<page>023r</page>

<image>http://gallica.bnf.fr/ark:/12148/btv1b10500001g/f51.image</image>

<div>

<id>p023r\_1</id>

<ab>A mortar is made so that it weighs three <ms>quintals</ms> and carries a cannonball flat on the side from which it must exit and round on the side of the cannon, as if it was a cannonball cut in half. It is two pans long. It has to be loaded with xxv <ms>lb</ms> of powder because it has to be full to the opening and has to fire. Its bottom is not thicker than the opening and is made of one single piece. Its material has to be better than other artillery pieces, and for 4 <ms>quintals</ms> of fine <m>copper</m> there must only be one quintal of <m>metal</m> so that it absorbs the shock, and so that, when fired with more force, it is more efficient. It has to be used against a door with a large <m>iron</m> cross before the bullet, and once loaded, needs to be covered with a firmly sewed rough <m>canvas</m> which should be completely smeared with <m>turpentine</m>. Four handles need to be added to it while it is cast, it is thus easier to place. The <m>iron</m> cross is fixed to the opening with the <m>canvas</m> covering it. The handles have to be held at its opening's edge, as you can see. To place it, you need three or four <m>iron</m> <tl>pegs</tl> of one <fr><ms>pan</ms></fr> long and as thick as a <ms><bp>finger</bp></ms>, which have their point like a <tl>gimlet</tl>, and their body like a screw as they are strongly pulled, and a ring on the other side to turn them with a short <tl>stick</tl> that fits into the <tl>ring</tl>. And the <tl>pegs</tl> are fixed on the door, not straight, because they would not have any strength, but crooked as if you wanted to fix them towards the middle of the <m>mortar</m>, and to do the holes of the handles need to be quite large. In that way, the shooting <m>mortar</m> pushes the <tl>pegs</tl> back and forth into the door, and makes more damage. Once in place, you need to have <fr>saucisse de <m>buckram</m></fr> @ made in this manner: take eight or nine <fr><ms>canes</ms></fr> of <fr><m>buckram</m></fr> selvage or more if the gap is larger, which have to be as large as four or five <ms><bp>fingers</bp></ms>, have it sewn in such a way so that it is like an intestine where a <tl>stick</tl> as thick as a <ms><bp>finger</bp></ms> can fit. Fill it completely with good</ab>

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This one is to be put below an undermined tower with its opening towards the top. One casts two large <m>iron</m> <tl>rings</tl> and, with a <tl>stick</tl> or two, four men carry it. They are also used for placing within wall breaches but just half a charge is necessary, that is x <ms>lb</ms>, and fill the rest with some <m>pebbles</m> and <m>cart stones</m></ab>.

<figure>

<id>fig\_p023r\_1</id>

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<link><https://drive.google.com/open?id=0B9-oNrvWdlO5RzRNM284T3Q0eTQ></link>

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It needs to be covered entirely with a <m>waxed</m> <m>canvas</m> and rubbed with <m>turpentine</m> and other <m>combustible things</m>. This cover is made to ensure that the bullet does not fall and so that, when the cover is given fire, the <m>powder</m> does not fail. Upon the fuse, you will need to put a good quantity of <m>powder</m>. Some put on the ball a cross of <m>iron</m> which is longer than the mouth of the <m>mortar</m> by two <fr><ms>pans</ms></fr>. Others only put the ball.</ab>

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