

**TELEPHONE IN THE FUTURE**

Proper Development Will Require 8,000,000 Instruments.

TOO BIG FOR MONOPOLY

Mr. Vinton A. Sears Calls It Probably the Most Profitable of All Public Utilities—Independents Thrive on Opposition and Continue Steadily Forcing the Rate Lower.

Vinton A. Sears, of Boston, has studied and written much on the subject of telephone development, of which he is a recognized authority.

The present development of the telephone is in round numbers 3,400,000 complete telephones, each telephone comprising a transmitter and a receiver, but reckoned as two instruments by the Bell and one by the independent companies, of this number the independent companies now have 1,800,000 telephones, and the whole Bell system 1,600,000, a part of this is duplicate service and less than 4 per cent of the population have yet become telephone subscribers.

The reasonably complete development in the United States will require over 8,000,000 telephones; this is based upon ten per cent of the population becoming subscribers which basis is already considered too low for the future by many of the leading Bell and independent engineers. This ten per cent development which has been exceeded and even doubled in some favored localities, will render a service to and broaden the life of the country as a whole to such an extent that the cost of installation and maintenance can be easily borne, not as a luxury, but as a labor and time saving convenience of economic value.

The Bell concern has a magnificent organization, containing many men of the highest character and ability. The Bell interests also have many men trained up under the enervating and dwarfing influence of the monopoly period. But with all the business ability of the Bell management, they have not been able to hold the field against the independents, who have been able to finance and build more exchanges and install more paying telephones during the last eight years than the Bell companies have in their entire existence. In the face of this showing on the part of the independents, which is really the showing of the American public, for the independent movement is largely a popular and cooperative movement, it is not within the bounds of reason to suppose that the Bell interests can stamp out this competition which thus far seems to thrive on opposition. No doubt it would be well for the Bell interests to pursue a policy of a fair division of the field, which it can never hope itself to fully develop and hold against the independent movement. The only way by which the art can be perfected and the public given the best telephone service at the most reasonable cost is by competition. Competition has already reduced the rates one-third to one-half and has greatly extended the local and long distance service of the whole country.

To reasonably develop the field will require the installation of 5,000,000 to 6,000,000 additional telephones.

Looking at the financial side of the industry we find that the capitalization of the Bell licensee companies is approximately \$400,000,000, which represents 1,600,000 subscribers' stations or a capitalization of \$250 a subscriber (not including long distance lines or the \$299,000,000 of outstanding stocks, bonds and notes of the parent Bell company, an amount equal to \$130 a subscriber). The cost of 5,000,000 additional telephone stations, if installed by Bell companies and capitalized at the above average of \$250 a subscriber, would require the issue and sale of \$1,250,000,000 of new securities—stupendous figures even in this era of high finance. One-half of this new capital, according to custom would be taken by the American Telephone and Telegraph Company, which in turn would increase its own capital obligations by \$625,000,000.

Should the Bell company continue to raise new capital as fast only as in the last few years and use all for new construction (and none for fighting competition) it would take about fifty years for it alone to supply the telephone service that the public will want tomorrow.

On the other hand, the independent telephone companies, of which there already are over four thousand, serving 1,800,000 subscribers, have an invested capital of about \$250,000,000, or an average of about \$140 a subscriber. Should the independent companies furnish the American public with the 5,000,000 additional telephone stations \$700,000,000 would be needed, or \$550,000,000 less than the estimated Bell requirements—a sum too large to lose sight of in the cost of a public utility that is a necessity in business and domestic life.

The large aggregate amount of new capital required for the proper development of the telephone can be financed among some five thousand independent companies in the United States at an average of \$100,000 each, when it is considered that these companies are owned largely by the telephone using public. It is estimated that the present independent companies have 300,000 stockholders, and this number is increasing every day. The independent telephone movement is co-operative in the best sense. Each community can finance its own telephone needs and should have the right.

TALES OF OLD JIM BRIDGER.

Came to the Country When Mountains Were Holes in the Ground.  
Major James "Old Jim" Bridger was more than six feet in his moccasins, straight as an arrow, raw-boned and of powerful frame. He had a large head with caution largely developed. In Gen. Conner's campaign against the Sioux Indians in 1865 Major Bridger was the guide. That he was thoroughly acquainted with his knowledge of all this section of country was marvelous. He could tell how the command would have to march to find a camping place and how the water was and describe the ground so any one would recognize the place when we came to it.

The boys would quiz the old guide occasionally. One evening when camped on the Platte River opposite Larabee Peak, one of the men said "Major, how long have you been in this country?" The major straightened himself and pointing to the snow capped peak said "Say, do you see that peak?" Upon the soldiers reply the major said "When I came to this country that was a hole in the ground."

I remember the morning we broke camp on Peno's Fork on Tongue River. The major mounted his horse with his double barreled rifle across the front of his saddle and started ahead but the general did not seem to pay any attention to the guide and as the command did not follow, he fell in the rear. We had marched some four or five miles and were getting on bad ground. The general says: "Where is Major Bridger?" Some one replied: "He is in the rear." An orderly galloped back and says: "Major, please report to the General." "I can see how he looked as he cantered by us." The general says "Major I thought the government employed you to guide this expedition." "It did, but you seem to think you know the country better than I do so I thought you might have your own way and we would see where you would get to." "Go ahead Major and we will follow." He obeyed to the right and we were soon on good ground.

We had a squad of men with the command called the signal corps. They kept on the flank and ascended the hills and made observations and they gathered geological specimens. I remember one evening when in camp on Tongue River they were discussing some petrifactions they had collected. The discussion became quite warm and animated when one of the men turned to the major and says "What do you think of these petrifactions?" "Humph!" says the major "I can take you up here in the mountains where the whole forest is petrified, with petrified twigs and petrified birds singing petrified songs." Kansas City Star

**A Modern Joke Traced to Its Source.**  
It is well-known among joke writers and the antiquary that there exists in the world only seven jokes. All the rest have been made, and still continue to be made from these seven. But it is not so well known that there are only seven anecdotes out of which, by ingenious bleedings and twistings, the unnumbered thousands of the world's anecdotes are created.

"I am an amateur, or loving collector, of anecdotes. When I come upon one that is strange to me I delight to trace it back to its source. I got the same pleasure out of this that an etymologist gets in tracing back to its Sanskrit root a disputed word."

"Some time ago I heard of an anecdote about Charles Lamb. Lamb, the story went, was on a journey, and the time was that of the publication of the ingenious stories for children that he and his sister Mary had written in collaboration. Lamb said to one of his fellow travelers:

"Have you read Lamb's tales?"

"No, but I have a black sheepskin rug," the other replied.

"This anecdote struck me as pretty good, and I tried to trace it back for a long time I was unsuccessful, but last week my search was rewarded; I found the story from which the Lamb one was derived.

"It was a story of a traveler on a rainy day who had left his wrap in a stage coach. After he had gotten out he missed the wrap, and told the driver to go inside and inquire for it. The guard, putting his head within the door, called:

"Is there a black mackintosh here?"

"No," was the reply, "but there are red mackintoshes."—Philadelphia Record.

**Andalusian Spectre.**  
Upon a mountain in Andalusia quaint spectral forms are frequently seen. Whenever there is a heavy mist and persons are ascending the mountain they appear in all their ghastly splendor and sometimes so suddenly as to strike dismay into the hearts of those who see them for the first time.

Of course, it is all a trick played by the sun. When a mist partially shrouds the mountain the sun is naturally obscured and then he revenges himself by projecting the shadow of any person who is ascending the mountain until it assumes the form of a gigantic spectre.

Poultry need a good, dry dusting place. They like it better on a level with the floor of the poultry house than to climb into a box. Over-feeding or keeping on corn and other fattening food is quite as frequent a cause for hens falling to lay as lack of food.

Subtle minds are usually submissive only when submission serves their own interests.—Chicago News.

No, Cordelia, a woman isn't necessarily out of yarn when she knits her brows.

**THE BEST SUBSCRIPTION OFFER**

A CATHOLIC WEEKLY—A CATHOLIC MONTHLY

THE IDEAL ARRANGEMENT FOR THE CATHOLIC HOME.

THE CATHOLIC JOURNAL (Weekly), Regular Price, One Year, . . . . . \$1.00  
MEN AND WOMEN (Monthly), Regular Price, One Year, . . . . . 1.00

**Our Special Price, \$1.50 for Both.**

All of our readers know  
**The Catholic Journal**  
and how necessary it is in the homes of our people. As a weekly Church paper it has no equal

**Men and Women**  
The National Catholic Home Journal

Not a devotional magazine, but a high-class family journal, edited especially for Catholic homes. Safe and sane without being dry. Interesting without being frivolous.

**A Test of Quality**

Some of the Contributors who make MEN AND WOMEN:

His Eminence James Cardinal Gibbons, Father Coppens, William Jennings Bryan, Clement H. Congdon, Rev. Edwin Drury, Anna C. Minogue, Hester Price, Governor La Follette, Julian Hawthorne, Richard Harding Davis, Madame Schumann Heink, John W. Lloyd, Ethel Shanks Bond, William Allen White, Paul F. Longpré, Murray Halstead, William Storrs, Grace Keon, Prof. W. A. von Sierbrand, Hamilton W. Hall, Maurice Francis Egan, A. T. Ross, Sumner M. Mayus

**Twelve Numbers of MEN AND WOMEN Equal Six Ordinary \$1.50 Books**

and contain the most all-around assortment of home literature ever presented by any \$1.00 magazine, every bit of which breathes forth the spirit of Catholicism. Sample Copy Free on application to us.

**Take Advantage of Our Greatest Offer.**

For \$1.50 we will send THE CATHOLIC JOURNAL and MEN AND WOMEN both for one year. Send your subscription today.

**THE CATHOLIC JOURNAL, ROCHESTER, N. Y.**



REPRODUCTION OF JANUARY, 1905, COVER. A different cover every month, beautifully produced in colors.

**A Home Library**

Subscribing to MEN AND WOMEN is like subscribing to a library containing books of interest to every member of the family. The numbers for a year contain the following and scores of other valuable features:

- 500 Large Pages, equal to 1500 ordinary magazine pages.
- 1,000 Finest Illustrations. A veritable picture gallery.
- 12 Pieces of Music.—Choice and original.
- 12 Double Pages of Pictures.—Selected with care.
- 12 Great Illustrated Articles on vital questions of the day. Equal to many a book sold for \$1.50 to \$2.50.
- 100 Stories.—The best fiction of the day. Strong continued stories. Short stories, unequalled in freshness, originality and heart interest.
- Fashions and Patterns.—Up-to-date practical fashions. Try patterns.
- Religious History.—Articles dealing with epoch making events in the history of the Church.
- The Question Box.—Questions which perplex many concerning the Faith are treated in a popular and satisfactory manner. A most valuable feature.
- Children's Department.—Stories, puzzles.
- The Cooking School.—Twelve extensive lessons each year.
- Chats with Authors.—Book Reviews. The Correct Thing.—Fancy Work.—Embroidery.—Crocheting.—Humor.—Gardening.—Flowers.—Games.—Exercises for special occasions, and a large number of other varied departments.

**THIS PUMP WORKS ITSELF.**

**Novel Device for Filling Tires as Automobile Moves.**

A device which will save the automobilist much annoyance and trouble is the automatic tire pump recently introduced by a western firm. This pump is so fashioned that it may be fastened to any artillery wheel and the inflating operation is performed by the turning of the wheel, so that the tire may be inflated while the car is in motion. The apparatus consists of a plunger pump that is fastened to one of the spokes, with a rubber tube connecting with the tire valve. The pump is operated by means of an eccentric arrangement which surrounds the wheel hub, and one member of the device is held against rotation by a mud guard or some other fixed portion of the car above the wheel.

The apparatus is equipped with a cut out appliance, by which it is thrown out of action after a pressure of 110 pounds is reached, and the pump is said to be capable of maintaining the pressure at that point in the face of a leak of any ordinary proportions, so that it is possible to make a run home or for help in the event of a puncture without the necessity of stopping to make a temporary repair. With the use of this device the tire may be maintained at a uniform point without attention. For inflating the rear wheels the device may be applied, and the rear part of the vehicle being jacked up, the tires may be filled by starting the engine.

**Ways of Great Authors.**

It was the habit of Victor Hugo to think out his work lying on his back on a yacht at sea (such as W. S. Gilbert works in his easy chair in his study at Harrow Wood) far from the maddening crowd. Once he has his new creation well in his head, the rest was purely mechanical; he could write off anywhere. On the other hand, Charles Dickens wrote in his study, in solitude, for a stated time every day.

Thackeray carried his manuscript, written on blue paper, about with him, and whenever he had a minute to spare—for instance, waiting for a check to be cashed at his bankers—out would come the manuscript, and, if necessary, some corrections would be made. Lord Lytton dressed for the occasion, and wrote in his library, with twelve candles burning and two powdered footmen in attendance.

**Death From Electricity.**

While death is produced almost instantly by the passage through the human body of alternating currents of high voltage, such as are encountered in ordinary practice, yet in the currents of enormous voltages produced by Mr. Tesla it is possible for them to pass through the body without the slightest injury. It has, of course, been known that the Tesla currents are of extremely high frequency as compared with the ordinary current, as well as of high voltage, but it was thought that they passed over the

**through it and thus did no damage.**

Lately Prof. Nostrand has shown the Bunsen society of Berlin that this effect is due to the high frequency of the current, which actually does pass through the body, but so rapid are its alternations that it does not have time to effect any change in the tissue before there is a reversal of the electrical stress. This he has shown conclusively in a series of experiments where he passed a high frequency current through his hand and then through the legs of frogs. Harper's Weekly

**Ancient Literature.**

In the earliest examples we possess of ancient literature we are not allowed even a glimpse of the individualities of their authors. The works themselves, if they had been prized because of the wit, ingenuity, fertile fancy, brilliant conceit, or any other individual peculiarity—mental or temperamental—of the men who produced them, would not have been preserved. In some cases, as in that of the Iliad and Odyssey, the reputed authorship has been as obstinately questioned as that of the Fourth Gospel and several of the Epistles. In the very earliest literature the individual was of no account in the matter of authorship; he was only the collector or editor of spontaneous and unwritten folk-song and legend, or, if he gave these their final shape, was only joint author with his race. Harper's Magazine

**Peculiarity of Congo Valley.**

A peculiarity of the southern part of the Congo Valley is that one side of the hills is usually bare, the other covered with vegetation. This difference is due to the fact that one side gets little moisture while the other is damped by fogs blown against it every morning. The natives often shave off the hair from one side of their heads, the effect presenting the same appearance as the hills of the country.

A machine is being perfected in a Birmingham shop that is to turn out from 90,000 to 100,000 finished wire nails an hour. This is said to be about three times as fast as any American machine can do, "which," remarks the London Chronicle, "is certainly reversing the usual monotonous order of things."

It is calculated that one right angle bend in a pipe through which water flows will make necessary 9 per cent more pressure for a given flow than is required for a straight pipe of like size and structure. With three sharp bends at right angles, the pressure needed is 13 per cent more than that which is used in a straight pipe.

**Violet Picture Frame.**

A pleasing design for a standing circular frame of water color paper is a group of three or four violets, bunched together, and then a connecting chain of stems reaching to a second little bunch, the same arrangement following, around the entire frame, at quite regular intervals.

**ESKIMO CORD-MAKING.**

**Wonderful Examples of Their Skill in Adapting Means to End.**

The skill of the Eskimo is shown in the excellence of the things he manufactures from the slender stock of material. Without nails, for the most part, without iron, his sleds and boats are made firm and strong. The fastenings are of home-made cord.

A heavy harpoon line, used in the hunt for securing walrus, is made of the skin of the "square flipper" seal, an animal about eight feet long. For such use the skin is not removed from the seal in the usual way, but is pulled off without cutting it, as one might pull off a wet stocking. The whole hide is thus preserved in the form of a sack. It is then placed in water and allowed to remain there several days, until the thin outer bark skin becomes decomposed. This, together with the hair is readily peeled off, and a clean white pelt remains.

Two men then take the pelt in hand and with a sharp knife cut it into one long even white line by beginning at one end and cutting round and round until they reach the other end. One skin will make 300 feet of line. In this condition it is allowed to dry, after which it is tightly stretched and dried thoroughly in the sun. The result is a hard, even white line, three-eighths of an inch in diameter, but equal in strength to a heavy Manila rope.

I have seen such a line imbedded in the flesh of a walrus at one end and spiked to the hard ice at the other end by a stout iron pin. Held by six men, it plowed a furrow six inches deep through the ice, bent the spike and dragged the six men to the edge of the edge of the ice, where the tug of war ended, the victorious walrus took the unbreakable line with him into the sea.

Finer lines, such as those used for fishing or for winding whip-stocks, and thread for sewing purposes, are manufactured from reindeer shew. The best is that obtained from along the spine, which is always saved from the carcass. The Eskimo prepares it by drying it and then rubbing it till it grows quite soft. Then it is readily frayed out into fine fibres which are used for needlework.

When coarser thread is required, these individual fibres are plaited together with wonderful neatness and rapidity. One woman can make fifty or sixty yards of this thread in a day. —Yuxta's Companion

**Dissipating Fog by Electricity.**

Sir Oliver Lodge, who some time ago invented an electrical apparatus for dissipating fog by means of electrical currents radiated into the atmosphere, is convinced that the limitations of his invention will not allow it to be used in clearing great areas of fog as yet, but he thinks that it has practical value. In a letter to the London Times he says: "An electrical method of dissipation is not the right remedy for this artificially intensified evil, though it is a hopeful and proper method of attacking natural mist in

places where it interferes with navigation or commerce, but although it is not the right remedy it may have to be used as a temporary palliative in times of stress and while better methods are being sought. The cost of applying such a method to a whole city is probably prohibitory but there are important centers where any means of mitigating the nuisance would seem to be legitimate."

**The Extension of Tramways.**

Electric tramways, though slow in coming are now rapidly spreading over England. The investment in them at present amounts to about \$200,000,000—more than half by municipalities. The extension of tramways, by conveying workmen cheaply to suburban homes, is credited by some observers with the recent decrease in sales of beer, which has been generally attributed to the hard times.

**Eating to Death Abolished.**

In 1800 the last instance of boiling to death took place in Persia. The offender, guilty of stealing state revenues, was put into a large cauldron of cold water, which was slowly heated to the boiling point. His bones were distributed as a warning, among the provincial tax collectors.

**A Costly Leather.**

It is said that the most costly leather in the world is known to the trade as piano leather. The secret of tanning this leather is known only to a family of tanners in Germany, though the skins from which it is tanned come almost entirely from America.

**Fresh Air in Tablets.**

Fresh-air tablets are a preparation discovered by a French scientist. He discovered that he could combine certain chemicals into a tablet which, on being dropped into water, dissolved and gave forth pure oxygen.

The French Academy of Medicine has just elected to its membership in the person of Professor Poirier, one of the youngest men ever included within its ranks, as his career has been one of the most brilliantly rapid among his contemporaries. The professor's qualification dates only from 1883, and since 1887 he has taught anatomy at the practicing school of the Paris faculty. He is also a surgeon of the Tenon hospital. He is the author of many treatises on osteology, the muscles, cancerous affections and other surgical subjects.

**Teacher—Can you tell me, Tommie,**

what becomes of all the birds when the summer has gone?

Tommie—Why, I guess they get put on all the winter hats, ma'am.—Yonkers Statesman.

The road to failure is the one that is full of ruts.

A virtue that we don't possess isn't worth cultivating.

The milk of human kindness is often condensed.

The road to failure is the one that is full of ruts.