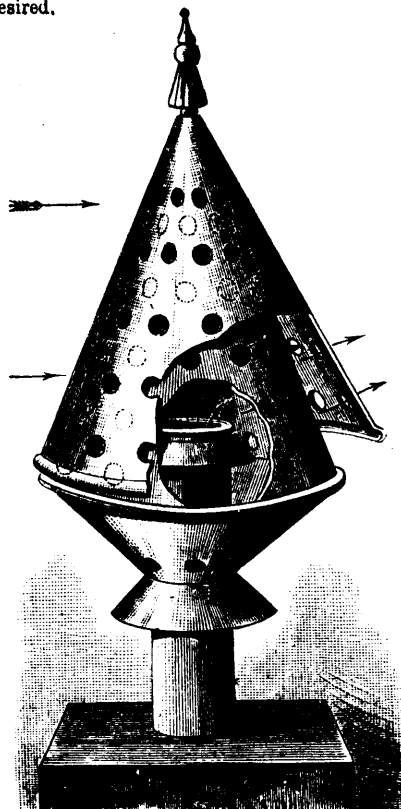


A WROUGHT-IRON FINIAL, DESIGNED BY
C. DOLLINGER.

NEW CHIMNEY CAP AND VENTILATOR.

We give an engraving of a novel and simple chimney cap recently patented by Mr. William D. Bartlett, of Amesbury, Mass. It is designed to meet all the conditions necessary to the perfect working of a chimney or ventilator, and works equally well in a high wind or perfect calm. In this respect it is claimed that this device has great advantage over others intended for the same purpose, and in its construction it is certainly as simple as could be desired.



BARTLETT'S CHIMNEY CAP AND VENTILATOR.

The chimney cap consists of a perforated cone closed at the top and forming a housing around the escape flue, which cap is fitted with a perforated conical hood that is slightly larger than the fixed cap, and is hung loosely at its apex, so that it may swing freely. The holes in the hood do not register with those in the fixed cap, so that as the hood is pressed by the wind against the cap the openings are closed on the windward side, while there is free exit at the opposite side.

The cones are broken away in the engraving to show the internal construction.

The device is adapted equally well to chimneys and to ventilating shafts or flues.

LUBRICATING QUALITIES OF OIL.—The lubricating qualities of an oil are inversely proportional to its viscosity; the endurance of a lubricant is, in some degree, proportional to its adhesion to the surface forming the journal. An ideal lubricant in these respects, would be a fluid whose molecules had a minimum cohesion for each other, and a maximum adhesion for metallic surfaces. Viscous oils adhere more strongly to metal surfaces, hence it is obligatory to use such thick lubricants on heavy bearings. With light pressures more fluid oils are admissible, and in all cases the oils should be as limpid as possible. Oils with great endurance are likely to give great frictional resistance, and in the endeavour to save gallons of oil, many a manager has wasted tons of coal. The true solution of the problem of lubricating machinery is to ascertain the consumption of oil and the expenditure of power, both being measured by the same unit, namely, dollars. Mr. Woodbury detailed his experiments in measuring the fluidity of oil; omitted their endurance, because consumption of oil varies with temperature, and gave the data for determining the safety and efficiency of a lubricant.