the secondary winding (to which the small wire is fastened) should be connected to the small wire (N° 16) under the head of one of the screws holding the brass Sporting Screws. Connect the other end of the same winding to a series of Sporting Screws. Connect the other end of the same winding to a set of Sporting Screws. Connect the other end of the same winding to a set of Sporting Screws.

GILBERT MAGNETIC FUN AND FACTS
as this.

Figure 7 shows a simple winding machine made of construction.

It is working.

Keep the hands away from the primary when it is operating.

Cautions must be observed in using such a device for severe loads. Caution must also be taken on the terminal voltage in the armature and this can be known from the terminal voltage of the secondary winding if induction is increased by a higher number of turns on the secondary winding, but induces electrical flow at a higher pressure.

CIBERT MAGNETIC FLOW AND FACTS

OPERATION

The current is changing from zero to its full value. The current is changing from zero to its full value.

The current is changing from zero to its full value.

As explained previously, the current makes a magnetic field around the primary wire. The strength of this magnetic field is determined by the number of turns on the primary wire and also by the amount of current flowing through the primary wire. The strength of the magnetic field is determined by the number of turns on the primary wire and also by the amount of current flowing through the primary wire.

\\[ E = N \times B \times A \]

where 

- \( E \): Electromotive force
- \( N \): Number of turns
- \( B \): Magnetic field intensity
- \( A \): Cross-sectional area

When the current is complete, adjust the balance screw until the wire is straight and the armature is free of magnetic lines. So they can cross the wire, and the same result can be gained if the wire is straight and the armature is free of magnetic lines.
Magnetic Separators

The fact that some materials are attracted by magnets and some are not has been used many years by manufacturers to separate the two. If you mix steel and iron filings and chips from these, dust, etc., you will find that some will be attracted to the magnet, while others will not. This difference in properties is used to separate these materials.

Magnetic Fingers

Wire a coil with any number of turns of insulated wire. Double the wire and wrap each end around a circular former, thus forming a coil of wire. Glue the ends of the wire to the former. By moving the coil of wire around, you will find that you can turn the fingers of the coil into a ring of metal. A very strong and surprising effect can be done with this coil.

Hanging a Ring or Key on a Picture Frame

The coil is placed on the frame, and then the ring or key is placed on the coil. Draw a picture, then cut a piece of paper and lay it on the frame. Draw a picture, then cut a piece of paper and lay it on the frame. Now, using your fingers, move the ring or key around the frame. When you have done this, the ring or key will turn into a ring of metal. A very strong and surprising effect can be done with this coil.

The Fake Electromagnet

Thread some wire around a board or other material, then connect the ends of the wire to a battery. Using your fingers, move the wire around the board. When you have done this, the wire will turn into a ring of metal. A very strong and surprising effect can be done with this coil.

Magnetic Designs

The current is flowing, you will see a distinct vibration of the magnetic. If you connect another coil to the wire, you will see the vibration increase. If you connect a second coil to the wire, you will see the vibration decrease. If you connect a third coil to the wire, you will see the vibration increase again.

Is the Electricity in Your House Alternating?

Gilbert Boy Engineering
You can keep the pendulum swinging as long as you can get
it through this position, and then cut it out of paper and let
it pass by to the other side as shown in the dotted lines. When
you open the switch on the control will flow. This will allow the
ground path to the pendulum, which will then swing out
again; so that when the pendulum is directly over the circuit
you can read, or see, that the pendulum is directly over the
circuit you can
place a switch or some other means for breaking your electric
circuit when you have finished your investigation. If you
wish you can suspend your steel ball or wire suspended on
which you have fastened your own wire of iron wires or
iron. It is shown in Figure 8 to suspend over this a steel
screw.

**Electrical Pendulums**

Introduce how this can be done piece a coil of wire with a screw
thread. How this can be done piece a coil of wire with a screw

**A Test for Live Wires**

At some time or other you may wish to know whether or not
the wires are carrying a current or whether there is any electricity.

To Tell If Iron from Brass

One side of it and on the other side of it iron or steel.

One of the types of machines used by manufacturers is built as
shown. In addition to these simple tests where the particles will remain
behind, there are many others which check the above.
De Laval’s Floating Coil

The diagram shows a device to generate electricity using a coil of wire. The wire is wound around a core, and when a current flows through it, a magnetic field is created. This principle can be used to generate power using water flow or other means of fluid motion.

Repetition Between Turns of a Coil of Wire

The text describes the effect of two coils of wire when placed close to each other. When a current flows through one coil, it creates a magnetic field that affects the other coil. This phenomenon is used in various applications, including transformers and inductive coupling devices.

Some Very Interesting Magnetic Figures Produced

The diagram illustrates how to create magnetic figures using a coil of wire and a magnet. By adjusting the length of the wire and the strength of the magnet, various shapes can be formed, such as rings, spirals, or even intricate patterns. This can be demonstrated in class as an engaging science project.
In Figure 84, make a ring of thin sheet aluminium which will fit
Make a solenoid and place it in a chunk of iron wires as shown.

**ALTERNATING CURRENT**

**MAGNET REPULSION**

**Fig. 84**

**TO ALTERNATING CURRENT**

Current circuits by which they remove magnetism from watches.

*Gilbert's Magnetic Fun and Facts*

---

**HOW TO DE-MAGNETIZE YOUR WATCH**

On the bar magnet will it be around the middle of the pole? If you
hold a little way off you will see how well the pole of the coil will draw itself from the bar magnet into the north pole. If you then hold the north pole of the bar magnet into the north pole of the magnet and the nearest pole of the coil are alike or different the latter will be repelled and attracted, depending whether or not the coil of wire. If you now hold a bar magnet near the coil, the coil will be battery with driving battery as a current will flow through it.

---

*Gilbert's Boy Engineering*
**Electric Clocks**

To make the sharpest sound with the most power, the metal and the wood will meet very much so they will diffuse the sound around in the box. The screw and the knob in Figure 55 will improve your listening.

**Figure 56**

![Diagram of an electric clock](image)

**Terminal Posts**

- **Base**
- **Sounder Arm**
- **Cabinet**

**Cabinet Magnetic Fun and Facts**

If the contacts are closed, the instrument and work the key. You will hear a "click" every time the contacts close and open. This shows that the coil is in place. If you now connect a dry battery to the board, you will observe the sound. Place the other terminal post to the knob and on the upper side of the knob, the other end of the sounder.

**A Simple Telemetric Sounder**

But if held down by the arm, the weight of the arm will make the sounder move away from the sounder. This is called the "Aeromechanism of the sounder." If you press the coil, you can move it to and from the center of the coil. This is called the "Aeromechanism of the sounder."
ROTATION OF LIQUIDS

Iron I of the pendulum is pulled first one way and then the other.
These contacts are connected to the magnets in such a way that the
contacts open and close. By studying the connection, you will see
that the pendulum swings, first one way, then the other. As the
contacts are nulled by two contact points, one on each side of the
iron, a very loose-running electric-magnet. On the shaft of the
core, a very loose-running electric-magnet. On the shaft of the
cup, a very loose-running electric-magnet. On the shaft of the
cup, a very loose-running electric-magnet. On the shaft of the
cup, a very loose-running electric-magnet. On the shaft of the
cup, a very loose-running electric-magnet. On the shaft of the

C. Gilbert Boy Engineering