## TELEPHONE ACHIEVEMENTS

TELEPHONE SERVICE OF TODAY THE CREATION OF THE BELL CO.
conversation could be had over long-distance cir ground cables. By 1906 underground talking dis possible to talk underground from New York to Washington.
round conduits from Boston to Washington wa ground conduits from Boston to Washington was
determined upon, not that it was expected to get a through underground talk between those
places, but in case of storm or blizzard, to utilize places, but in case of storm or blizzard, to utilize head.
Our persistent study and incessant experimen-
tation have produced results more remarkable still. We have perfected cables, apparatus and methods regarded as insuperable both to long-distance overhead and underground conversation.
Underground conversation is now possible be-
tween Boston and Washington, four times the length of the longest European underground line This enabled the Bell System in the recent grea stommunication for the public between all the principal points on the Atlantic seaboard.

Telephone communication is established beble between all points in the United States, and by 1915 will be an
New York and San

In our use of methods or apparatus, we are have the right to use inventions necessary to operate any system recognized or accepted as the nize and in its selection must always be governed by
the necessities of a national service, with its complex requirements, which is infinitely more exact These achievements represent vast expendi fort which have been justified by results of immeasurable benefit to the public. No local com-
pany unaided could bear the financial or scientific pany unaided could bear the financial or scientific
burden of this work. Such results are possible only through a centralized general staff, avoiding wasteful duplication of effort, working out pro
lems common to all, for the benefit of all.
The pioneers of the Bell System recognized broadest sense a public utility; that upon them rested a public obligation to give the best possible service at the most reasonable rates consistent with
risk, investment and the continued improvement risk, investment and the coperty.

Without this expenditure of millions and concould not have been developed.
What we have done in working out these great
roblems in the past should be accepted as a guarantee of what we will do in the future.

THEO, N. VAIL, President.

BAKER GRAND JURY SITS
RIOTER GEES 4 Yefrf
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LANE CHAMPIONS WOMEN
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## LITERARY SAVANT DIES BYOWNHAND

Professor Harry T. Peck, For
merly of Columbia, Ends Life With Revolver.

MARITAL WOES RECALLED
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##  <br> EASSIMB BLLLS DIFFEB

NATION IS PASSMM REVOLLTION STAGE
 Health conoritions cited
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In no line of human endeavor h
brain of the scientist contributed wrain of the scientist of telephony, odiment.
When the telephone was born, nothing analog ous to telephone service as we now know it existed There
follow.

The system, the apparatus, the methods-an entire new art had to be created. The art of electri, recognizing that success depended upon the highest engineering and technical skill, at once organ which is now directed by a staff of over 550 engi neers and scientists, including former professors, post-graduate students, scientific inv.
he graduates of over 70 universities.
From its foundation the company has continuously developed the art. New improvements in
elephones, switchboards, lines, cables, have foltelephones, switchboards, lines, cabes, haple rapity.
lowed one another with remarkable rap

While each successive type of apparatus to the
erficial observer suggested similarity, each step superficial observer suggested similarity, each step These changes, this evolution, have not only been continuous, but are continuing. Substantialy al
of the plant now in use, including telephones switchboards, cables and wires, has been con-
structed, renewed or reconstructed in the past 10 structed, renewed or reconstructed in the past 10
years.

Particularly in switchboards have the change been so radical that installations costing in the ag
gregate millions have frequently been discarded after only a few years of use.

Since 1877 there have been introduced 53 types and styles of receivers and 73 types and
styles of transmitters. Of the $12,000,000$ telephone receivers and transmitters owned by the Bell Company January 1, 1914, none were in use
prior to 1902, while the average age is less than prior to 1902

Within 10 years we have expended for construction and reconstruction an amount more than

Long-distance and underground transmission was the most formid=ble scient
fronting the telephone experts.

The retarding effect of the earth on the telephone current often impaired conversation through one mile underground as much as through its distinct limitations.

No possible improvement in the telephone ficultie The solution was only found in the cumulative
effect of improvements, great and small, in tele effect of improvements, great and small, in end
phope, transmitter, line, cable, switchboard, and
every other piece of apparatus or plant required in every other piece of apparatu
the transmission of speech.

While the limit of commercial overhead talking had increased from strictly local to over 1,000
miles as early as 1893 , it was not until 1905 that

GARFIELD PROSPECTS GOOD
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$\$ 15,000$ DEPOSIT SOUGHT Netimn of San Francisco Fire Sas
Seatte Bank Has His Mones.

THAW ASKS FOR MORE TIME
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POINDEXTER GIVES STAND


GARFIELD PROSPECTS GOOD

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