<page>139r</page>

<image><http://gallica.bnf.fr/ark:/12148/btv1b10500001g/f283.image></image>

<div>  
<id>p139r\_1</id>  
<head>Casts of <m>lead</m> and <m>tin</m></head>

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<add>When it is often melted, it becomes brittle &amp; <del><fr>fl</fr></del> frangible, because it is cast very hot &amp; renders it half calcined. Therefore, use new ones. </add></ab>

<ab>The alloy that I have put in use for <al>lizards</al> &amp; <al>snakes</al> is two <ms>℥</ms> of <m>fine tin</m> for one <ms>lb</ms> of <m>new &amp; unadulterated lead</m>. The <tl>mold</tl> is made of the above said sand, common to all <m>metals</m>, when it is reheated let it cool <sn>until you can hold your <tl><bp>finger</bp></tl> without harm in the hole of the gate</sn>. As for <m>lead</m>, one melts it in a <tl>crucible</tl> <del><fr>ju</fr></del> in the fire, with <tl>bellows</tl>, until the <tl>crucible</tl> &amp; the <m>lead</m> are red. When it is in this state, purge it again of <m>charcoal</m>, either with a <tl>scraper</tl> made for this purpose or with the wind of a <tl>little bellows</tl>. <del><fr>l</fr></del> This done, let it rest thusly red &amp; reheat a little on its own, then throw in, if you want, a little <m>resin</m>, to burn the <m>filth</m>. However some find it better not to put any in, because it leaves <m>filth</m>. But, when they are ready to cast, they ought not to forget to throw inside as well, <ms>as big as a <pa>bean</pa></ms> of <m>looking-glass tin</m> for each <ms>lb</ms> of <m>lead</m>, and that it <del><fr>e</fr></del> should be red like <m>melted metal</m> when it enters in the <tl>mold</tl>. And if the <tl>mold</tl> is big, it is better to put it in a <tl>press</tl>, in order that it joins well &amp; that the <m>lead</m> does not spread at all outside the <tl>mold</tl>. However, should this happen &amp; that for the first or second or third time your <tl>mold</tl> were not full, cast boldly, for, provided that your <m>metal</m> is red, it will set again &amp; join with the other, and come out very neat, like the principal one. The same can be said for <m>fine tin</m> for thin things. And the alloy of <m>fine tin</m> is one <ms>℥</ms> of <m>new lead</m> for one <ms>lb</ms> of this. Large <tl>molds</tl> should be placed in <tl>very tight presses</tl>, between two <tl><m>sheets of copper</m></tl> <del><fr>pu</fr></del> &amp; then bury them in the sand, which is better than <m>ash</m>, because <del><fr>i</fr></del><del><fr>l</fr> is</del> by its weight it seals better. <corr>Otherwise</corr> these<tl> large molds</tl> are subject to opening slightly by the weight of the <m>metal</m>. Some make <tl>square pots</tl></ab>

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When the medal is thick, one is not bound to casting as hot as when it is thin.</ab>

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Note that if you want to cast with <tl><m><al>cuttlefish</al> bone</m></tl>, they ought not be very hot, because they will burn the <tl><m><al>cuttlefish</al> bone</m></tl>. <ms>Test for this effect with <tl><m>paper</m></tl>. If it reddens the <tl><m>paper</m></tl>, it is enough, it is good to cast, but if it blackens the <tl><m>paper</m></tl>, it is too hot.</ms></ab>

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@If you want to cast a <m>written paper</m>, make your alloy with <del><fr>plom</fr></del> <ms>half</ms> <m>lead</m> &amp; <ms>half</ms> <m>tin</m> &amp; as soon as it is melted, cast between two <tl><m><fr>carton<add>s</add></fr></m></tl>, <env>in a very flat &amp; level place</env> &amp; with a <tl>point of <m>gold</m> or <m>hard wood</m></tl>, engrave on the left the writing that you want. And having poured <m>lead</m> on a <tl><m><fr>carton</fr></m></tl>, press on top with the other <tl>adapted <m><fr>carton</fr></m></tl>.</ab>

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