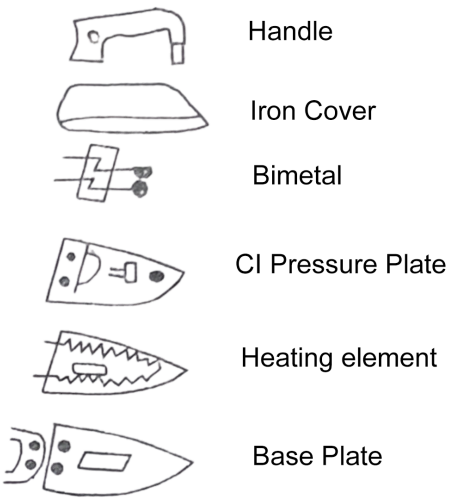
Electric iron:-

1. **Sole Plate:** It is made of cast iron and is generally chromium plated so that it does not rust. It is the base of the press which has bolts in which element is fixed.

2. **Heating Element:** It is made of nichrome strip or ribbon wound over a sheet of mica. The element is kept between the two mica sheets so that it does not come in contact with the metallic part of the iron. The two ends of the element are connected to contact strips. The entire assembly is riveted together, resulting in a mechanically sound construction.



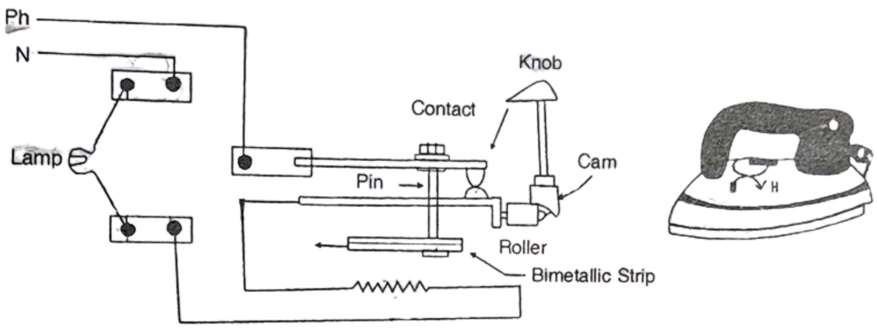
3. **Pressure Plate:** It is also made of cast iron and is kept over the element. It offers a pressure on the element and keeps the element in its place.

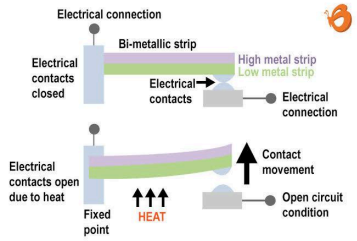
4. **Cover:** It is made of thin sheet of iron, either painted and backed or plated. The cover plate snugly sits on top of the base plate, covering the internal organs of the press. The cover also carries the handle and the connector.

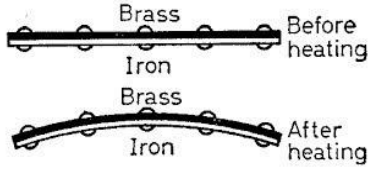
5. **Handle:** It is made of wood or ebonite. It is attached to the cover plate by means of a screw. In some types of presses, the studs on the base plate are used for this purpose.

Note: There should not be any dent in the sole plate and the pressure plate, only one part getting heated will cause the element to burn. To rectify this, the surface has to be made plane by the planner. Nowadays light weight tube type presses are more widely used. These types of presses are fitted with automatic elements.

Automatic Press: In this press, a pilot lamp and thermostat are used in addition to the parts of an ordinary press. A pilot lamp is housed in the cover of the chamber in the handle. It shows that press is 'ON' or it indicates that press is disconnected to the heat supply by the action of the bimetallic strip since it is sufficiently hot. In this case pilot lamp is connected across the U-shaped spring contacts.







Thermostat: This is one of the most important items in the automatic press and it makes use of a bi-metallic strip to operate a switch, which is connected in series with the element as shown in Figure. The bi-metallic strip is mounted in a rectangular depression in the pressure plate. Two spring contacts are held together with certain pressure which is controlled by the position of the temperature adjusting knob. For cotton clothes when we require high temperature it is required to let compressed be developed that makes bi-metallic strip to bend much upwards thereby realizing the downward force applied on roller down with small amount. The pressure between contact point increases. When knob is moved to low temperature, when knob is kept at position for such clothes, cam presses the strip by the action of the spring and separates the contact between contacts. Thus bending of bimetallic strip by small reduces the gap in position to separate the contact. As soon as the press has cooled sufficiently, the spring action of upper contact. As soon as the press has cooled sufficiently, the contact points touch again and current flow through the element and the iron heats up once again. In this way, the temperature is kept fairly constant within limits.

Steam Press: Steam press is different from dry press in only one manner. In a steam press, there is a provision of storing water above the element. When the press is hot, water enters the sole plate and is converted into steam due to heat. Sole plate have holes through which the steam spreads completely in the area. Water level is controlled through a valve so that the necessity of water can be increased or decreased. A steam press is shown in the Fig. 17

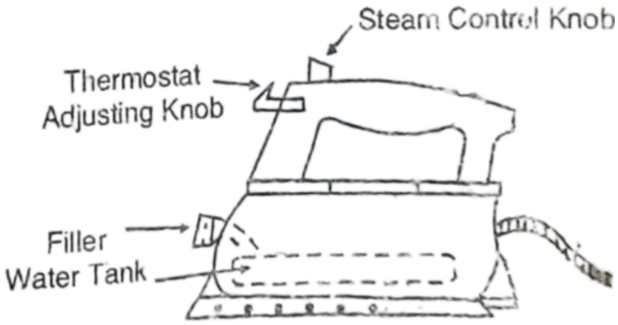


Fig. 17 Steam Iron Press

ইলেকট্রিক আয়রন প্রেস ঠিক করার ধাপসমূহ:

✅ পাওয়ার সংযোগ পরীক্ষা:

- প্লাগ সকেটে বসিয়ে মাল্টিমিটার দিয়ে ভোল্টেজ চেক করো (220V থাকছে কিনা)।
- আয়রন প্রেস চালু করলে লাইট জ্বলে কিনা দেখো(যদি লাইট থাকে)
- তার কোথাও ছেঁড়া, পোড়া বা শর্ট সার্কিট হয়েছে কিনা চেক করো।
- মাল্টিমিটার দিয়ে লাইন এবং নিউট্রাল কানেকশন ঠিক আছে কিনা মাপো।

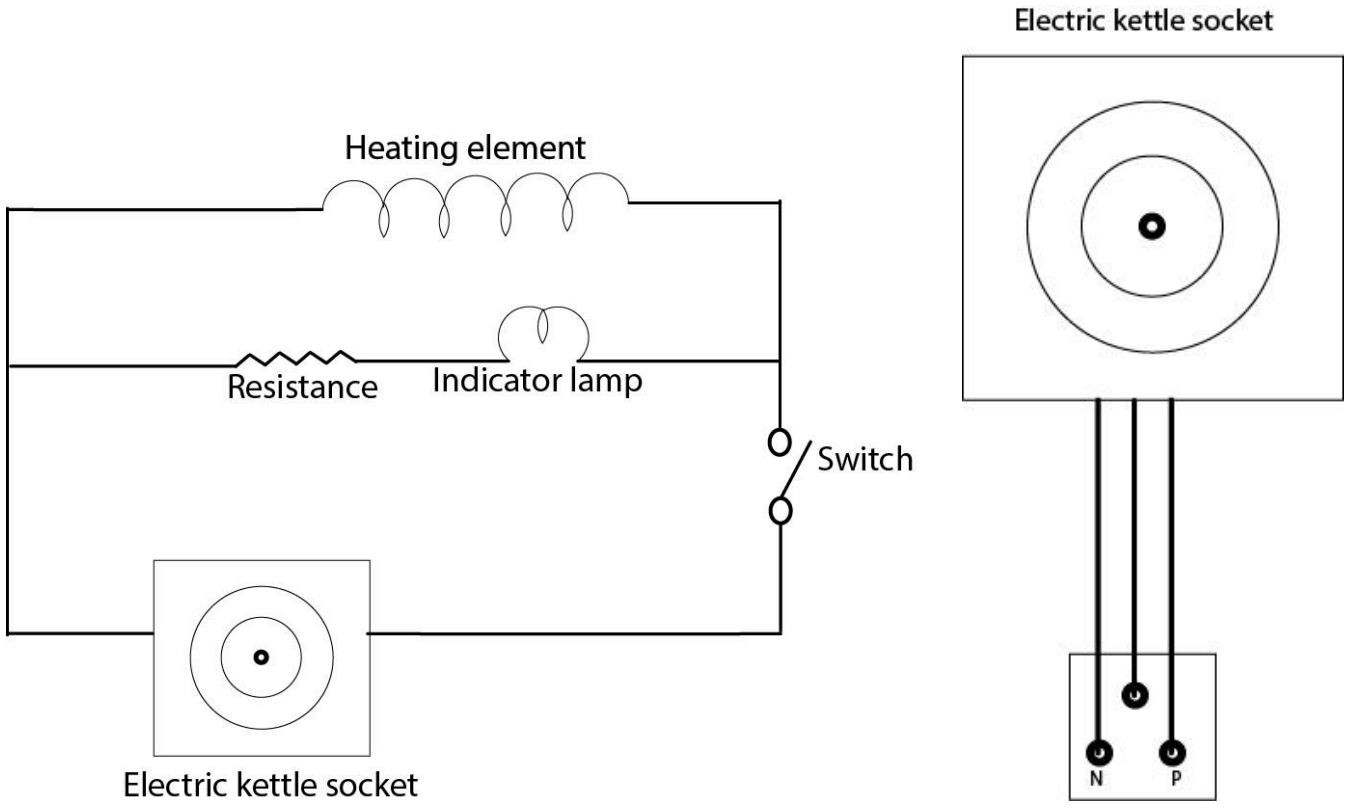
✅ আয়রন গরম হচ্ছে কিনা পরীক্ষা করো:

- যদি গরম না হয়, তাহলে হিটিং এলিমেন্ট নষ্ট হতে পারে।
- মাল্টিমিটার দিয়ে হিটিং এলিমেন্টের রেজিস্ট্যান্স (Ω) মাপো। (সাধারণত 20Ω - 100Ω এর মধ্যে থাকে)
- যদি সার্কিট ব্রেক হয় (OL দেখায়), তাহলে নতুন হিটিং এলিমেন্ট লাগাতে হবে।

✅ থার্মোস্ট্যাট ঠিক আছে কিনা:

- মাল্টিমিটার দিয়ে থার্মোস্ট্যাটের কানেকশন চেক করো।
- যদি থার্মোস্ট্যাট কাজ না করে, তাহলে এটিকে বাইপাস করে দেখো গরম হয় কিনা।
- যদি বাইপাস করলে গরম হয়, তাহলে থার্মোস্ট্যাট পরিবর্তন করতে হবে।

Electric kettle circuit diagram:



ইলেকট্রিক কেটলি ঠিক করার ধাপসমূহ:

✅ ১. পাওয়ার সংযোগ চেক

- প্লাগ সকেটে লাগিয়ে ভোল্টেজ (220V) ঠিক আছে কিনা দেখো।
- মাল্টিমিটার দিয়ে কেটলির তার (cord) ও প্লাগ চেক করো।

✅ ২. হিটিং সমস্যা সমাধান

- কেটলি গরম হচ্ছে কিনা চেক করো।
- মাল্টিমিটার দিয়ে হিটিং এলিমেন্টের রেজিস্ট্যান্স মাপো (সাধারণত 20Ω-50Ω)।
- যদি OL দেখায়, তাহলে হিটিং এলিমেন্ট পরিবর্তন করতে হবে।

✅ ৩. থার্মোস্ট্যাট ও কাট-অফ সুইচ পরীক্ষা

- কেটলি গরম হলে স্বয়ংক্রিয়ভাবে বন্ধ হচ্ছে কিনা দেখো।
- মাল্টিমিটার দিয়ে থার্মোস্ট্যাট চেক করো, কাজ না করলে পরিবর্তন করো।

Mixer:-

It is used in homes to prepare shakes and grinding purposes etc. It consists of a high-power motor because chopping and shredding require more power. The universal motor is used in it. The following main parts as shown in the figure are:

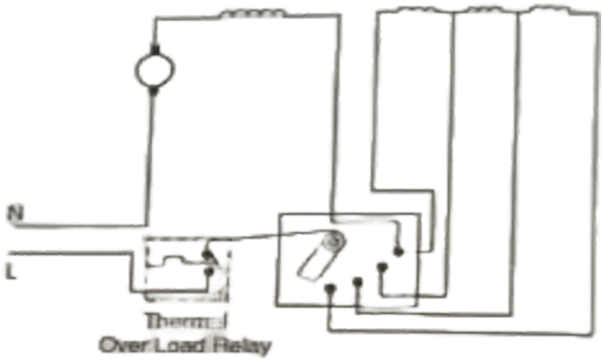
(1) Universal Motor
(2) Blender
(3) Blade
(4) Grinding Cup

(a) **Universal Motor:** It is a series motor, with high speed and torque, which can be used on both A.C/D.C. supply.

(b) **Blender:** It is made of transparent plastic. Nowadays, it is also made of steel. Any kind of liquid or semi-liquid substance can be mixed in it, e.g., mango shakes, banana shakes, etc.

(c) **Blade:** It is made of stainless steel and is available in different sizes as required.

(d) **Grinding Cup:** It is a small jar which is used by fixing it on the housing of the mixie. It is basically used to grind dry spices like garam masala, chili, etc.



Mixer grinder