

WASC 456

PHOTOS



WASC 456
WAI 100



6

Pre 1420

Photographs of illustrations in WASC 455 Page numbers in *italics* below are deduced (Relating to Feuerwerkbuch - Firework Book)

- | | |
|---|---|
| 1 | 84F. Storming a castle; two ladders with attacker on each; defenders pouring boiling oil; |
| archer with cross bow | |
| 2 | 84B. Cart with spiked bed and yoke for 2 oxen |
| 3 | 85F. Storming a castle; cannon aimed at portcullis; archer with crossbow: army waiting; |
| dead soldiers | |
| 4 | 85B. Making bombs; scales;filling cases;making and fitting fuses |
| 5 | 86F. Castle under attack; cannon in foreground firing bombs; crossbows firing arrow |
| shaped shells exploding on roof | |
| 6 | 86B. 2 workers; 1 master gunner, filling barrels |
| 7 | 87F. Stamp mill; 4 workers; master gunner |
| 8 | 87B. Making canvas wrapped cartridges; 4 workers and master gunner |
| 9 | 88F. Factory filling cartridges seen in 87B and making arrow shaped shells seen in 86F |
| 10 | 88B. Factory with 8 workers |
| 11 | 89F. Making rope covered bombs |
| 12 | 89B. 3 workers process unidentified |
| 13 | 90F. Castle under attack;ropeladder hanging from grapnels;archerin foreground; man |
| holding hammer having secured bottom of rope ladder to ground;2 men in "tortoise" armour; defensive | |
| action being taken from castle | |
| 14 | 90B. Castle with men filling gabions in foreground |
| 15 | 91F. Protective screen and triangular containers. Wheeled frames in foreground. |
| 16 | 91B. Unidentified frame and planking |
| 17 | 92F. Protective screen on cartwheels; feet visible at base |
| 18 | 92B. Drill? |
| 19 | 93F. Hoist? |
| 20 | 93B. 2 ladders with wheels at top and spikes at bottom; pike with spike at one end and |
| hook and large spike at other | |
| 21 | 94F. Selection of grappling hooks, ironware, bombs and shells(?) |
| 22 | 94B. Selection of retorts? |
| 23 | 95F. 4 "containers" |
| 24 | 95B. Arrow shaped projectiles and 2 spherical bombs |
| 25 | 96F. Cannon on cart with double yoke for oxen |
| 26 | 96B. 2 cannon on carts; one with triple barrels |
| 27 | 97A. Missing |
| 28 | 97B. Missing |
| 29 | 98A. Missing |
| 30 | 98B. Missing |
| 31 | 99F. Gun or cannon? |
| 32 | 99B. Crane or hoist |
| 33 | 100F. Cannon on wheeled carriage |
| 34 | 100B. Detail of ladder? |
| 35 | 101F. Cannon roped to wooden frame |
| 36 | 101B. Rope used as slings or circlets; 2 barrel shaped bombs |
| 37 | 102F. Device for breaking down door? |
| 38 | 102B. Ladder with protective sides and top with spikes at base and wheels at top. |
| 39 | 103F. Cart? |
| 40 | 103B. Cart for delivering gabions? |
| 41 | 104F. ? |
| 42 | 104B. Hoist |

43	105F. Cannon on hand cart
44	105B. 2 cannon; one with elevating screw.
45	106F. Cannon on cart with protective cover
46	106B. Small trestles for cannon
47	107F. Missing
48	107B. Missing
49	108F. Multiple cannon on cart
50	108B. 2 long fires for heating gun? Barrels
51	109F. Piledriver
52	109B. Castle under attack with 4 testudos in foreground
53	110F. Missing
54	110B. Platform and window shutters
55	111F. Parts of moveable frame with doors?
56	111B. Parts of container?
57	112F. Planking? Small head with hat at bottom
58	112B. ?
59	113F. Water lifting device
60	113B. Pump
61	114F. Water lifting device

Bert S Hall



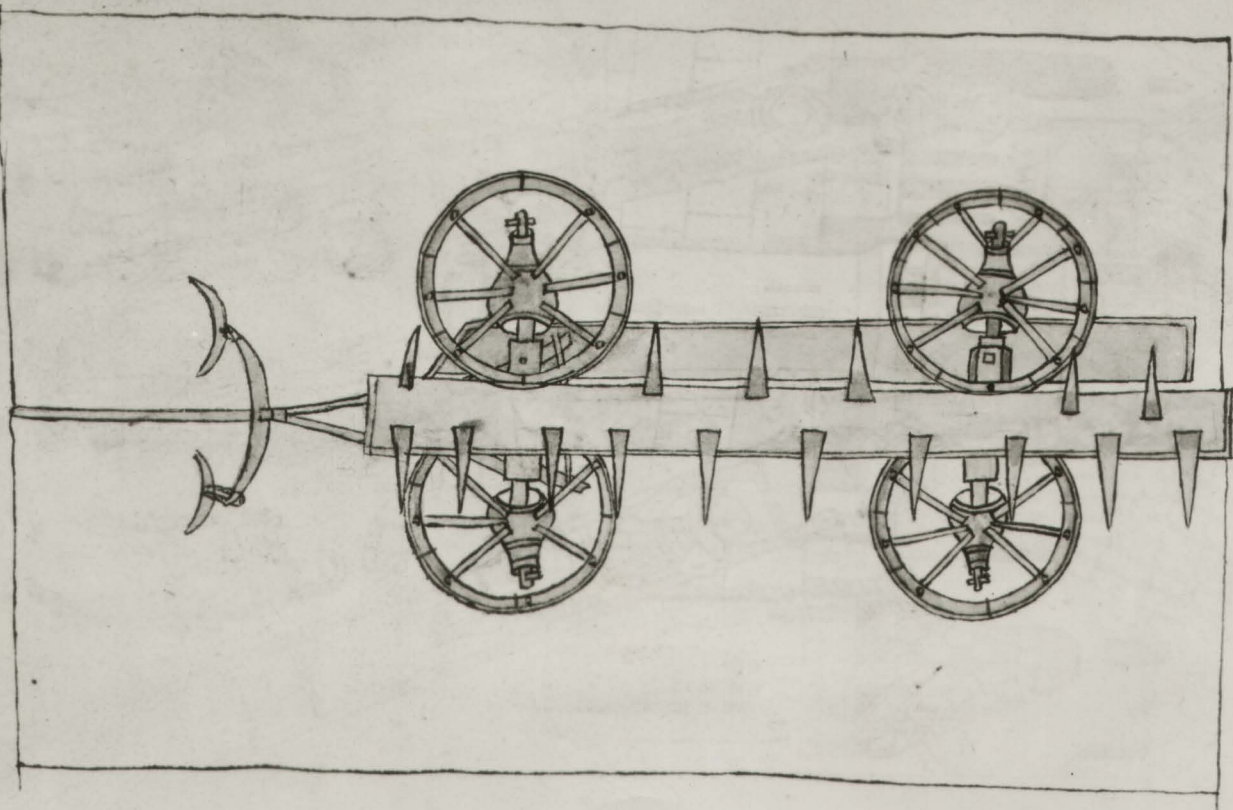
Figures 26 & 27 ff lxxxviii, r (inset) and v: These two show the preparation of other devices, including long coiled tubes with a globular container at one end, balls covered with a rope-like material which is presumably inflammable, and the distillation of some unidentified ingredients.

Historians are accustomed these days to note how often technologies change profoundly during the early period of their histories. Like adolescents trying out political causes, new technologies often appear in many guises, not all of which are ultimately fitting. The favourite example is the motor car; before 1915, more than 1,000 marques had already appeared, and in many variations – some with steam or electric propulsion. But just as teenagers usually grow up to be stable, responsible adults, so too technologies mature into stable configurations. By 1920, “everyone knew” that a motor car was made of metal, had a petrol engine, a multi-speed transmission, four wheels with rubber tyres, and so forth.

Mutatis mutandis, similar views can be held regarding early firearms. Between the mid-fourteenth and mid-sixteenth centuries there are dramatic changes: the fourteenth century’s squat, forged iron, stone-throwing bombards gave way to the sixteenth century’s long, cast-bronze culverins firing iron shot. Likewise in small arms, the aptly-named *ribaldos* or organ guns mounted on tumbrils yielded to true shoulder arms and even the earliest pistols. Where an older historiography saw in these developments only the inevitable march of “technological progress”, we can detect evidence of a hearty new technology in the midst of its growing pains.

Looking at firearms in this way suggests new and interesting questions. What dynamic drove these developments? Which changes were primary, and which secondary? Upon reflection, it becomes apparent that changing techniques of manufacturing gunpowder played an important role, above all the corning of gunpowder. Corning or “graining” produces gunpowder in granular form, quite unlike the finely-pulverized or “mealed”













byron



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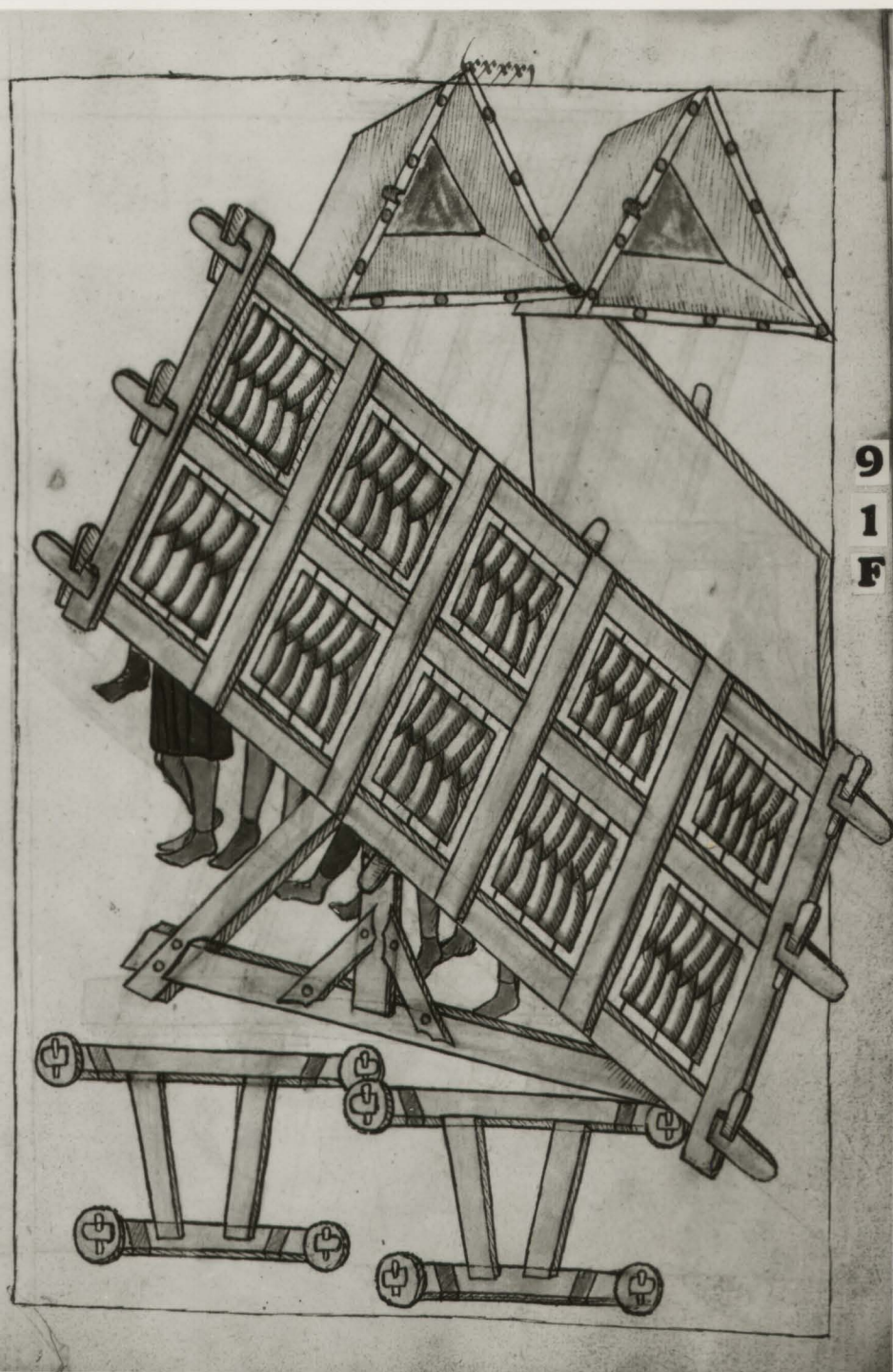


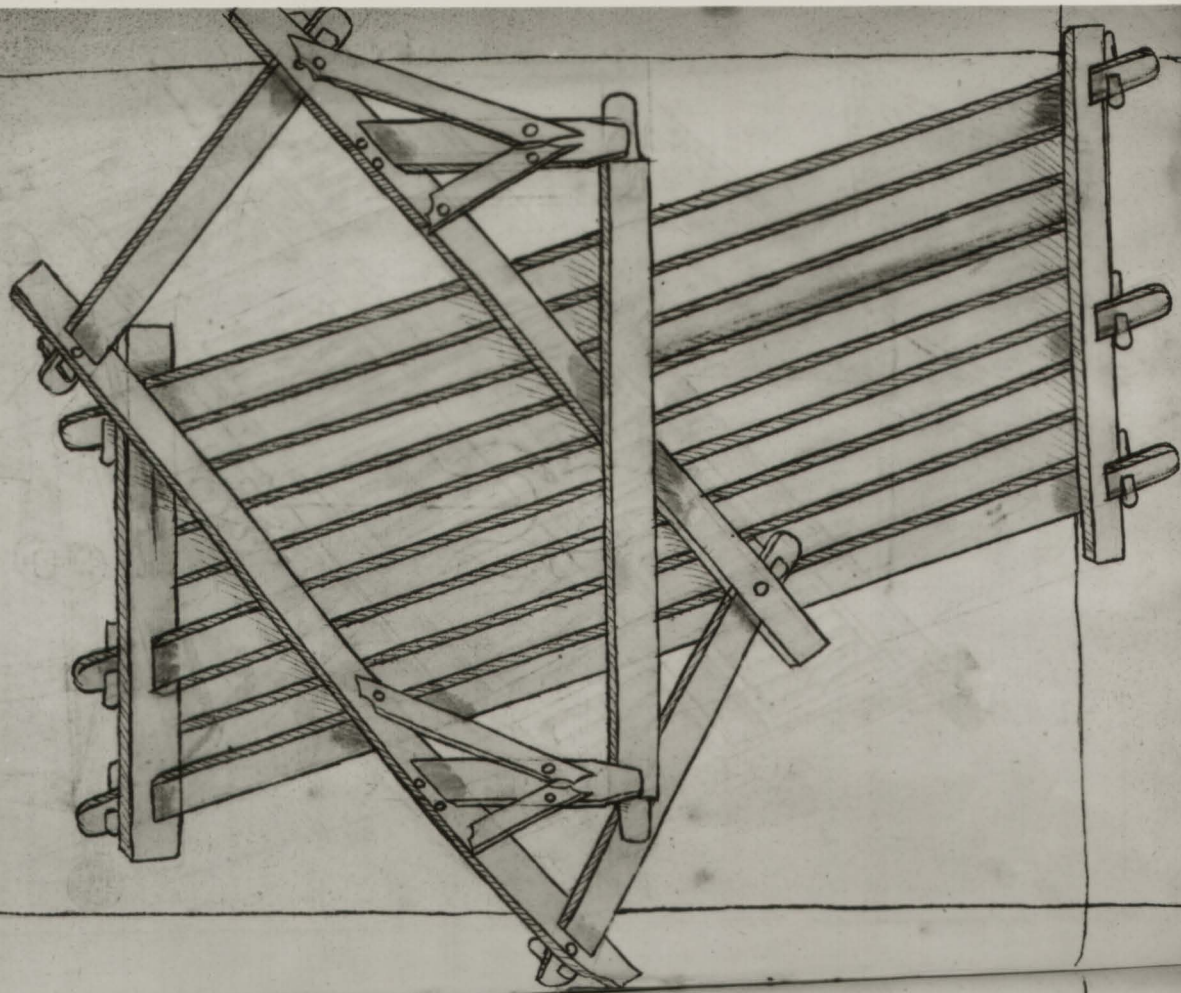




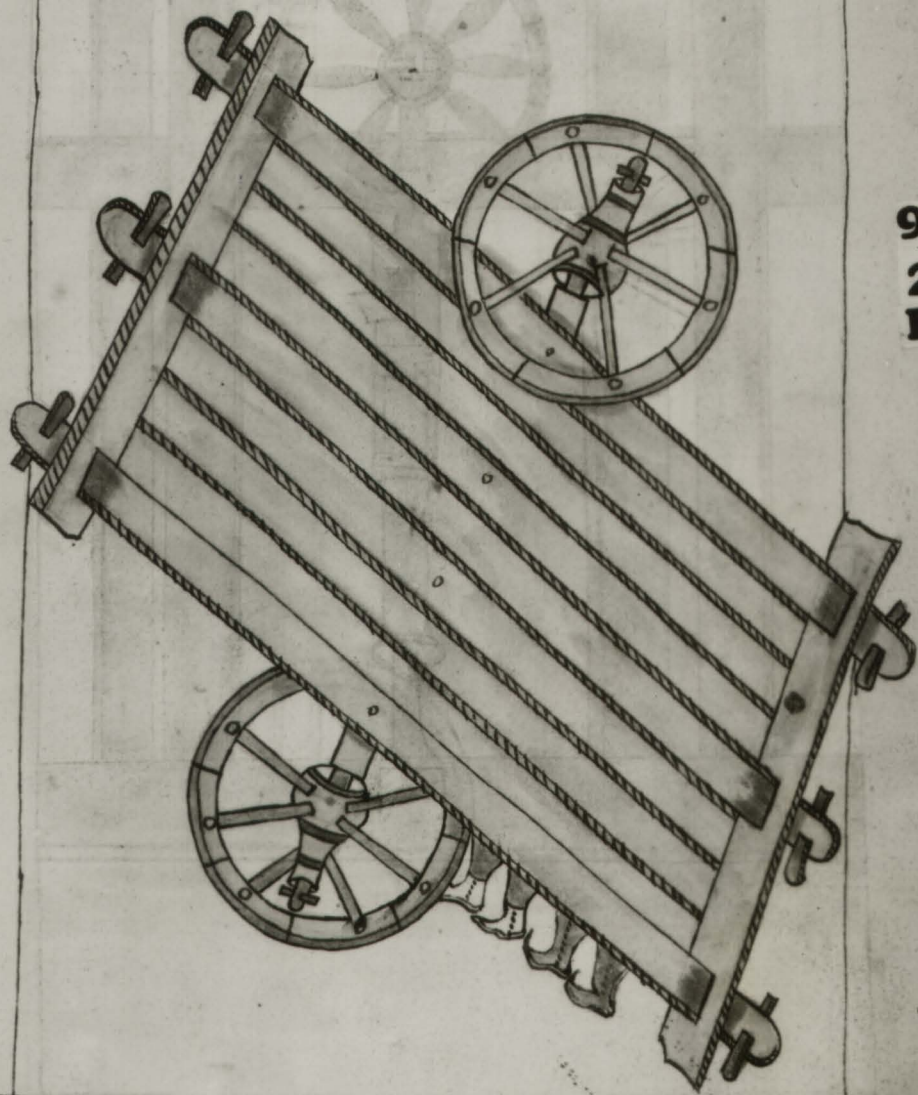




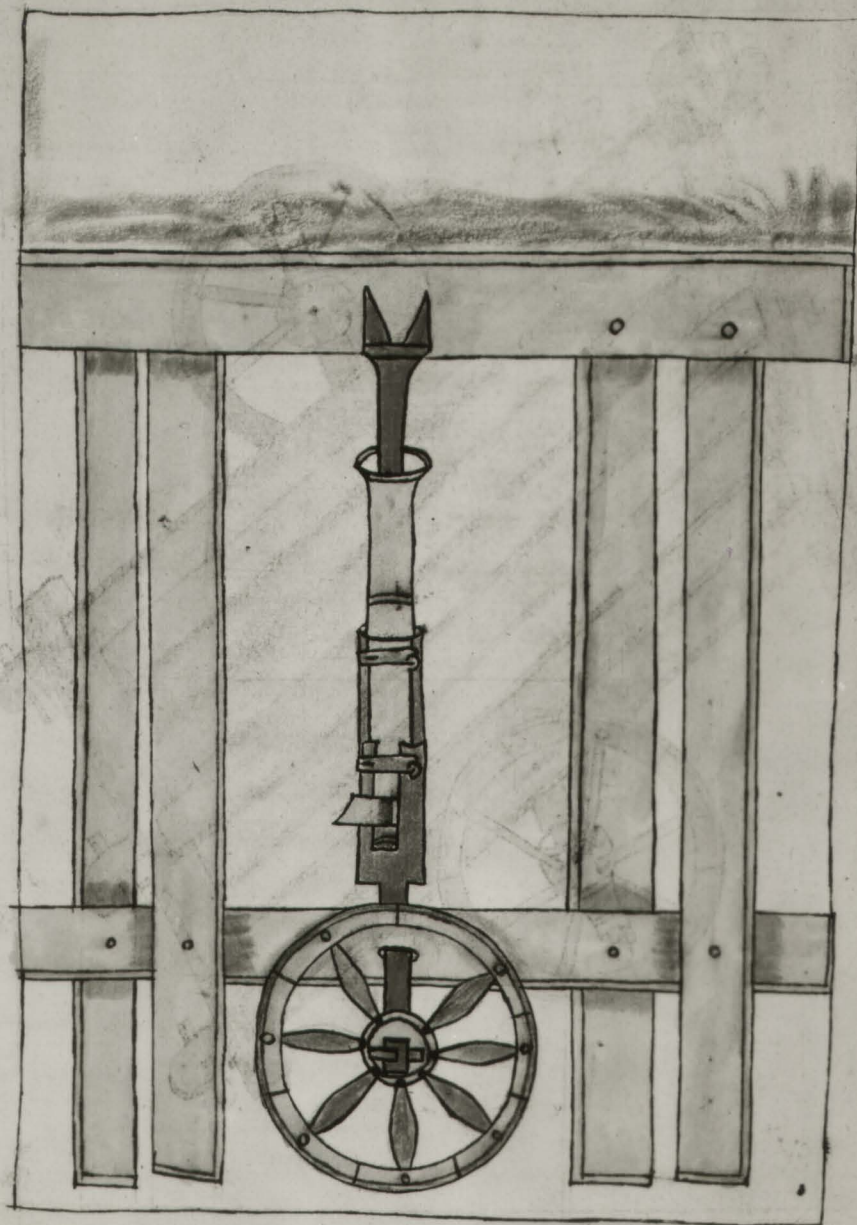




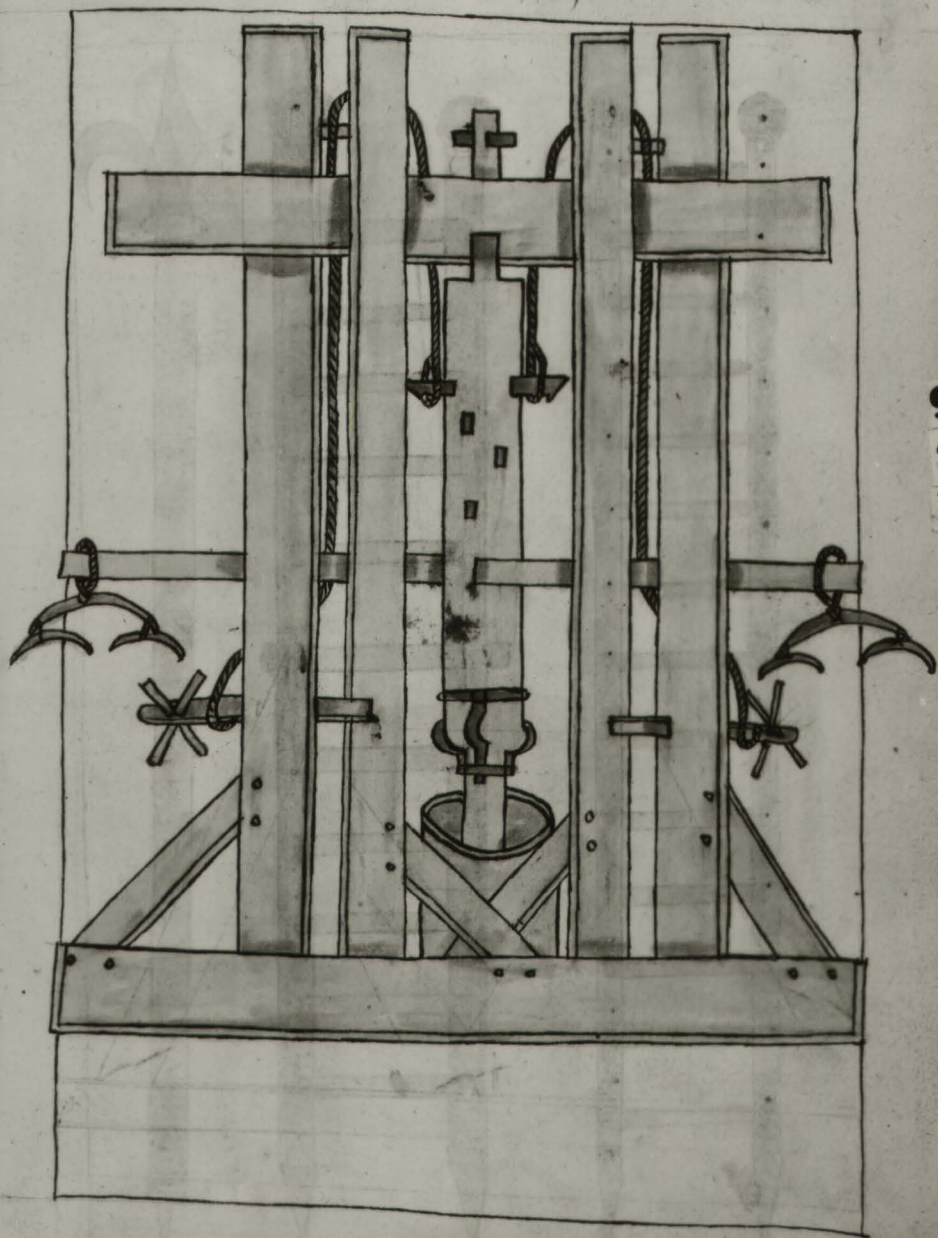
lxxxix

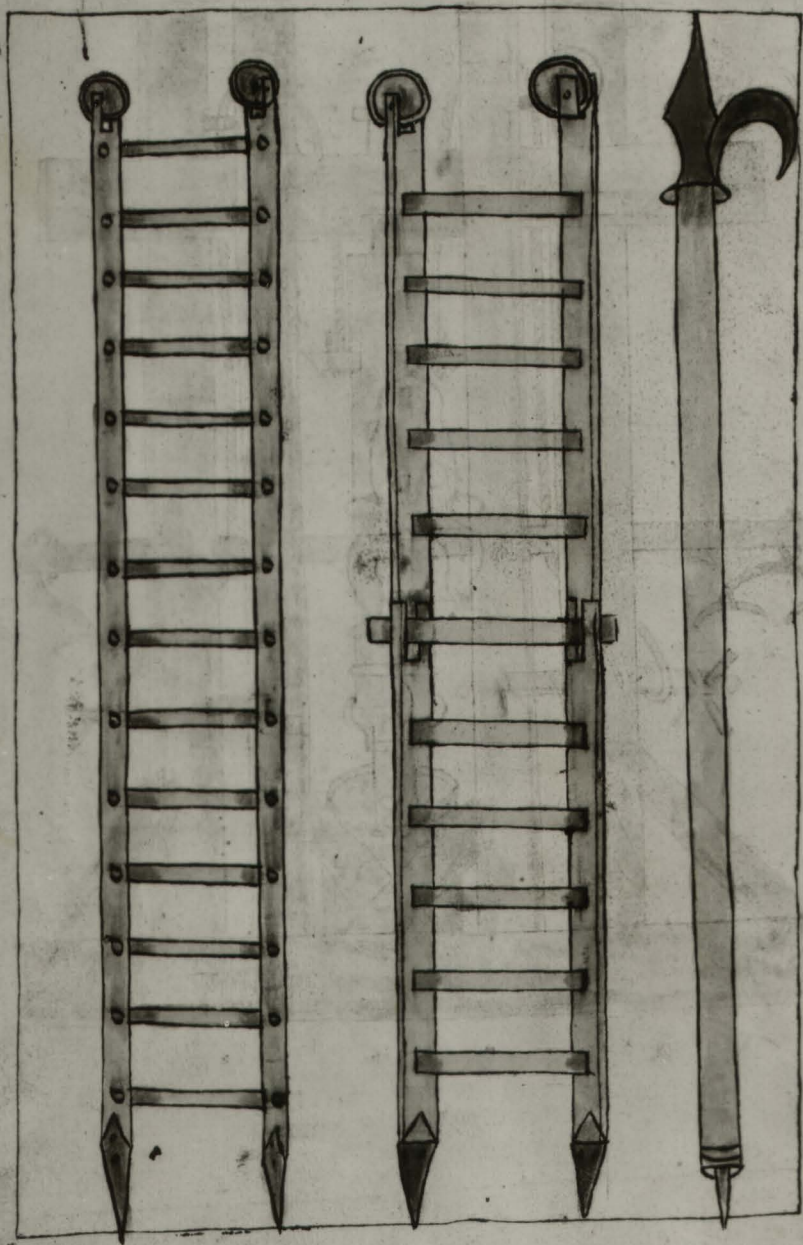


92F

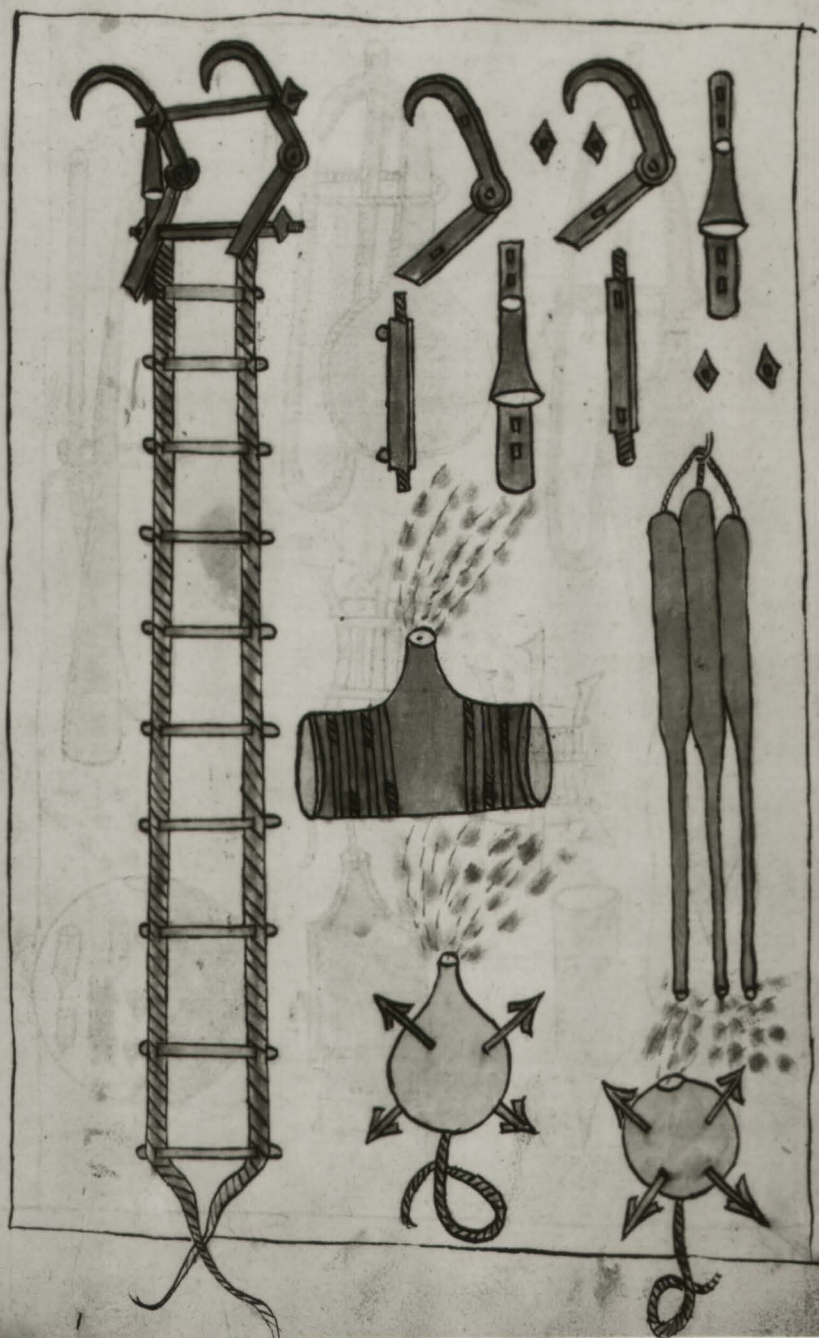


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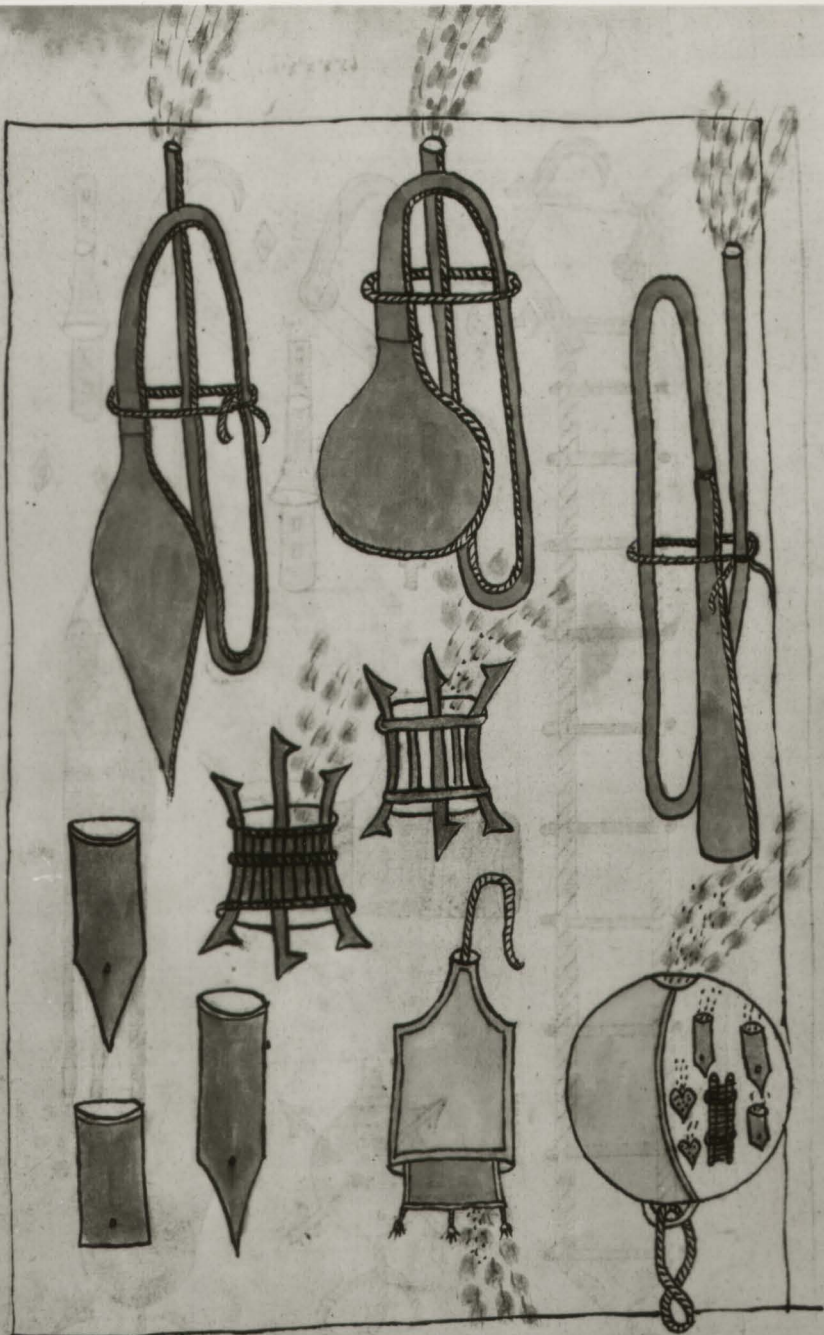




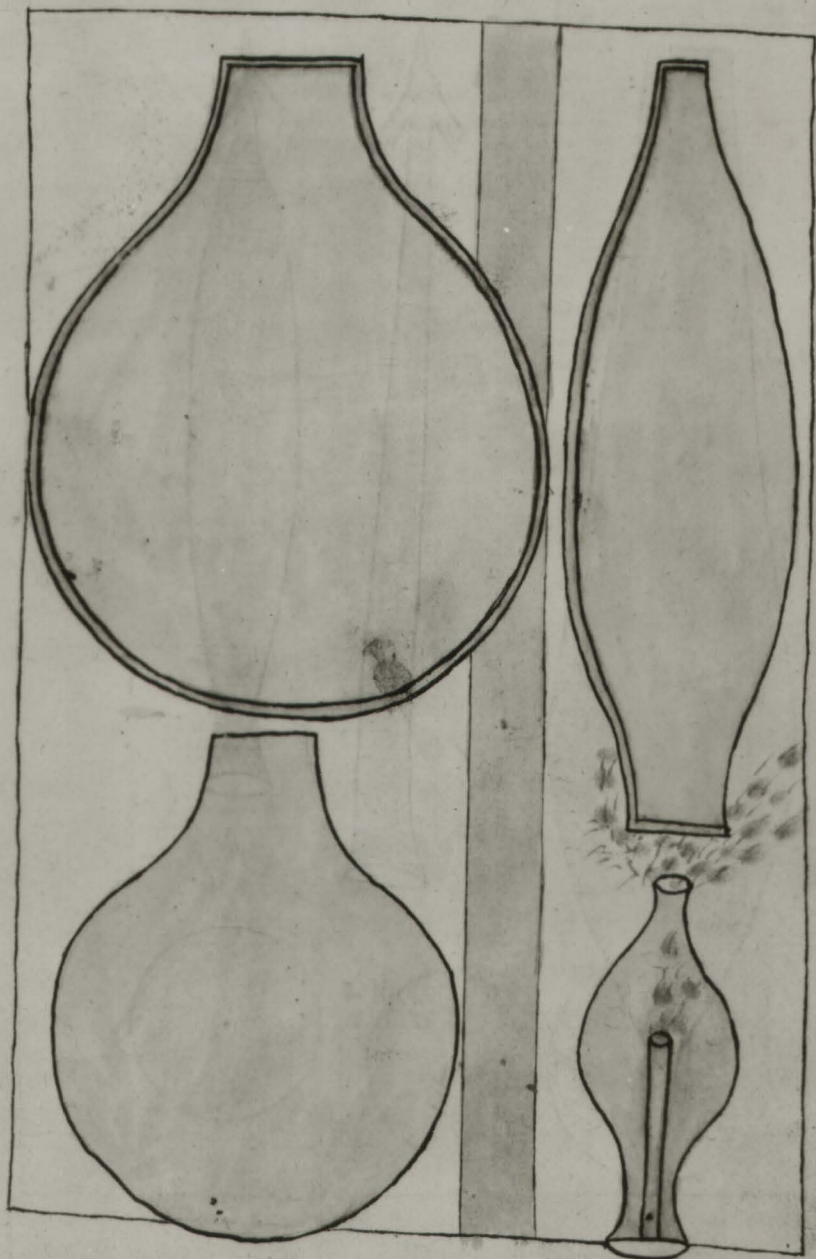
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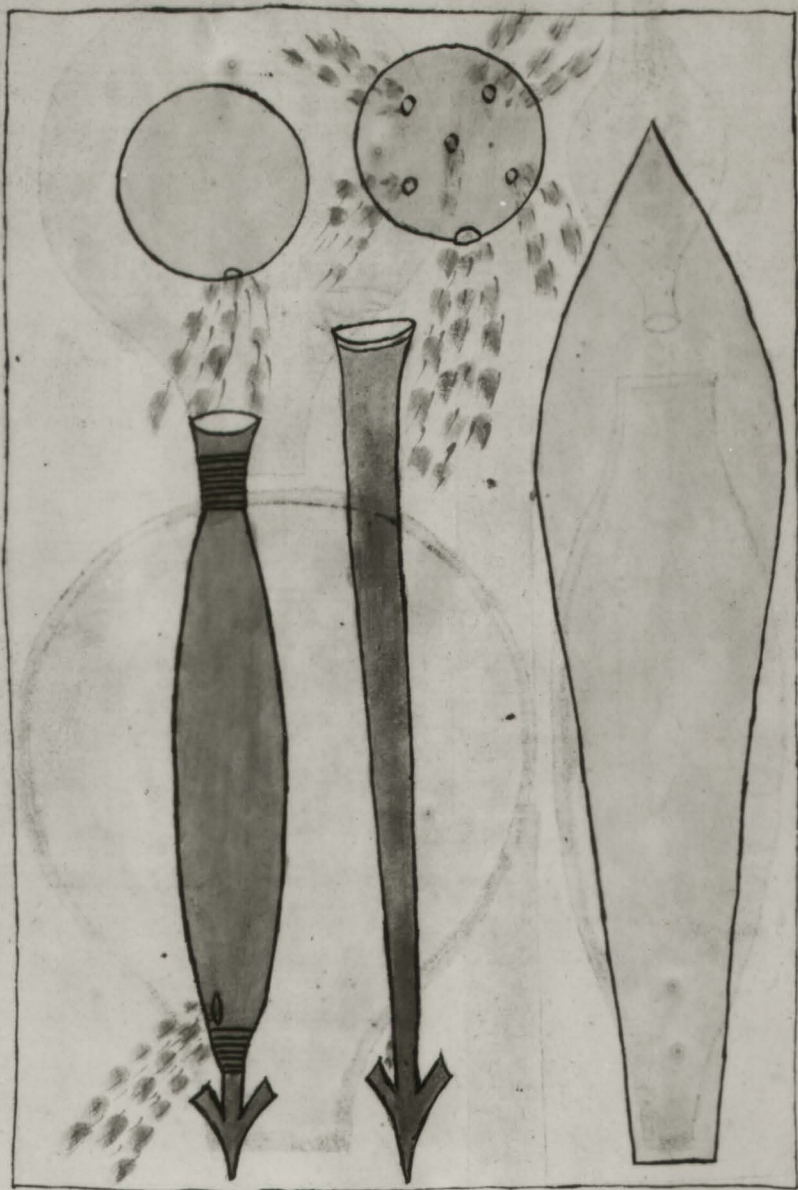
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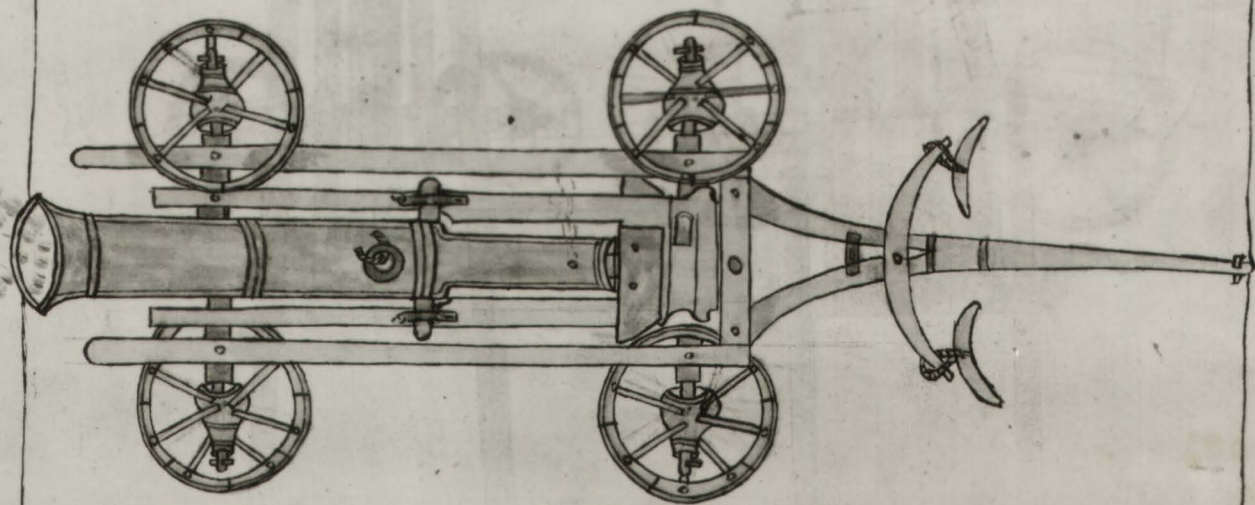
lxxxv



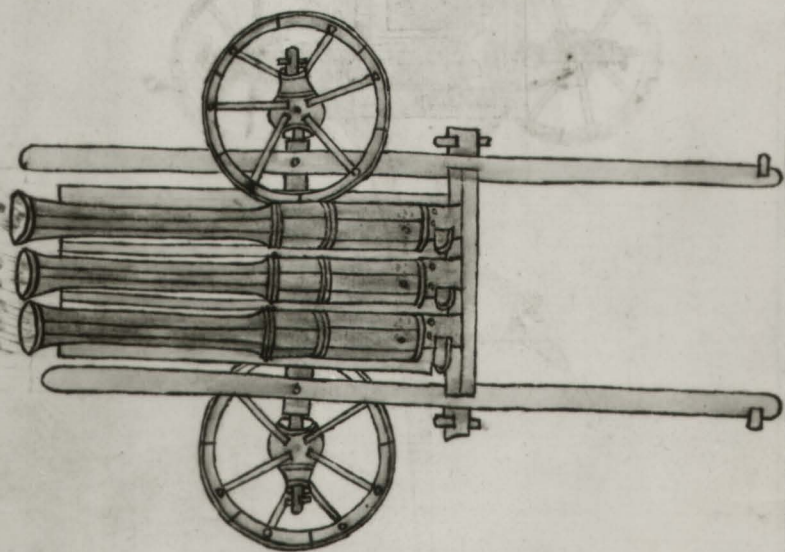
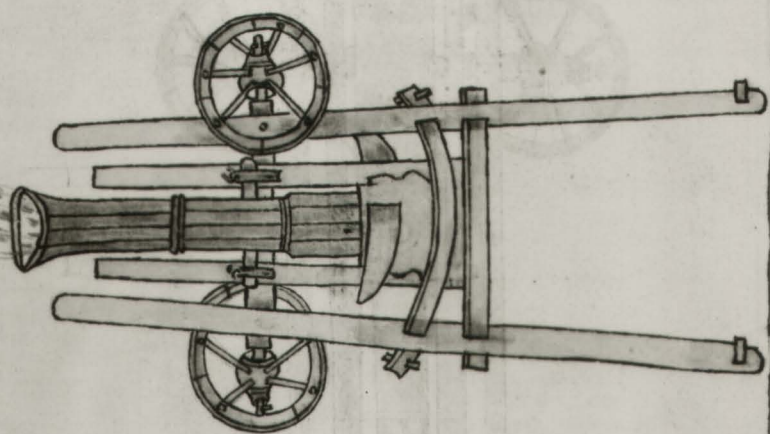
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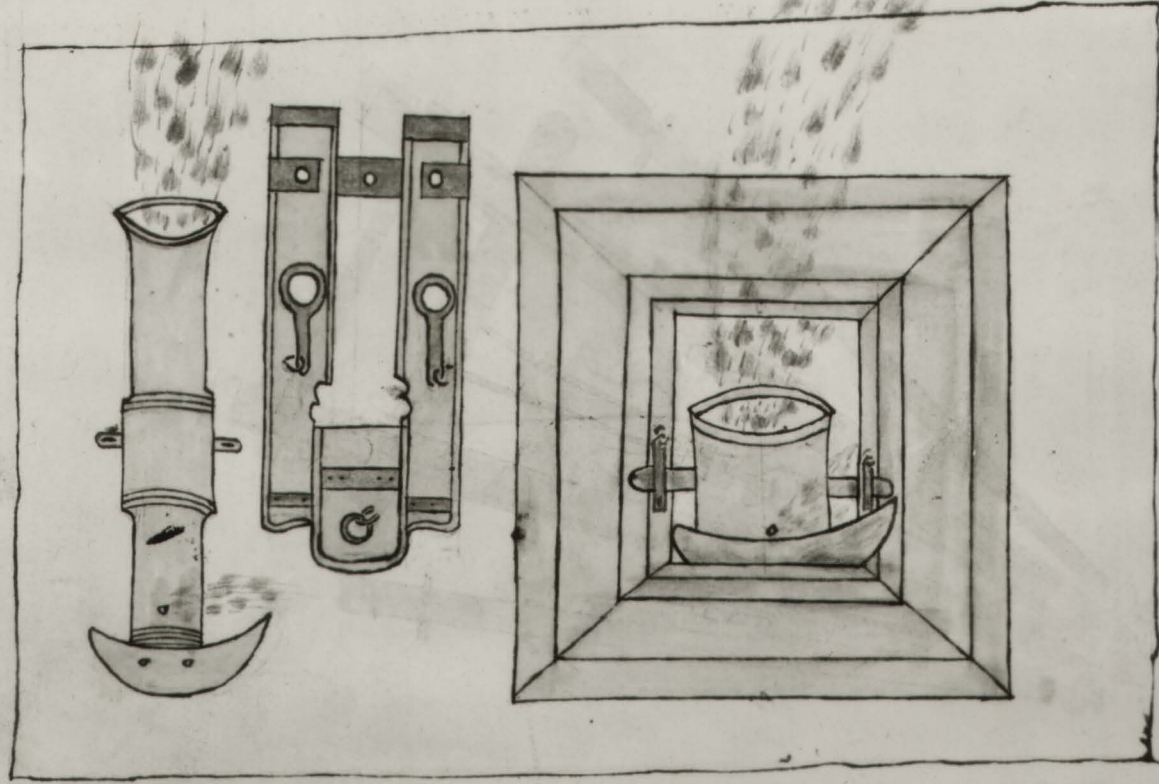


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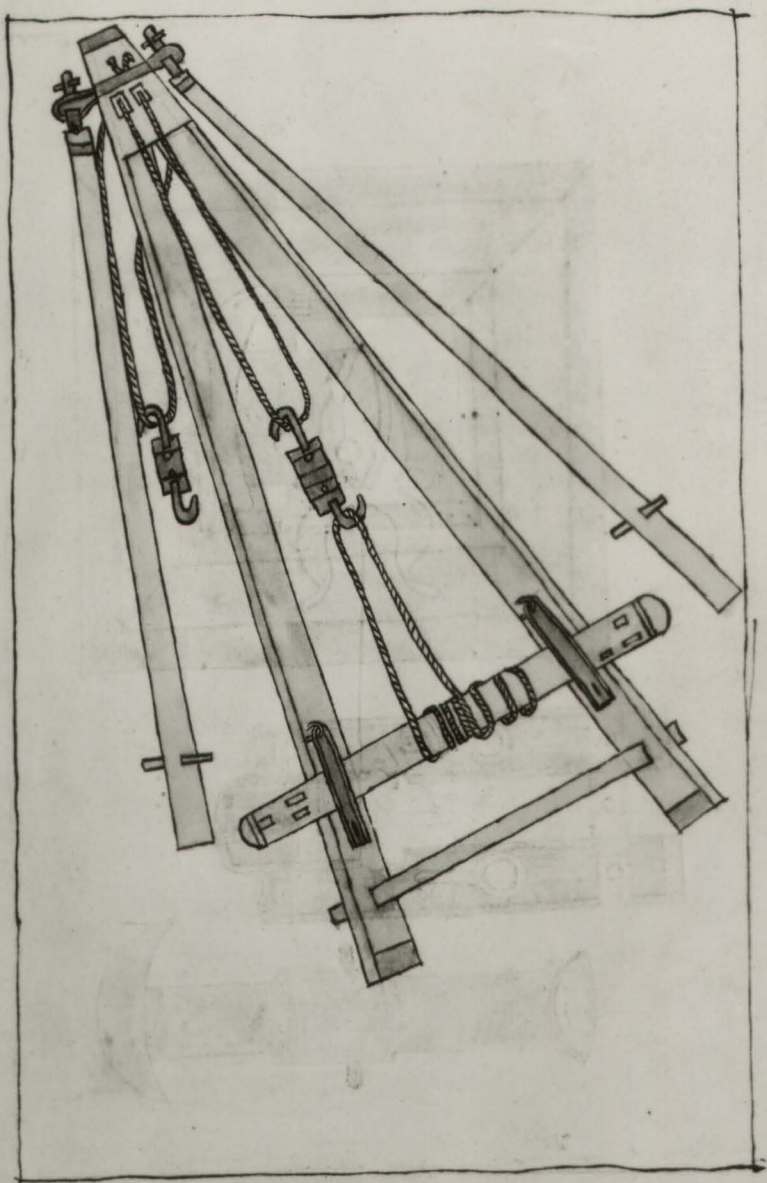


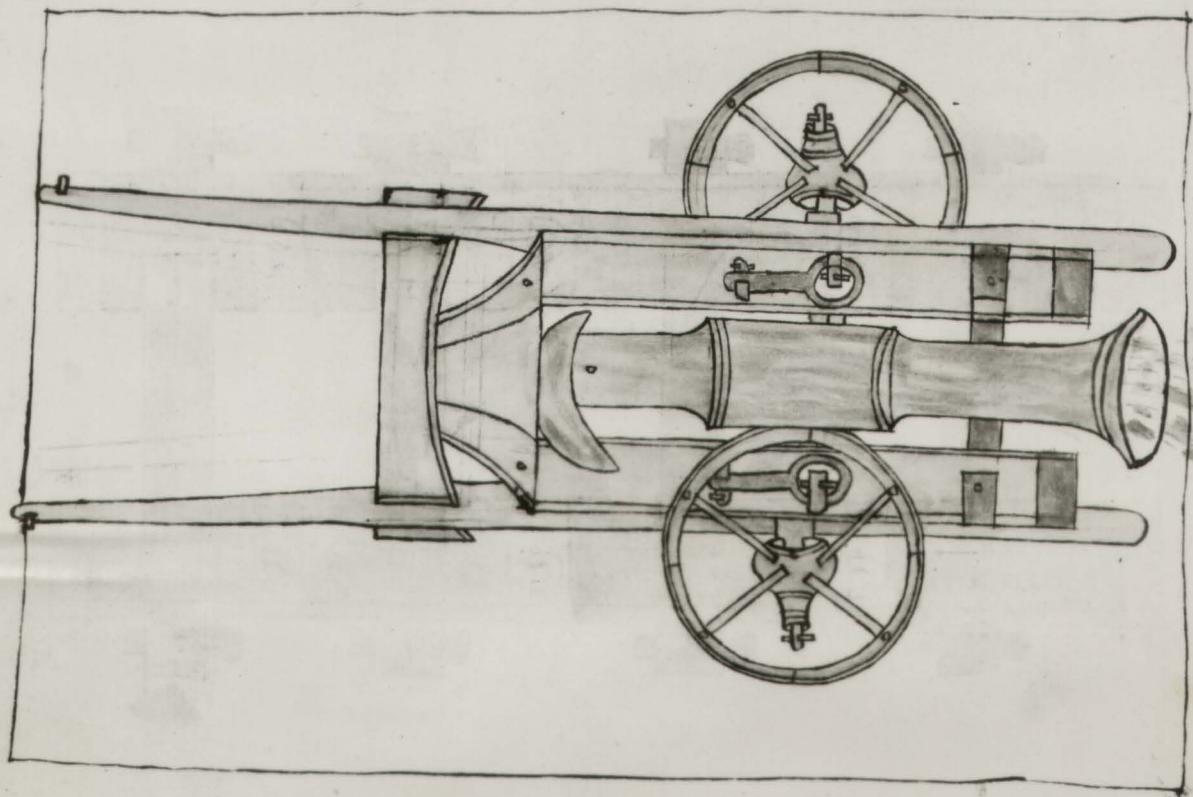
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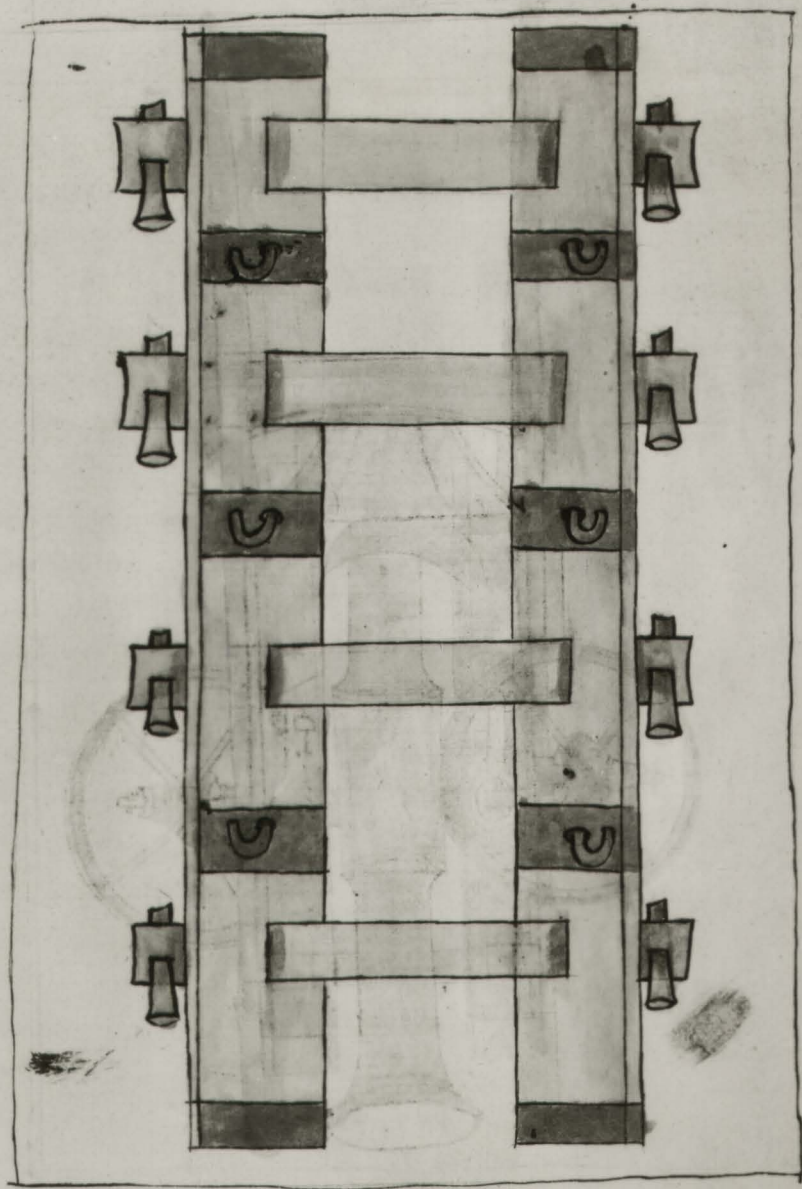




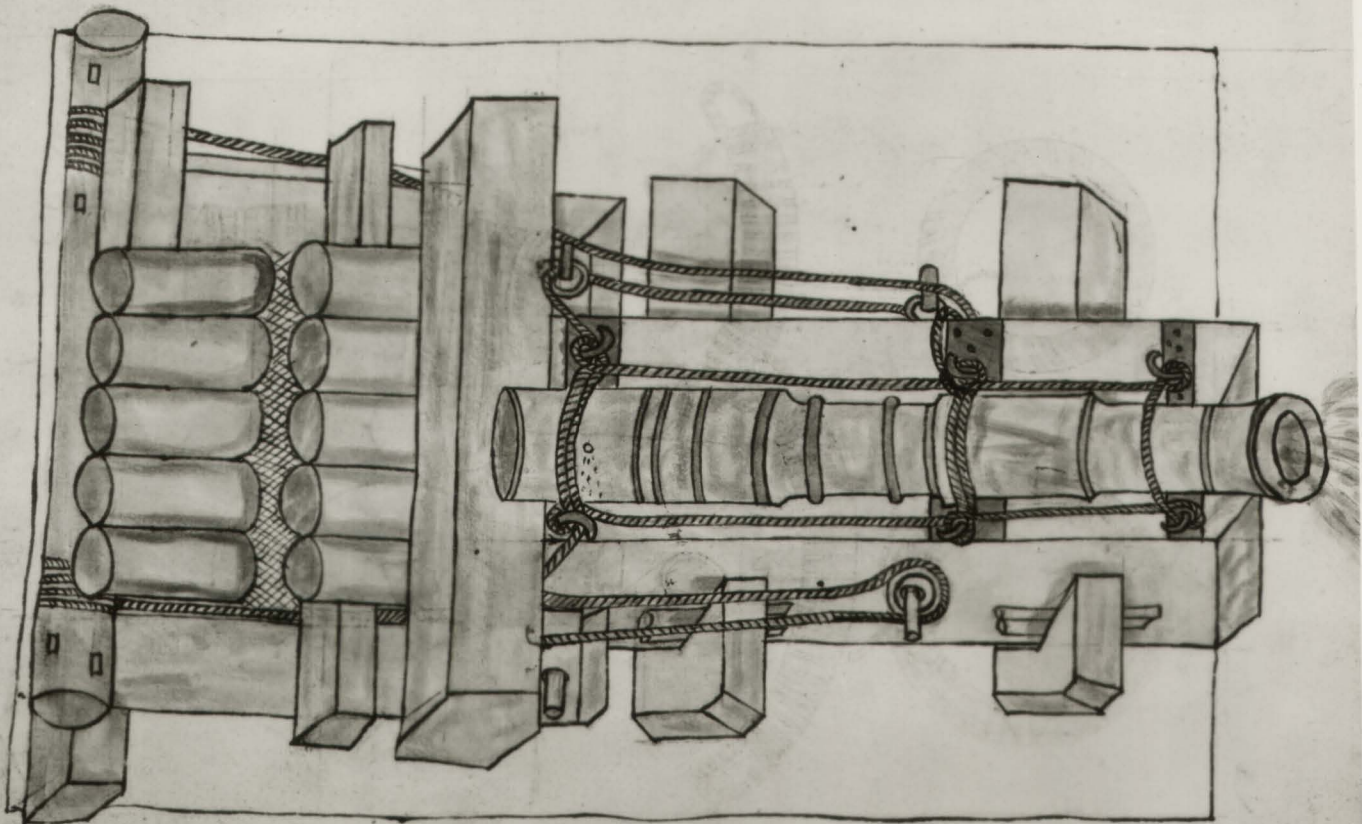
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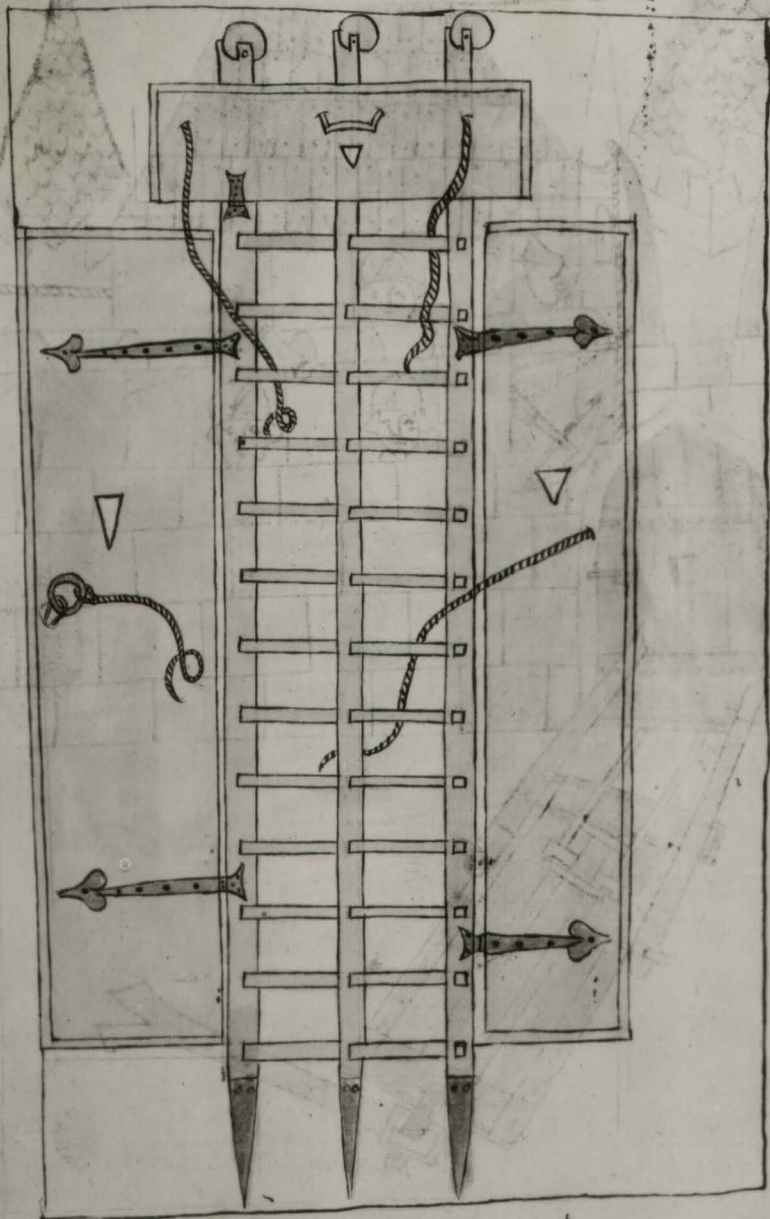


101B



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102B



103 F

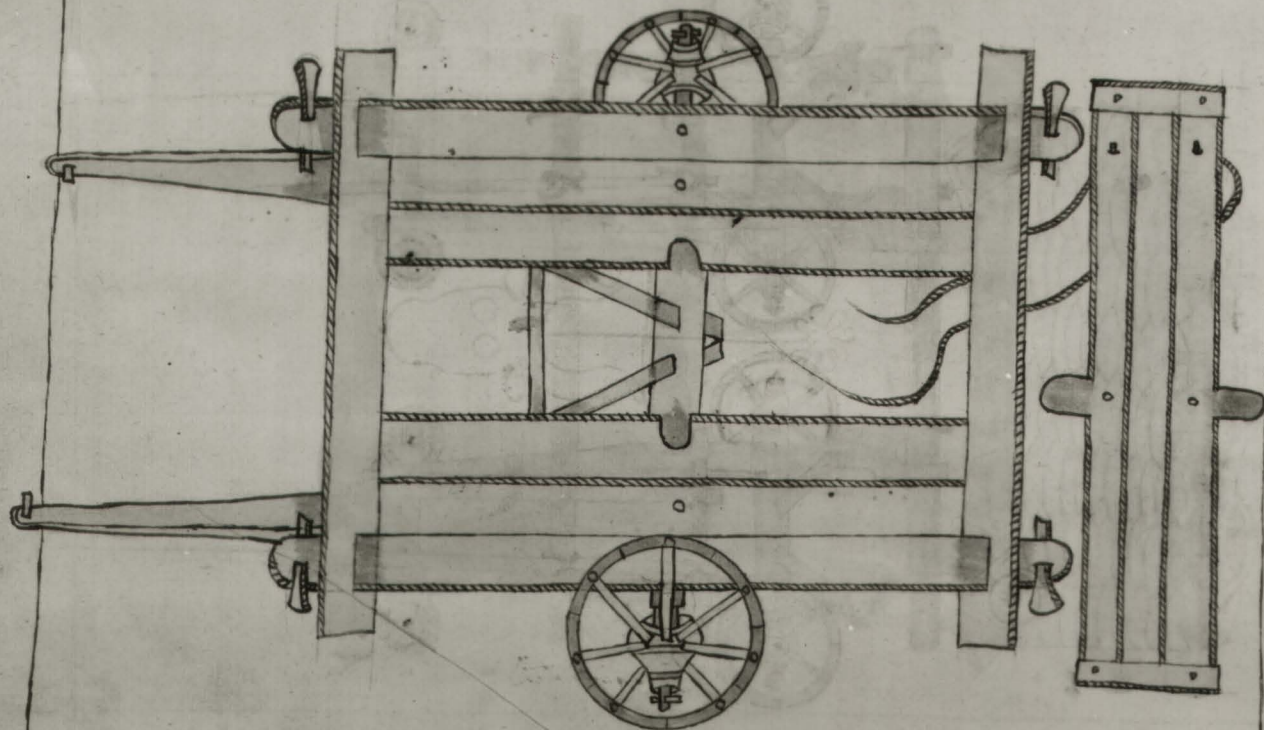
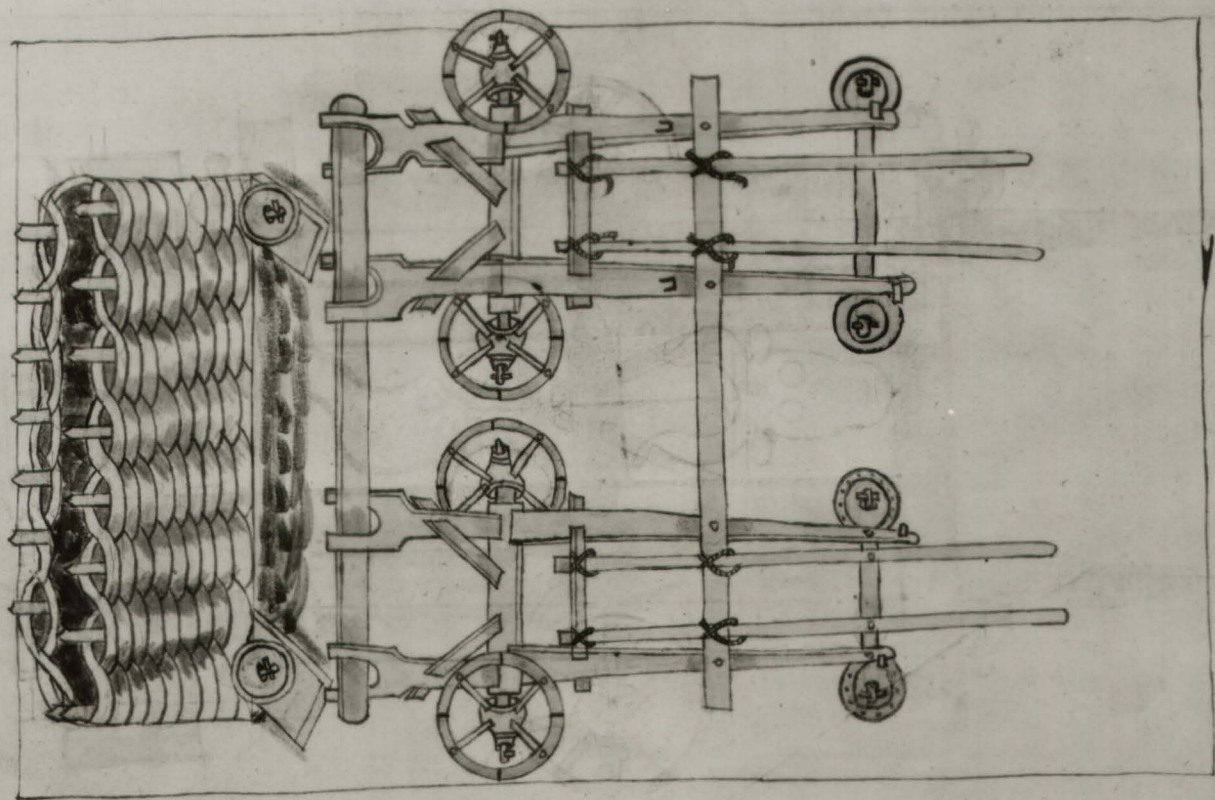
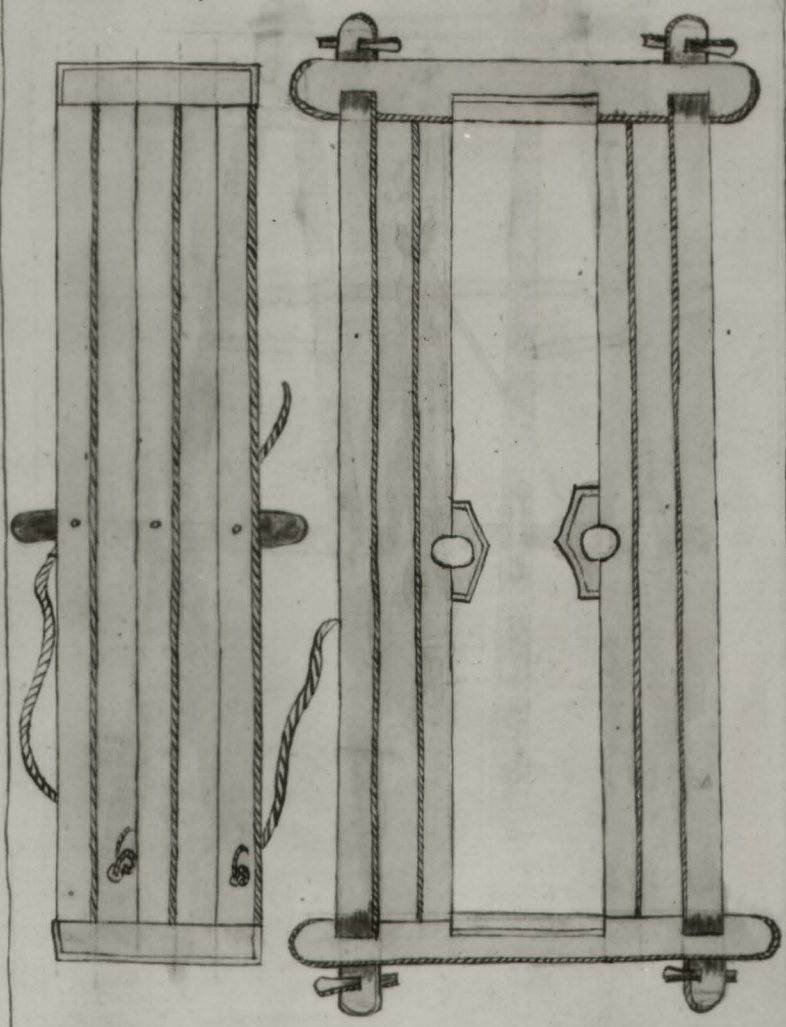


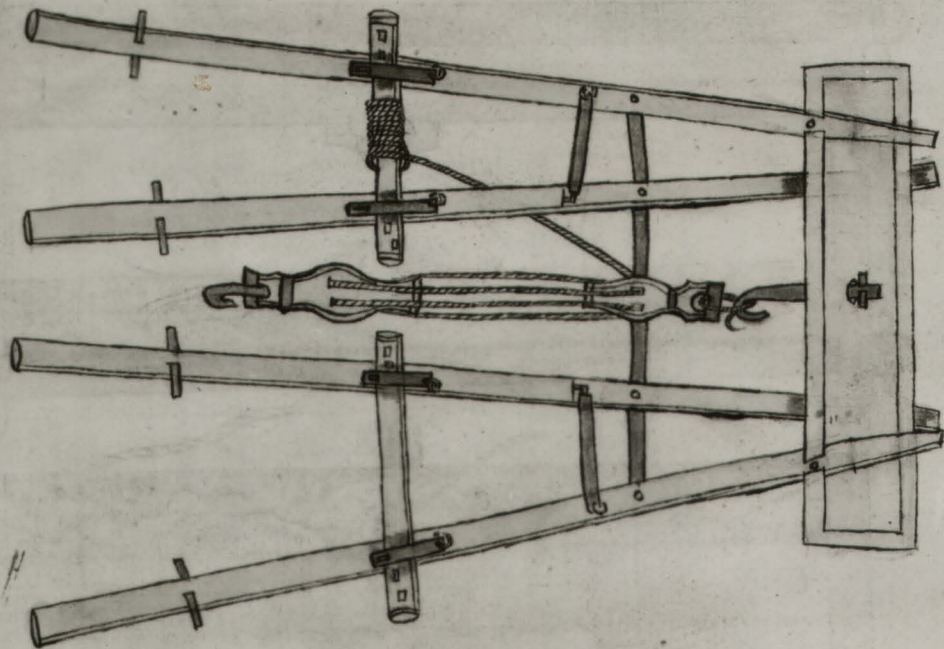
Fig. 1

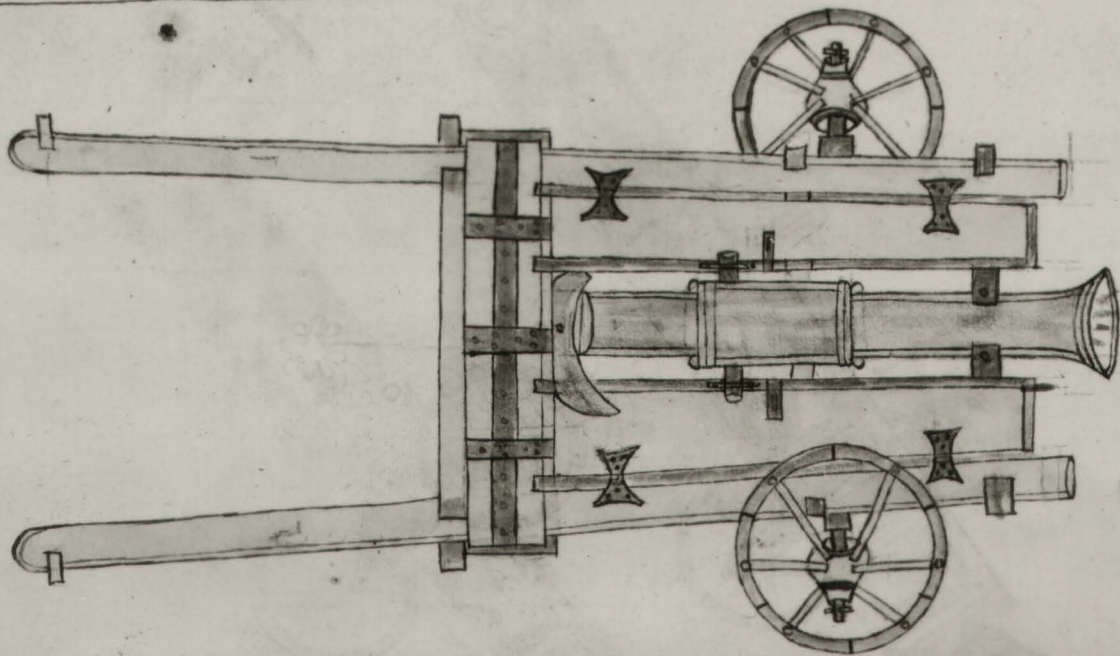


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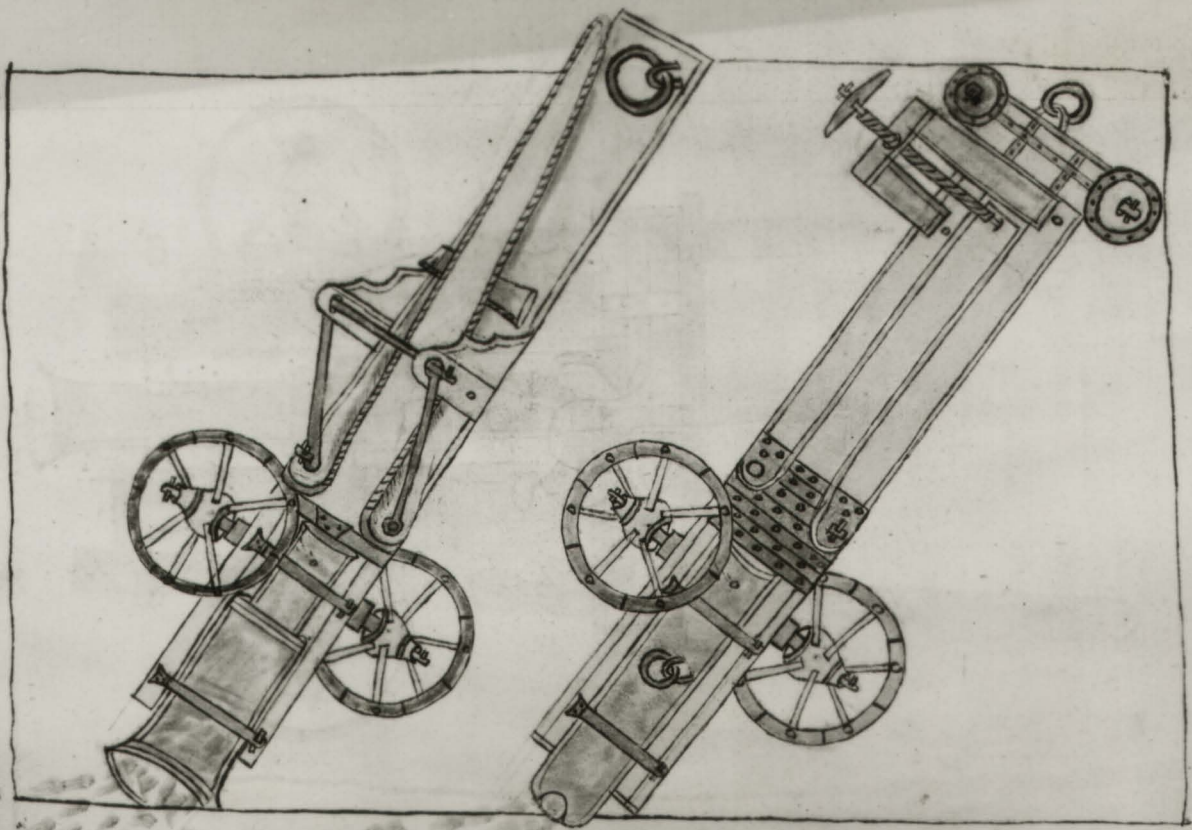


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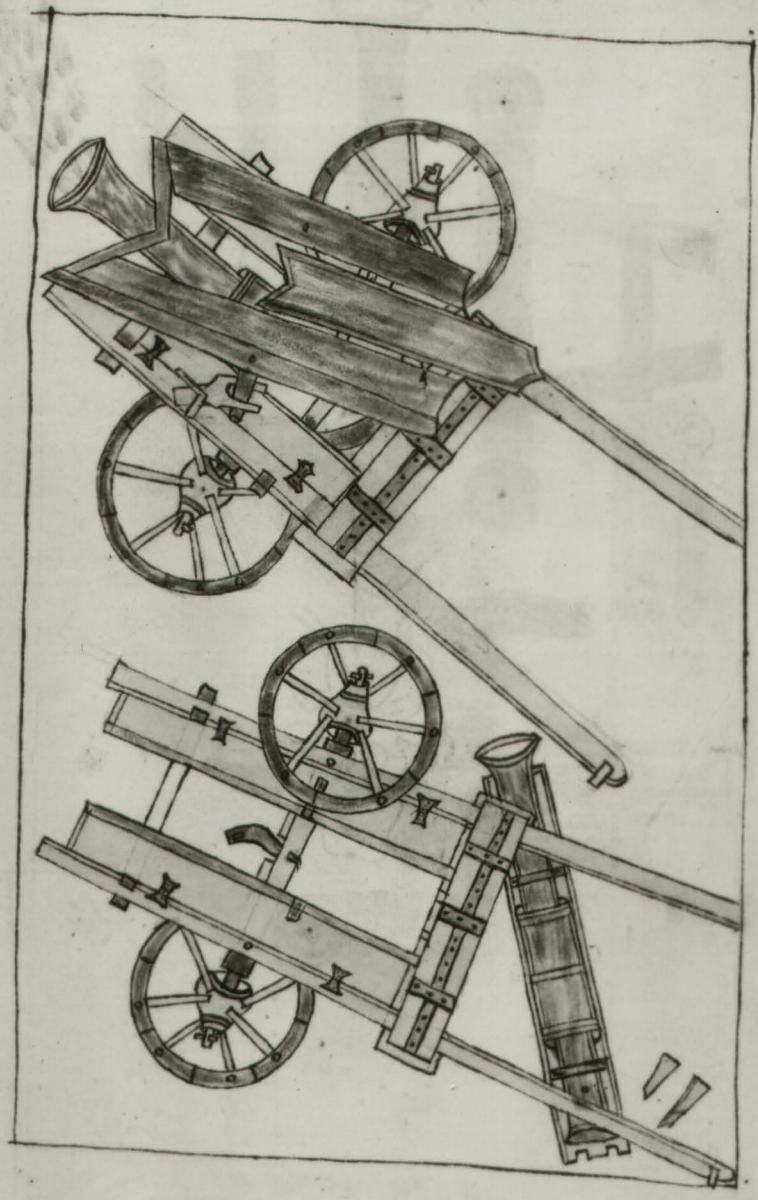




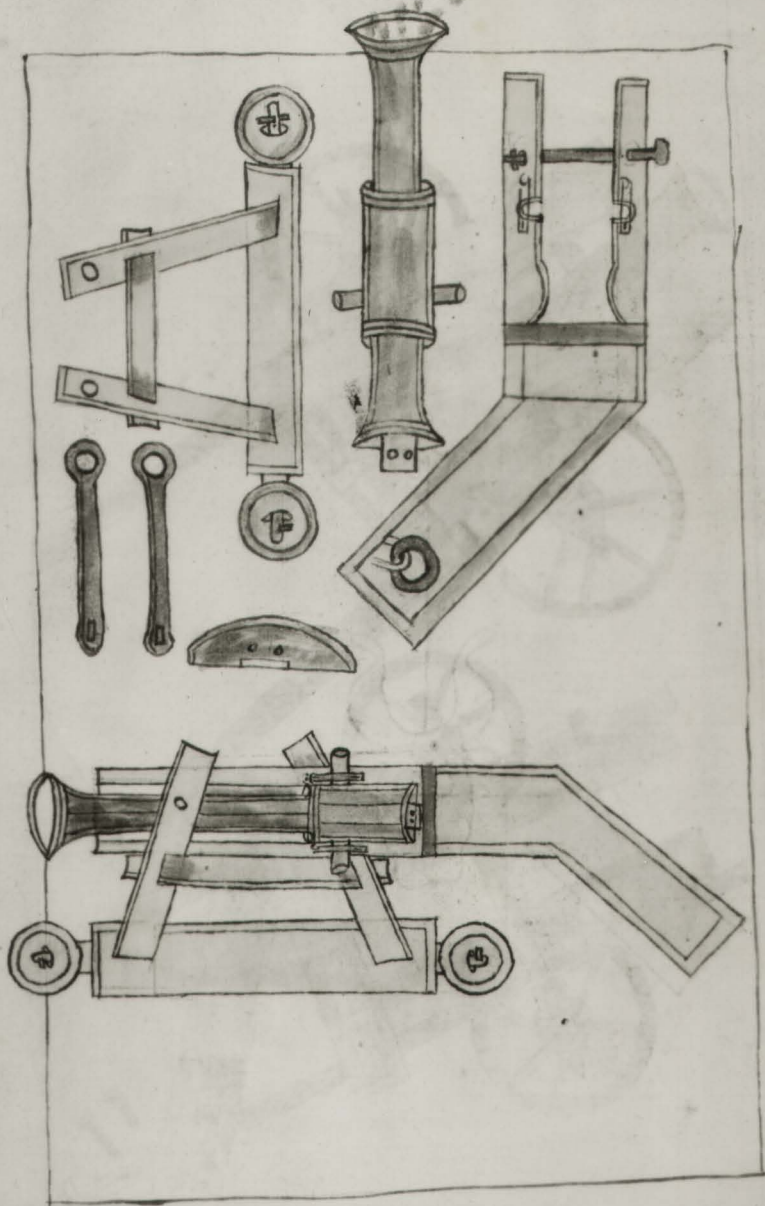
105 F



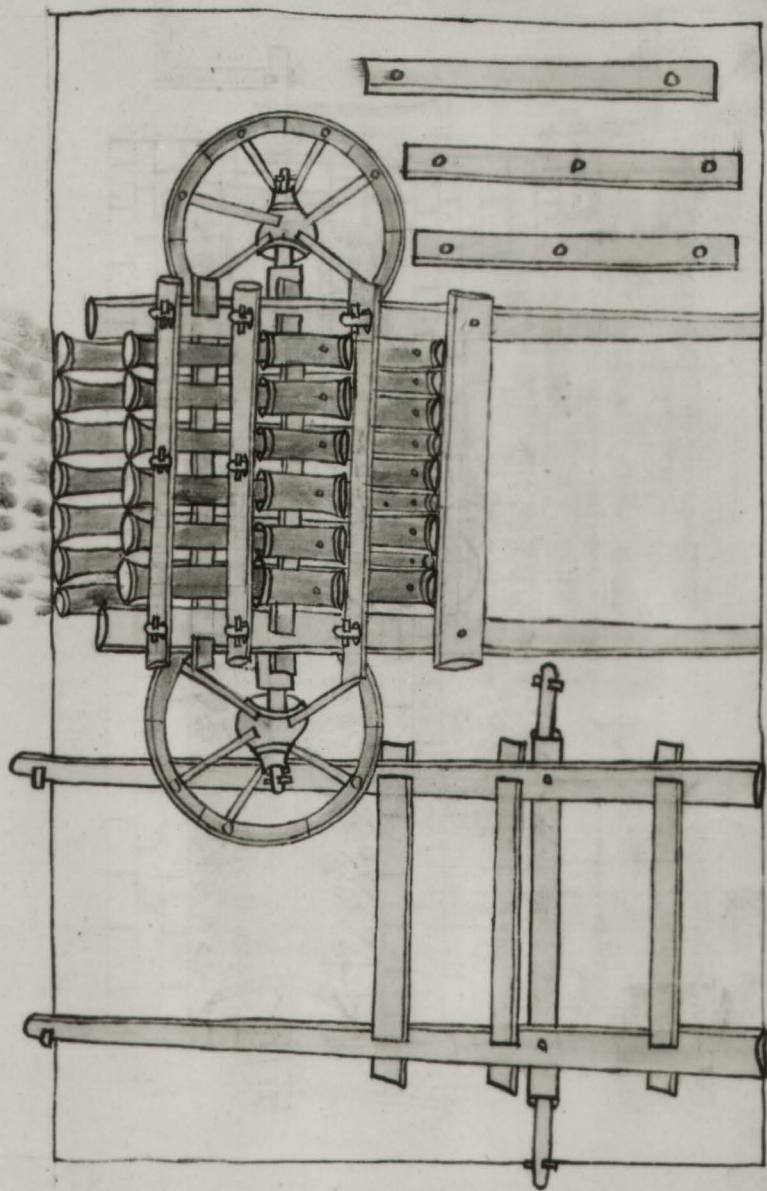
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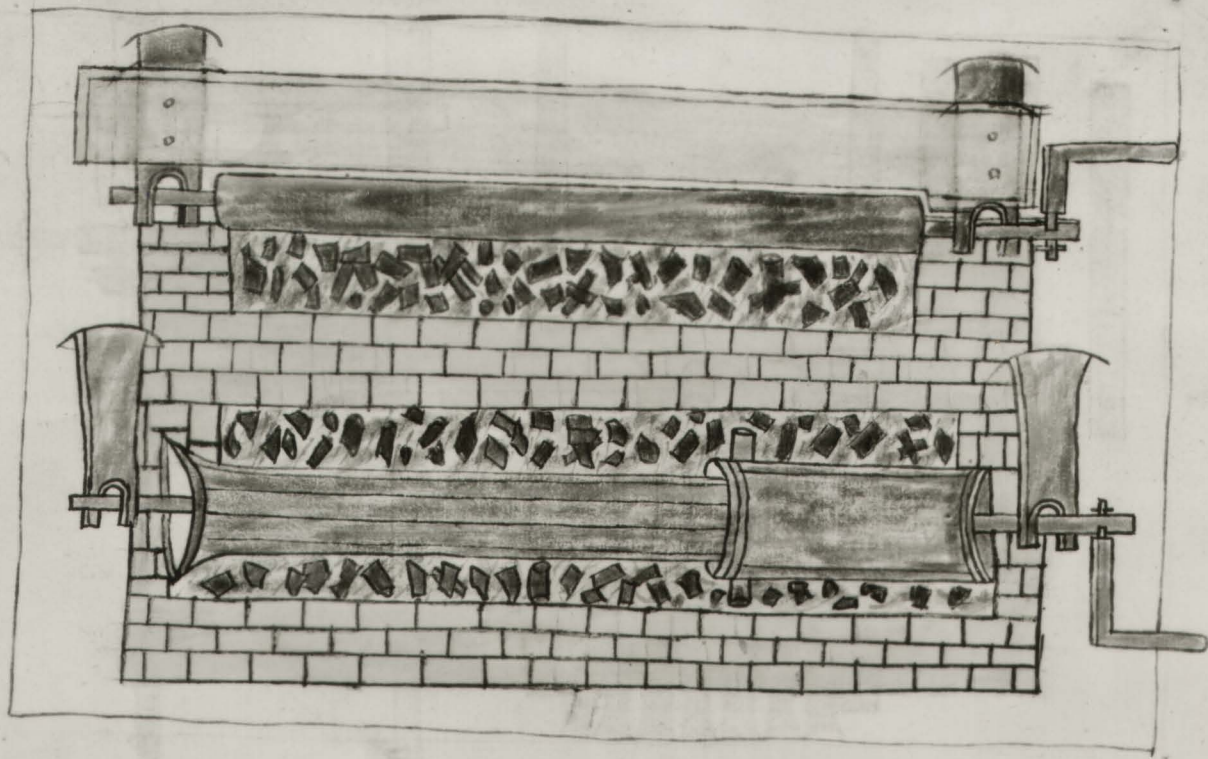
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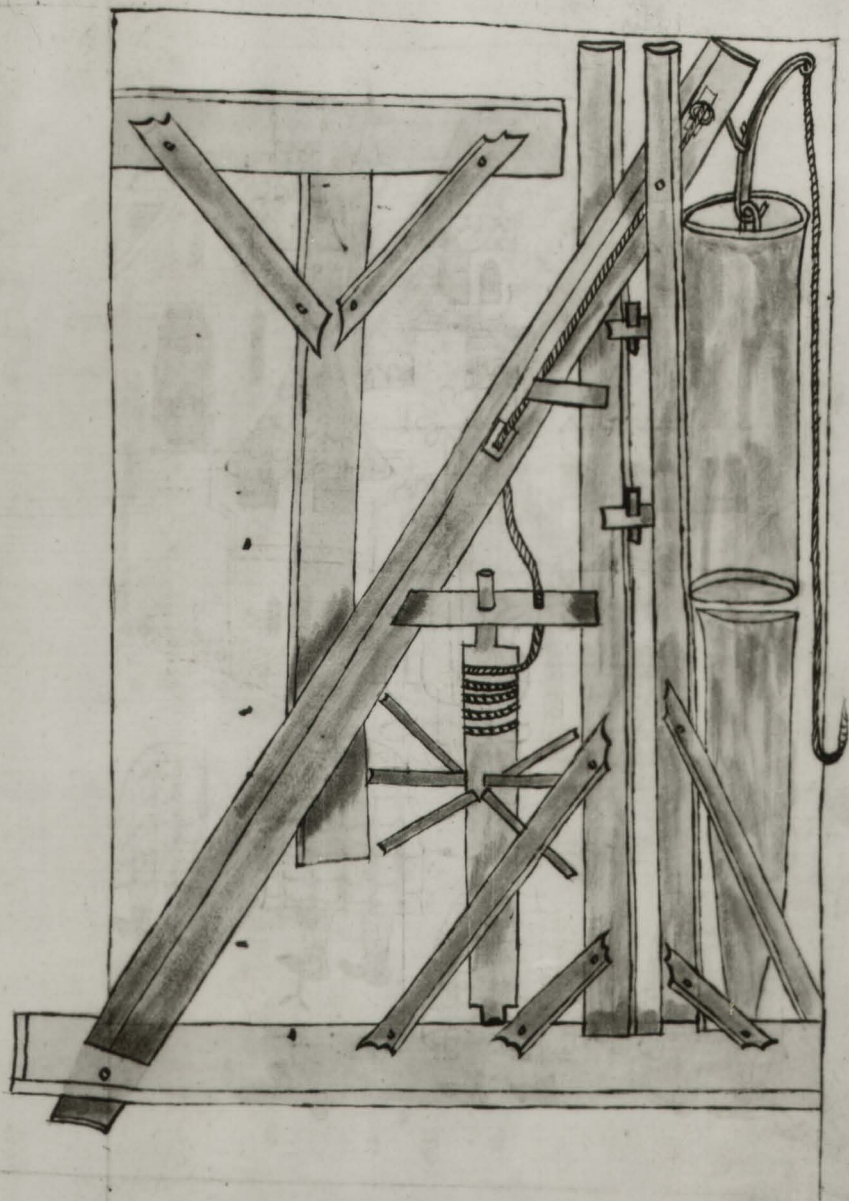
tviii



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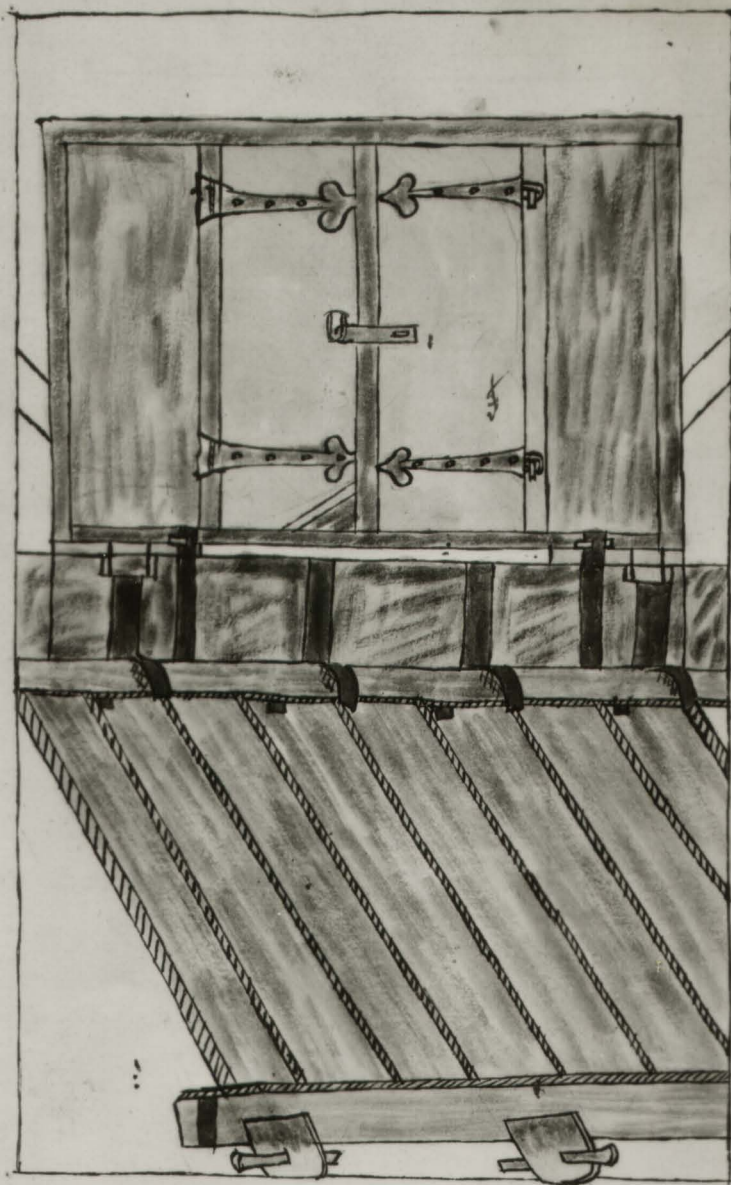


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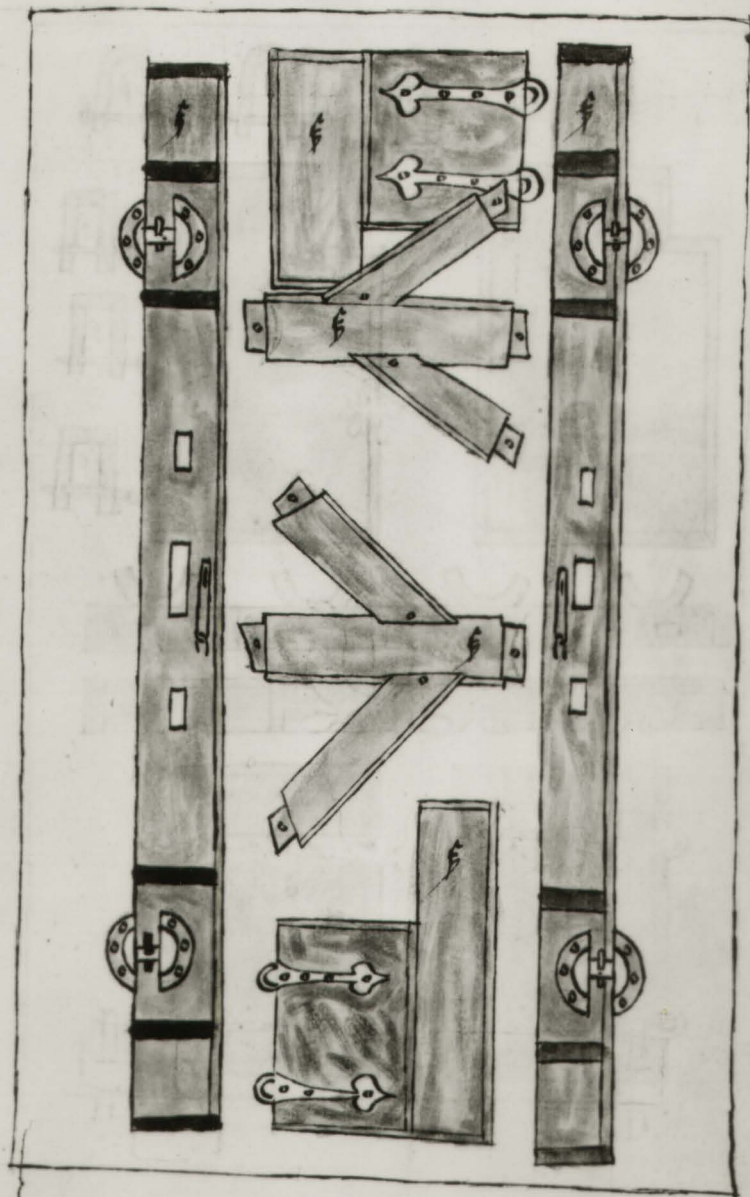


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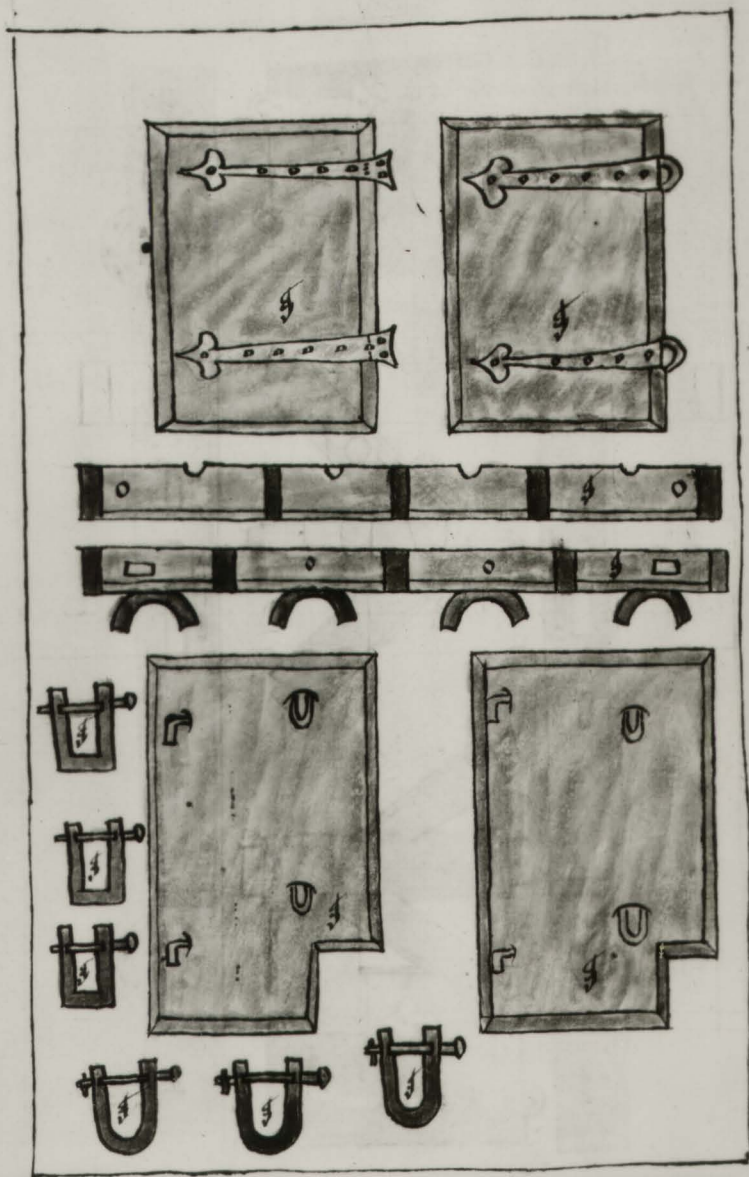




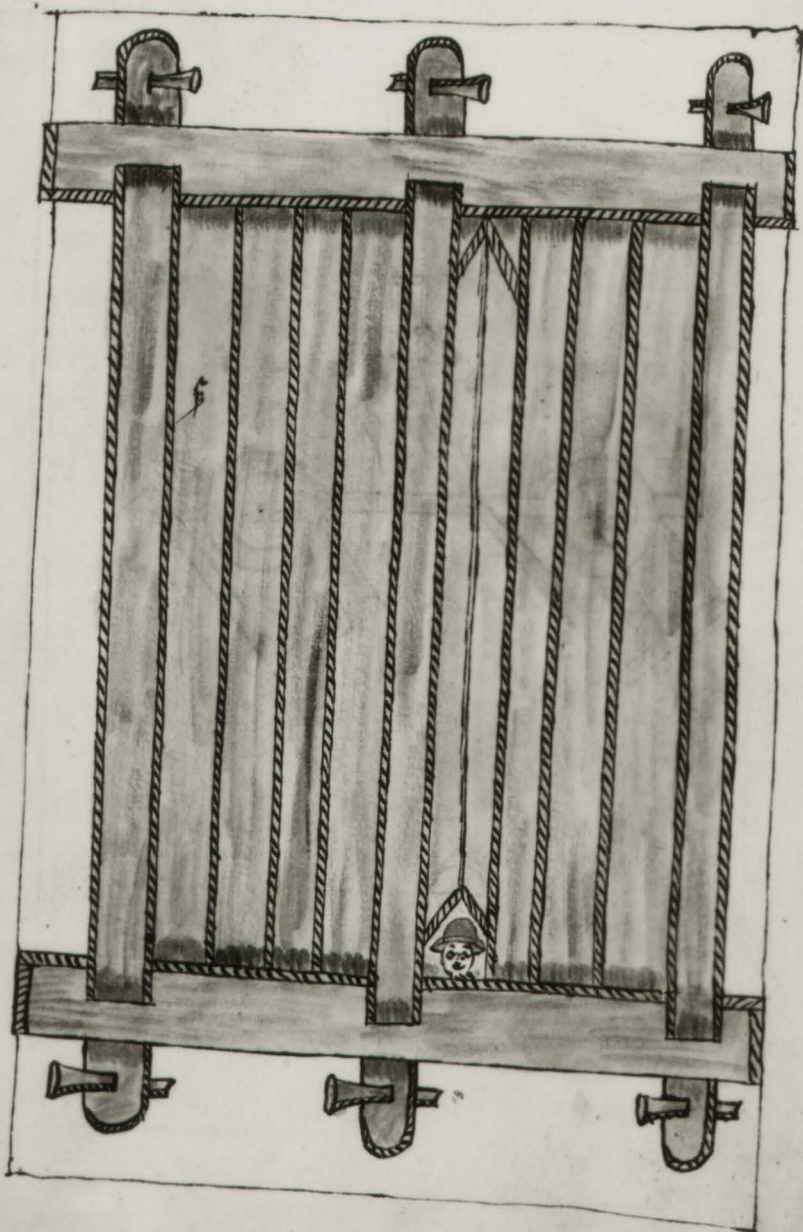
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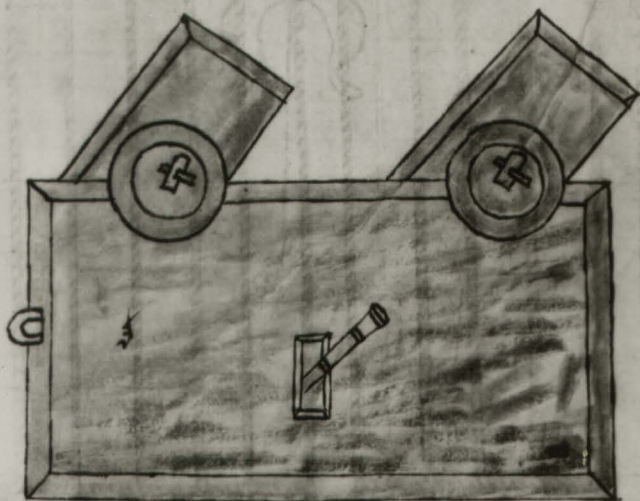


Exy

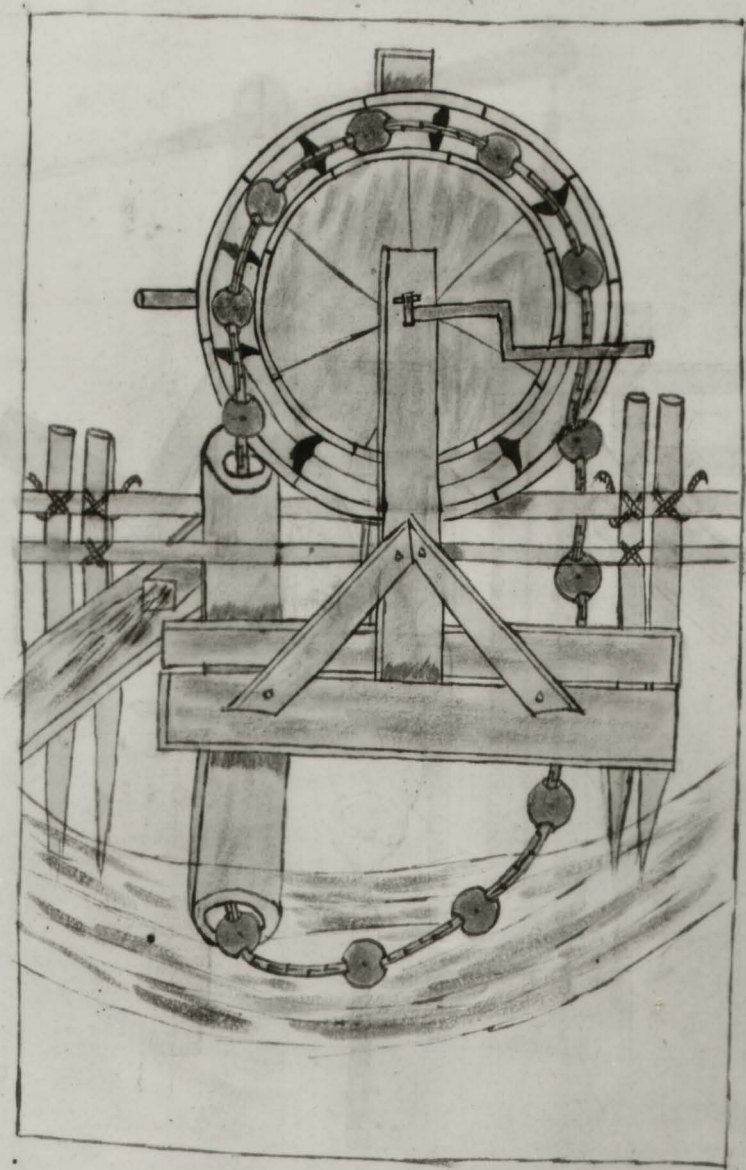


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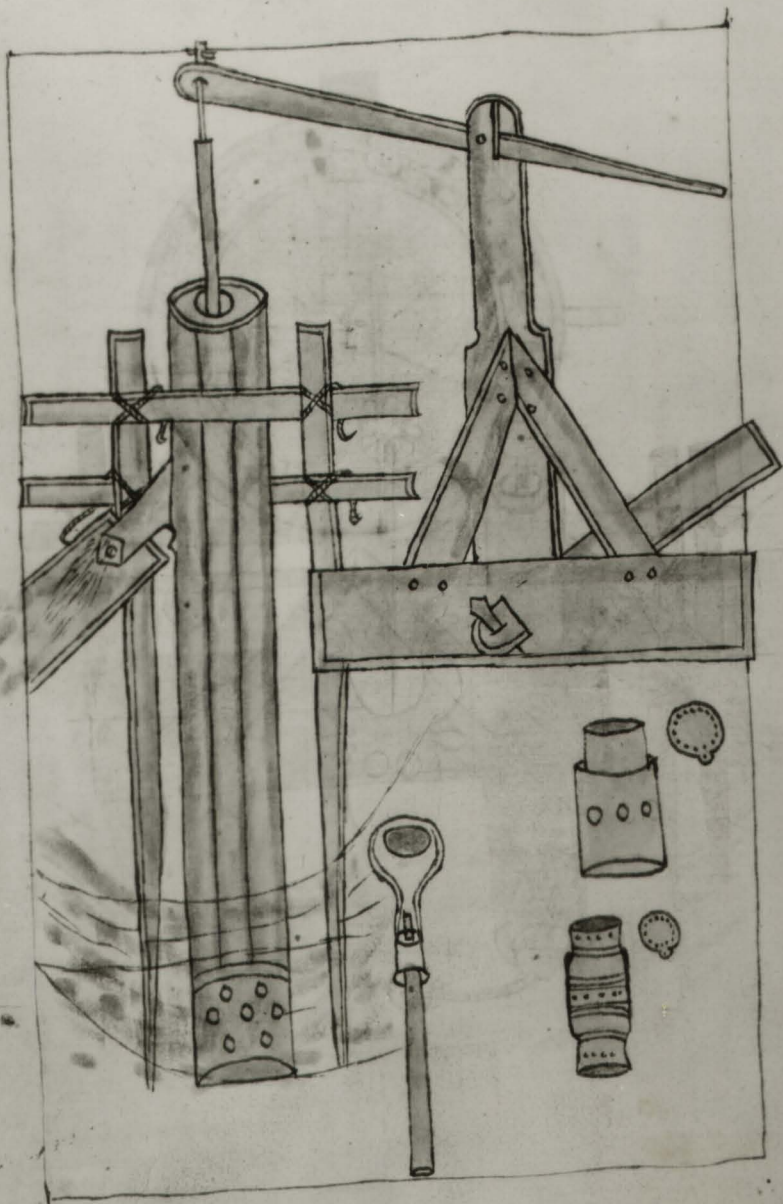
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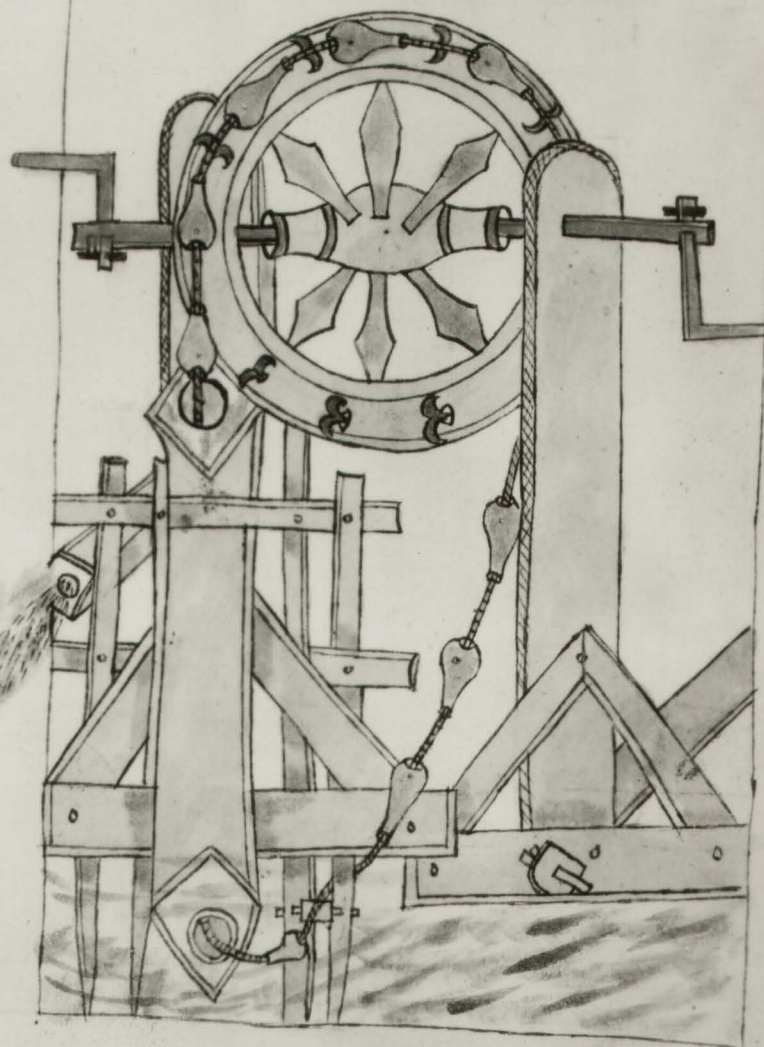
cxiii



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cxiii



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