedive is to be abolished why not replace it by that of Pharaoh instead of king, and establish the national capital at Memphis or Luxor?

Early Training. "I understand that you once sang in a glee club." "Yes," replied the great politician. "And I want to tell you when a man with a voice like mine can hold a position in a glee club it shows that he is some officeholder."