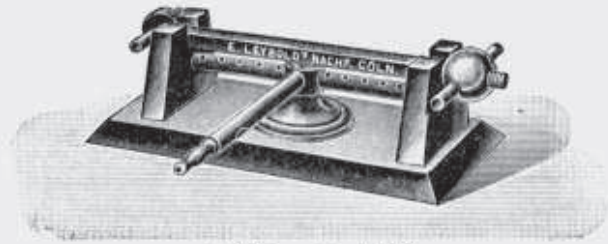




1487.



1488.



1489 with 1490.



1504.



1492.

Heat.

A. Expansion of Bodies. Thermometry.

1487. **Brass ball** with ring to show expansion of solid bodies by heat. [Fig. $\frac{1}{8}$ nat. size.] \$ 1,15
 When the ball and ring are at the same temperature the ball will not pass through the ring. On heating the ring the ball drops through.
1488. — Weinhold's form. (W. D. Fig. 324, p. 461.) [Fig. $\frac{1}{8}$ nat. size.] * 2,15
 When the ball and ring are at the same temperature the ball passes through the ring. On heating the ball it expands and no longer passes through; it can now be placed on the ring and, after a time, when sufficiently cooled, it will again fall through.
1489. **Contraction apparatus** after Tyndall, to show the great force exerted by metals during contraction on cooling; with 12 cast iron bolts. [Fig. $\frac{1}{7}$ nat. size.] * 3,00
 The four sided iron rod is placed in the frame so that the eye lies against the support with two side projections; the rod is then heated and the cast iron bolt put horizontally into the hole. The nut is then screwed up as tightly as possible and the rod allowed to cool. After a short time the bolt breaks with a sharp crack. Using the burner No. 1490 the rod must be heated for about 5 minutes. The bolt breaks after about 10 minutes.
1490. **Burner** for heating the four sided iron rod without removing latter from the frame. This burner is also suitable for heating the pyrometer rod No. 1492. [Fig. with No. 1489, $\frac{1}{7}$ nat. size.] * 1,75
1491. **Spare bolts** for No. 1489 * 0,03
1492. **Lever pyrometer after Muschenbroeck**, simple arrangement with iron rod. For heating the rod use burner No. 1490. [Fig. $\frac{1}{8}$ nat. size.] * 3,50
1504. **Two ring shaped compound metal strips**, not quite closed, each consisting of brass and iron. (W. D., p. 473.) [Fig. $\frac{2}{5}$ nat. size.] * 1,65
 On warming in a spirit or bunsen flame, the distance between the ends of the rings changes, increasing or decreasing according as the brass strip is inside or outside.