New Haven Connections
Line to Hartford
Silva
Arrahna
Vibrata
Gramone
Gramone
Let $z$ be the conductor.

Connect wire $z$ with $w$.

Let $a$ be the conductor.

Connect wire $a$ with $b$.

Connect wire $b$ with $c$.

Connect wire $c$ with $d$.

Connect wire $d$ with $e$.

When wheel is in position $a$, actuate magnets.

When wheel is in position $b$, actuate magnets.

When wheel is in position $c$, actuate magnets.

When wheel is in position $d$, actuate magnets.

When wheel is in position $e$, actuate magnets.

The magnets to be operated here are $A, B, C, D, E$.

Support the cylinder unrolled.

Non-metallic cylinder with conducting strip ESWN.

Circular magnet with its axis E and N.

Magnet E connects with $E$ and $S$.

Magnet S connects with $S$ and $E$.

Disk of iron or armature of any shape.
<table>
<thead>
<tr>
<th>Location</th>
<th>Natural Current</th>
<th>Copper Current</th>
<th>Zinc Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Office</td>
<td>70</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Capitol</td>
<td>430</td>
<td>360</td>
<td></td>
</tr>
<tr>
<td>Government Print' Office</td>
<td>500</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>Broadway Print' Off.</td>
<td>550</td>
<td></td>
<td>500</td>
</tr>
</tbody>
</table>

- Natural current = 17° to left
- Copper to ground 2 and deflected to right

Our improvements will be understood by reference to the accompanying diagrams which show the arrangement of circuits of a number of telegraphic circuits, some of which are shown as operating other telephones upon secondary circuits.

Fig. 1 shows a telephone similar to that described in 1877, excepting that a single coil surrounds both poles of the permanent magnet, and is polarized in one direction only, so as to cause the magnetic field to be uniform.
Frequently happens that when an inventor by dint of hard work and laborious research brings its perfection some startling discovery and proves its reality in the face of an incredulous world others will afterwards appear to rob him of the credit of his discoveries and to appropriate the fruits of his labours.

When in 1876 Sir William Thomson first directed attention to the results I had obtained in the production of articulate sounds by electrical means — it was only the few who had reliance
I have been somewhat amused at the articles that have appeared from time to time in the public press concerning the original inventor of the Speaking Telephone.
A. Interference A is declared upon the art of transmitting or reproducing at a distance the sounds of articulate speech by means of undulatory currents of electricity.

B. Interference B is declared upon the methods of producing undulatory currents of electricity — viz. by introducing into the circuit a liquid or equivalent substance of high resistance.

C. Interference C is declared upon one of the ways in which the resistance of the circuit may be varied so as to produce undulatory currents — viz. by introducing into the circuit a liquid or equivalent substance of high resistance.

D. Interference D is declared upon the mechanical details of an apparatus for varying the resistance of a circuit through the medium of a liquid so as to produce undulatory currents of electricity.
In F, the apparatus itself constitutes the apparatus itself and corresponds to its use.

In F and G the claim is to the use of the apparatus as a transmitter.

In E and K to its use as a receiver.

And in H to its use either as a transmitter or receiver.

The distinction between E and G is simply that the term "elastic inductive plate or armature" is used in E where "diaphragm" is mentioned in K.

The distinction between F and G is simply that the term "elastic inductive plate or armature" is used in E where "diaphragm" is mentioned in G.

The difference between F and G is that I also distinguish by putting the word "conical diaphragm" after "elastic inductive plate or armature" where F mentions "cone or diaphragm," and G then mentions "cone or diaphragm" and references to the word "cone" instead of "cone or diaphragm."
1st of May (31eboles)

Total number of rounds = 1116
Total number of rounds correct = 569
Percentage of defects = 49

38 / 767 (28)

16th of June

Total number of rounds = 1116
Total number of rounds correct = 870
Percentage of defects = 22

% Improvement

Total number of rounds gained
Percentage of gain = 28%

\[
\begin{array}{c}
368 \\
\frac{4}{2.97} \\
\frac{1368}{311} \\
\frac{105.7}{1.88}
\end{array}
\]

\[
\begin{array}{c}
246 \\
\frac{65}{311} \\
\frac{25.9}{248} \\
\frac{25.0}{2.48}
\end{array}
\]

\[
\begin{array}{c}
31160 (22) \\
\frac{2736}{31} \\
\frac{70}{2.8}
\end{array}
\]
If a disturbance of clods be imparted to the earth at a vast distance, when we clearly perceive that sound results from a particular movement of the air, we shall realize that the means by which this motion is produced in the air is invariable, to the produce of the sound. For instance, it is as feasible to produce spoken words by the motion movement of a piece of wood or iron as it would be by the vocal organs. But that it is only necessary to move the wood or iron in the same way that the air is moved by the voice so the same results follow.

That of sound itself
Means by which sound can be produced
Receiving and transmitting
Current transmitting and receiving
Forms of apparatus
Electrical Engineering

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