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<image>http://gallica.bnf.fr/ark:/12148/btv1b10500001g/f150.image</image>

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<id>p072v\_1</id>

<head>Casting</head>

<ab><m>Lead</m>, which is mortified &amp; weighty, wants to be cast hot, more so than <m>tin</m>. And when it is not hot enough, it makes lines in the medal. <del>It</del> <m>Straw</m> burns in it, provided it is hot. One can make a <m>solder</m> so soft &amp; runny that it can be melted in a <tl><m>tin</m> dish</tl>. It is composed of one <ms>part</ms> <m>looking glass tin</m>, one <ms>part</ms> <m>soft tin</m>, &amp; another <ms>part</ms> <m>lead</m>. It runs very neatly and is cast in leaves, but the work is very brittle &amp; prone to breaking. The best <m>solder</m> is the common one for casting well, but <del>is</del> leaves certain lumpy points. Alloy <m>lead</m> with <m>tin</m> so that the ingot that you will cast comes out even &amp; shiny &amp; polished, &amp; without any eyes or bubbles except for a small point in the middle. And this sign will tell you that there is enough <m>tin</m>, otherwise the <m>lead</m> dominates too much. Sand is good for <m>lead</m> &amp; <m>tin</m>. The good one is very thin &amp; fine &amp; lean, which however sticks together between one’s <tl><bp>fingers</bp></tl>. The sand wants to be reheated before being put to work. And <del>once</del> to mold <add>with it</add>, it wants to be very moistened &amp; then reheated, not all at once nor with a burst of fire, for this corrupts &amp; makes it shrink &amp; crumble as well. But if you reheat it gently, it renders itself very stiff, once well moistened. One ought to pass it through a <tl>shirt <add>sleeve</add></tl> for the finest one, in order to first put some on the piece to mold.</ab>

<ab>One makes a <m>solder</m> with <m>quicksilver</m> <del>but</del>which is white, but it is brittle. Make your <tl>box mold</tl> so that it joins well &amp; that one does not see the daylight between the joints.</ab>

<ab>The <pl>Germans</pl> cast their <m>leads</m> very thinly, rather than very thickly, because it seems they come out better, but so that are not too pliant, being so thin, they mix a little <m>tin</m> with the said <m>lead</m>, which otherwise would fold up like <m>wax</m>.</ab>

<ab>The blackest <m>lead</m>, so say some, is the best &amp; the softest &amp; which runs the best. <sn>You will know its goodness by rubbing it with your <tl><bp>finger</bp></tl>, which will render it very black quickly</sn>. </ab>

<ab>The alloy good for running <m>lead</m> &amp; <m>tin</m> is per one <ms>lb</ms> of <m>lead</m>, one <ms>lb</ms> &amp; a half of <m>tin</m> <del><fr>aultr</fr></del>, so that the tin exceeds more than one <ms>part</ms>. It is <m>solder</m> which flows well &amp; that is good for casting, but it is brittle.</ab>

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To make the <m>lead</m> flow well, one puts in a little <m>quicksilver</m>.</ab>

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Rub <m><al>cuttlefish</al> bone</m> on a <tl>well smooth table</tl> to flatten it &amp; one against the other &amp; cross the two <m>bones</m> with <tl>pegs</tl> to mark the place.</ab>

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<tl><m><al>Cuttlefish</al> bone</m></tl> molds <m>lead</m> better than anything else. But try it to see if it needs reheating. <del>One ought to mold on the back of the <m>bones</m> &amp; from this side for the <m>marrow</m> is more delicate there.</del></ab>

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The <m>bone marrow</m> towards the tail is more delicate &amp; does have not as many stripes &amp; molds more cleanly. The <m>shell</m> which holds the <m>marrow</m>, once calcined, is good for making sand.</ab>

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When you cast <m>lead</m>, one ought to cast it <del>cast very neatly</del> <add>rather</add> hot, &amp; not at once &amp; shake the <tl>box mold</tl> a little &amp; cast two or three times. However, if it is cast too hot, it will rise up &amp; swell. When it is very hot, it becomes blue, let it then pass this color <del><fr>deva</fr></del> &amp; rest a little before casting.</ab>

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Some, such as <pro>printers</pro>, mix <m>iron filings</m> or <m>pins</m> in the <m>lead</m>, <del>but</del> in order to render it hard. But this renders it brittle &amp;<del>not</del> it breaks under the <tl>hammer</tl>.</ab>

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Take a <tl>wirebrush</tl> to clean your <tl>molds</tl>.</ab>

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