

does quite well) is heated over a fire, or is placed between two supports over a gas-flame.⁵⁵ On this plate must be laid the piece of glass to which the slice is to be affixed, together with the slice itself. A little Canada balsam is dropped on the centre of the glass and allowed to remain until it has acquired the necessary consistency. To test this condition, the point of a knife should be inserted into the balsam, and on being removed should be rapidly cooled by being pressed against some cold surface. If it soon becomes hard enough to resist the pressure of the finger nail, it has been sufficiently heated. Care, however, must be observed not to let it remain too long on the hot plate; for it will then become brittle and start from the glass at some future stage, or at least will break away from the edges of the chip and leave them exposed to the risk of being frayed off. The heat should be kept as moderate as possible, for if it becomes too great it may injure some portions of the rock. Chlorite, for example, is rendered quite opaque if the heat is so great as to drive off its water.

When the balsam is found to be ready, the chip, which has been warmed on the same plate, is lifted with the forceps, and laid gently down upon the balsam. It is well to let one end touch the balsam first, and then gradually to lower the other, as in this way the air is driven out. With the point of a needle or a knife the chip should be moved about a little, so as to expel any bubbles of air and promote a firm cohesion between the glass and the stone. The glass is now removed with the forceps from the plate and put upon the table, and a lead weight or other small heavy object is placed upon the chip, so as to keep it pressed down until the balsam has cooled and hardened. If the operation has been successful, the slide ought to be ready for further treatment as soon as the balsam has become cold. If, however, the balsam is still soft, the glass must be again placed on the plate and gently heated, until on cooling, the balsam fulfils the condition of resisting the pressure of the finger-nail.

Having now produced a firm union of the chip and the glass, we proceed to rub down the remaining side of the stone with coarse emery on the iron plate as before. If the glass cannot be held in the hand or moved by the sim-

⁵⁵ A piece of wire-gauze placed over the flame, with an interval of an inch or more between it and the overlying thin iron plate, tends to diffuse the heat and prevent the balsam from being unequally heated.