

# PHYSICAL SCIENCE - HAIR DRYER

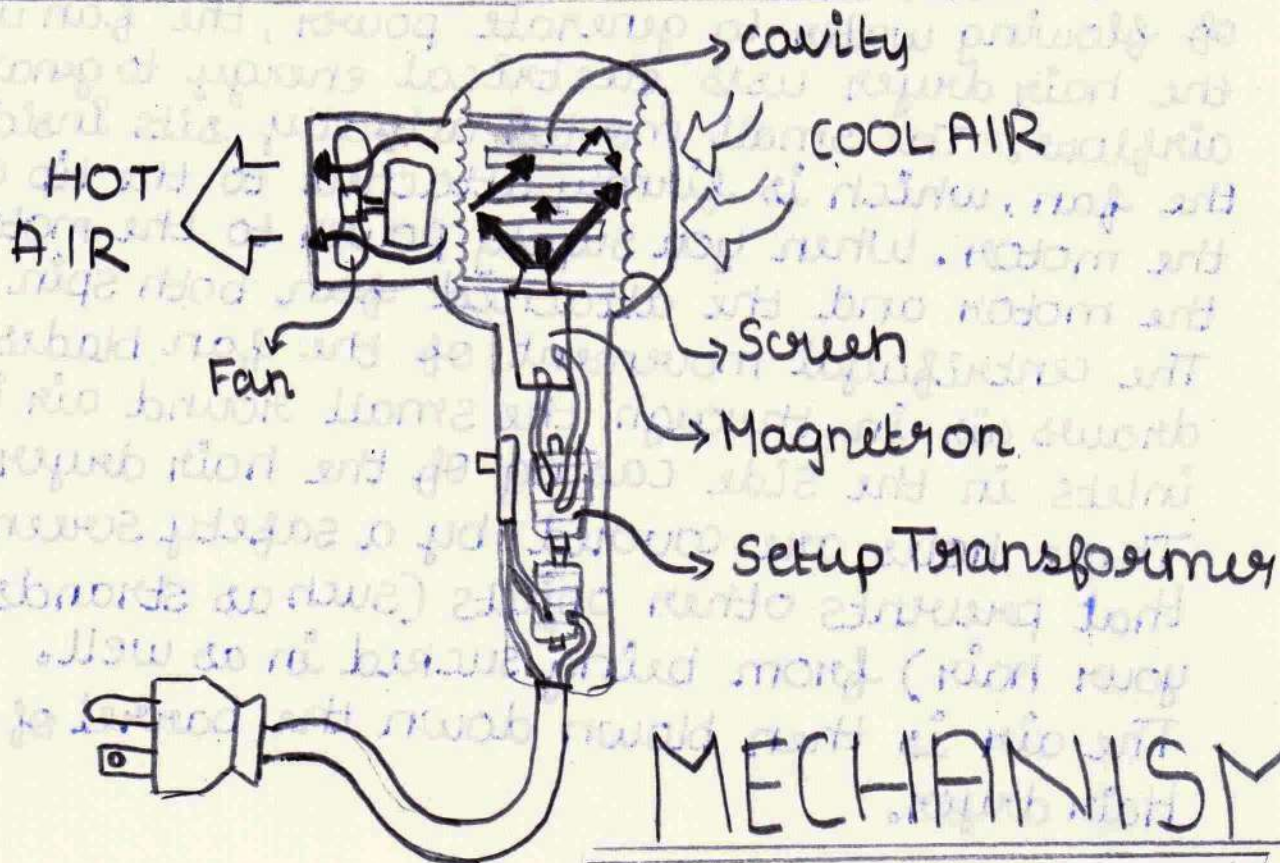
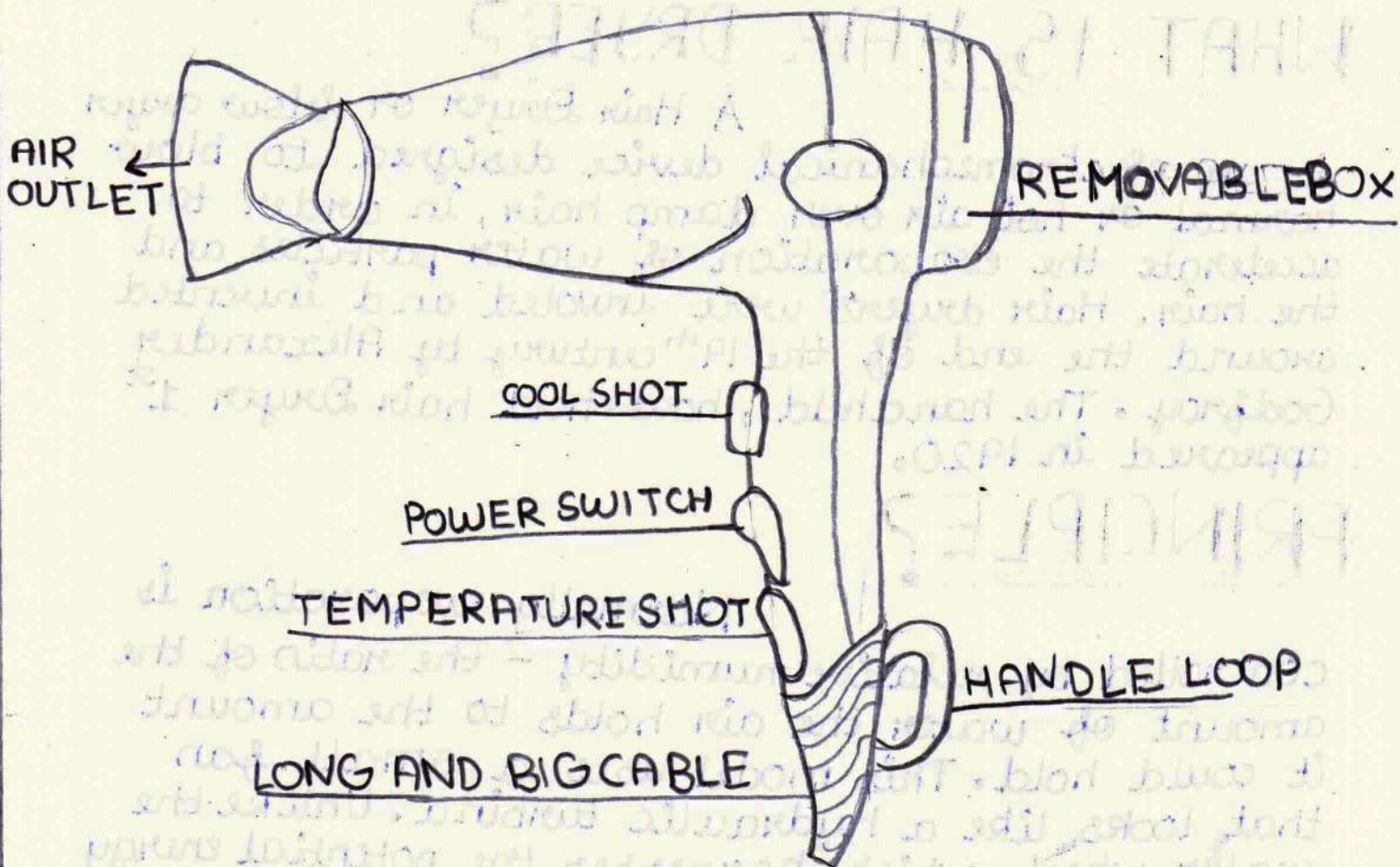
## WHAT IS HAIR DRYER?

A Hair Dryer or blow dryer is an electromechanical device designed to blow normal or hot air over damp hair, in order to accelerate the evaporation of water particles and the hair. Hair dryers were invented and invented around the end of the 19<sup>th</sup> century by Alexander Godfroy. The handheld, household hair Dryer 1<sup>st</sup> appeared in 1920.

## PRINCIPLE?

Normally, evaporation is controlled by relative humidity - the ratio of the amount of water the air holds to the amount it could hold. This model uses a small fan that looks like a hydraulic turbine. Unlike the water wheel, which harnesses the potential energy of flowing water to generate power, the fan in the hair dryer uses electrical energy to generate airflow. The small motor actually sits inside the fan, which is firmly attached to the tip of the motor. When you supply power to the motor, the motor and the attached fan both spin. The centrifugal movement of the fan blades draws air in through the small round air inlets in the side casing of the hair dryer. These holes are covered by a safety screen that prevents other objects (such as strands of your hair) from being sucked in as well. The air is then blown down the barrel of the Hair dryer.

# HAIR DRYER



# HOW DOES A HAIR DRYER WORK?

The two important components of a hair dryer are electric fan and the heating element. Hair dryers are assembled from a series of components including the electrical motor, the fan blade, copper wiring, switching mechanisms and various other electrical components. The plastics used to make the outside shell of the hair dryer must be durable, yet light weight. The heating element is made of nichrome wire, which is a resistor. A resistor resists the flow of electrical energy, turning it into heat energy. In a hair dryer, the air blows past the resistor, absorbing heat as it passes. They work by blowing room temperature air in through vents.

Applying power to the hair dryer allows the motor to start spinning the fan inside, and that is what draws the air through small air holes on the side of the dryer.

Hair dryers use the motor-driven fan and the heating element to transform.

The whole mechanism is very simple,

1. When you plug in the hair dryer and turn the switch to "ON", current flows through it.
2. The circuit first supplies power to the heating element. This is a bare, coiled wire, but it models that are more expensive there can be fancier materials in action, like a tourmaline-infused ceramic coating.
3. The current then makes the small electric motor spin, which turns the fan.
4. The Airflows generated by the fan is sent down the barrel of the dryer and through the heating element.

5. The Hot air streams out of the barrel. Now that we've got the heat, read on to find out how the dryer gets that heat moving.

## TYPES OF AIRFLOW:

Most hair dryers have high & low airflow settings. This is accomplished very simply by altering the current flowing through the part of the circuit feeding the motor. When the power supplied is low, the motor and the fan spin slowly. Less air is pushed through the dryer. With more air power, the motor speeds up. The fan rotates rapidly, drawing in more air and increasing the Airflow.

## ADVANTAGES:

The Major Advantages of a soft bonnet hair dryer is its overall flexibility and ease of transport. Most makes fit into a tidy case and could be bought on our annual holidays or work trips without being too large, this is not something you would ever envisage doing with a hard hat hooded hair dryer.

## DISADVANTAGES:

When you use follicles get damaged due to heat, it becomes fragile and it opens the pores the scalp that increases the hairfall in a long run. Anything that is heat destroy the hair. It makes the hair frizzy but many people do use it for styling purpose. But proper care of hair would need to be styled. You have to do oil massage your hair before the one day of streaming.