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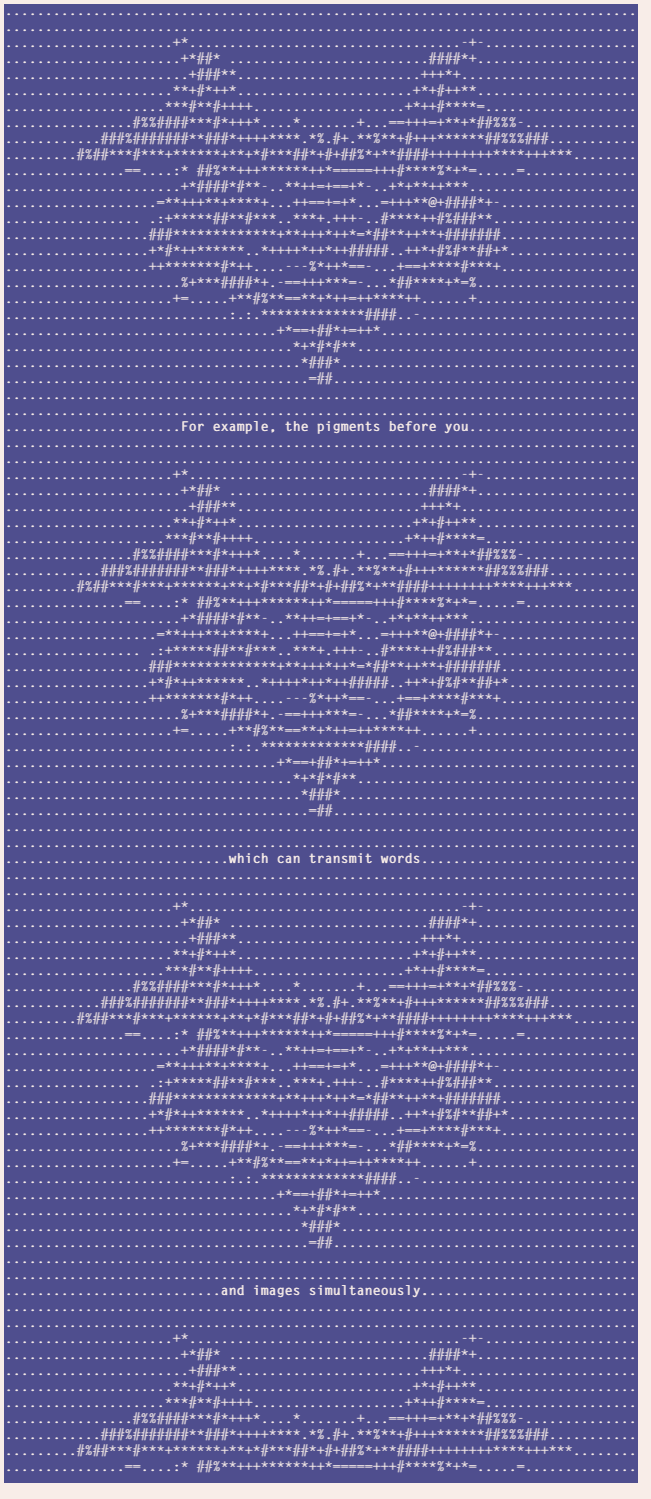
The International Standard Cartridge

The international standard cartridge is the backbone of fountain pen writing. Put simply, they are the cheapest, quickest, and easiest way to fill a fountain pen with ink. Bottled ink, while enabling the purchase and use of greater quantities, can be quite messy to use, particularly for those learning to use fountain pens. They are also less suitable for transportation and have a shorter shelf life, as ink can escape through evaporation and by leaking. A cartridge, on the other hand, is purchased sealed and will not evaporate unless opened, which only occurs when it is plugged into the fountain pen itself. This also mitigates spills and other mishaps that may occur over the course of filling a pen, as the only way for ink to escape is through the hole at the top. It would take a special kind of effort to get ink out of a cartridge in any other manner. Bottled ink misfortunately, however, happen all of the time and are a part of the life of any fountain pen user. This means that they should only be used by those who appreciate the benefits of bottled ink. The design of a cartridge, too, is optimized towards ease of use. Cartridges are tough and compact, and they also contain an agitator, which is a sphere that can shake inside the cartridge body if the surface tension of the ink blocks the flow. This is why shaking a pen can restart flow.

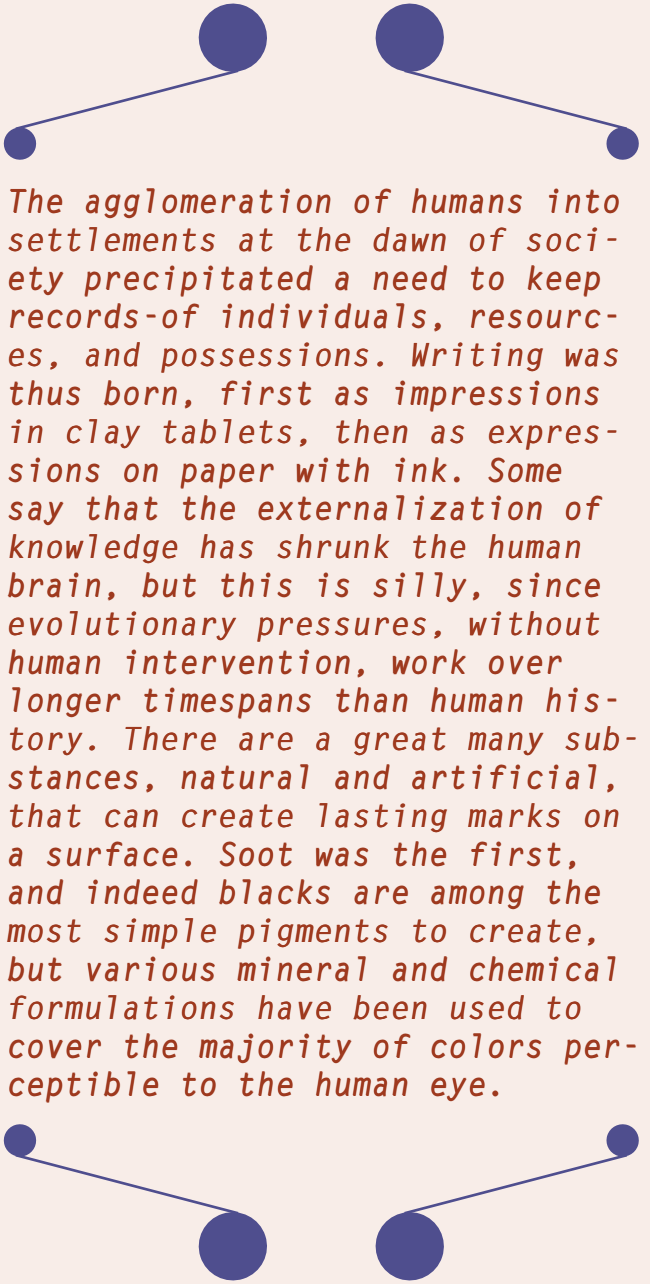
Length:
38.5 mm
Width:
4.7 to 7 mm
Inner Width:
4.0 mm
Cup Diameter:
2.3 mm
Capacity:
0.8 mL

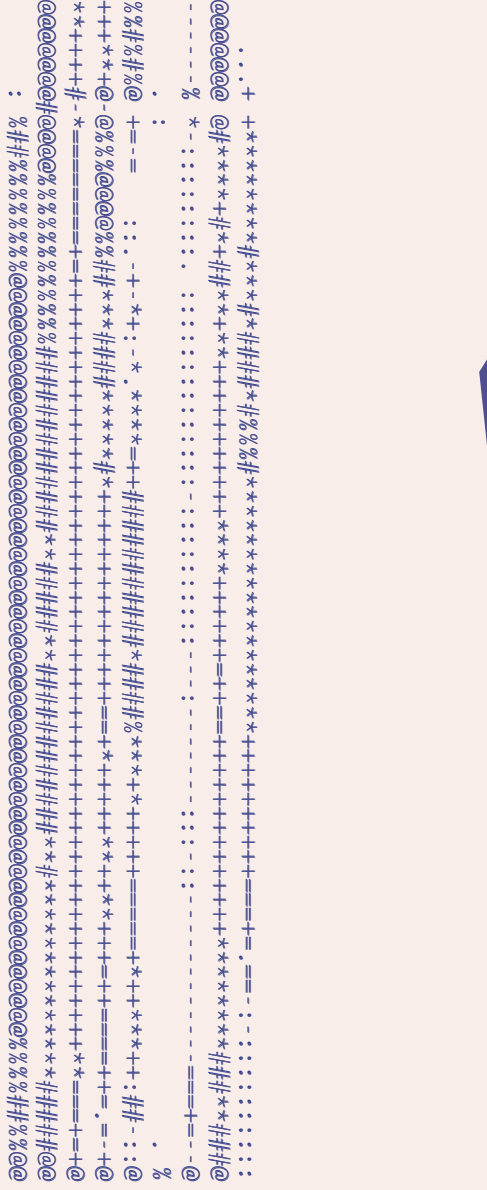
Brands: Diamine, J. Herbin, Kaweco, Waterman, Pelikan, Noodler's, Parker, Graf von Faber-Castell

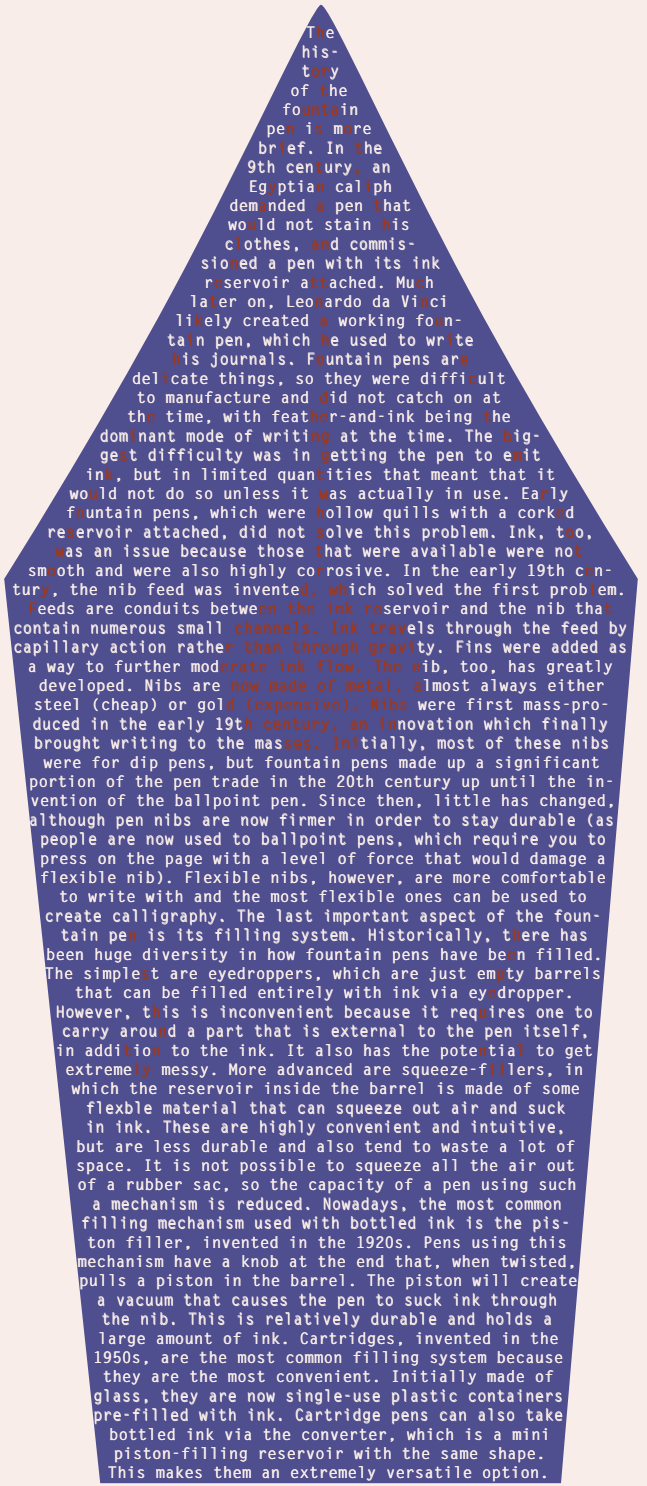
The concept of an international standard cartridge is, in a sense, illusory. The measurements above do not always hold for cartridges marketed as international standard. However, any pen that describes itself as taking an international standard cartridge will be able to take any cartridge labeled as an international standard cartridge. This is because, while length and capacity may vary, the hole at the top is always the same width. Proprietary cartridge-makers like Lamy and Pilot make pens with a different nozzle width, so the only cartridges that fit are the ones that they manufacture.



The agglomeration of humans into settlements at the dawn of society precipitated a need to keep records-of individuals, resources, and possessions. Writing was thus born, first as impressions in clay tablets, then as expressions on paper with ink. Some say that the externalization of knowledge has shrunk the human brain, but this is silly, since evolutionary pressures, without human intervention, work over longer timespans than human history. There are a great many substances, natural and artificial, that can create lasting marks on a surface. Soot was the first, and indeed blacks are among the most simple pigments to create, but various mineral and chemical formulations have been used to cover the majority of colors perceptible to the human eye.







The first synthetic blue pigment was Egyptian Blue, which gets its hue from copper. This was used through nearly the entire history of Ancient Egypt, up until Roman times, after which it was largely forgotten. Other blue dyes were synthesized from indigo (in the case of the Mayans) and aluminosilicates (in the case of Ultramarine, which is ground-up Lapis Lazuli and thus extremely expensive). In modern times, blue is often synthesized using cobalt-derived pigments (especially in glass) and iron pigments such as the relatively cheap and available Prussian Blue. In a similar vein, green

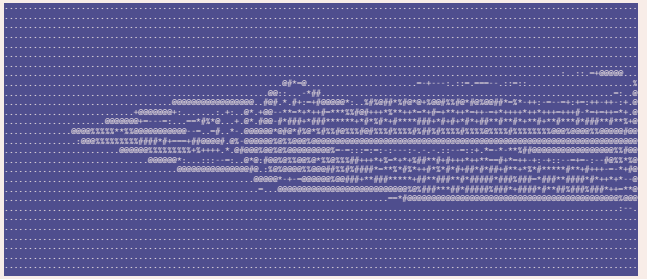
> was first synthesized from copper pigments, as oxidized copper is already green. The Romans created verdigris by soaking copper plates in wine, creating a cheap pigment that is not particularly stable and easily darkens. It is also mildly poisonous, though not as much as arsenic green. While it was far more vibrant than any pigment that came before, it also famously poisoned Napoleon, whose room while imprisoned had green wallpaper. A safer and more stable ink is phthalo green, a greenish-blue hue that

contains copper and chlorine. Even more diverse in composition are red pigments. Many are composed of iron oxidates, because rust is red, and indeed evidence of iron ochre pigments dates back to the very earliest cave art. Vermilion is a more vibrant pigment made by grinding cinnabar, or mercury sulfide. It is somewhat toxic and not particularly stable but was historically extremely popular due to its wide availability. Cadmium red is a similar hue and is more stable but is also highly toxic. Their resistance to breaking down at high temperatures has given them use in

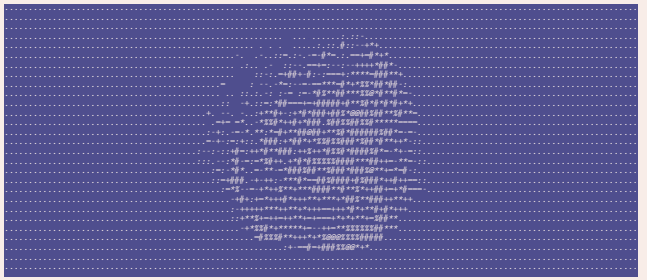
> the coloring of plastics. Yet another historically toxic pigment is orpiment, which yields a golden-yellow. Like cinnabar, it is found near volcanic vents and is thus relatively common. It was particularly popular in the east but saw little use in Europe. Ochre can also come in yellow forms, and was thus used by the ancient Egyptians. One of the earliest synthetic yellow pigments to be invented was lead-tin yellow, famous for being the yellow of choice of many great European painters. Gradually, it was supplanted by chrome yellow, cadmium sulfide, and

cobalt yellow. Comparatively few white pigments have been used throughout history. Lead white was the dominant pigment in Europe until the 19th century, and it was prepared by soaking lead in vinegar, similar to verdigris. Despite these positive qualities, it is extremely toxic and has been recently supplanted by titanium white, which is primarily composed of titanium dioxide. It is non-toxic and is more opaque, stable, and durable than lead white, particularly when mixed with zinc white.

My first fountain pen was a Lamy Safari. Objects tend to be designed in either an opinionated or general manner. The Safari is opinionated; the grip section enforces the “proper” pen grip that most people do not have, and its shape is unusu-al among pens. Its popularity is surprising, since most people have terrible writing technique.



The first story that I wrote, in kindergarten, was about a pacifist T-Rex that was starving itself looking for vegetarian sources of nourishment, having sworn off all violence. Thankfully, it survived after discovering veggie meatballs. It was a big statement coming from someone who was not vegetarian.



My first bottled ink was Parker’s blue Quink. I believe that I recieved it in India, where Parker is still rather popular. Parker was one of the pioneering pen companies but hasn’t really come out with anything new since 1970. The ink is a serviceable, if unremarkable, dark blue, though I prefer my Lamy cartridges.

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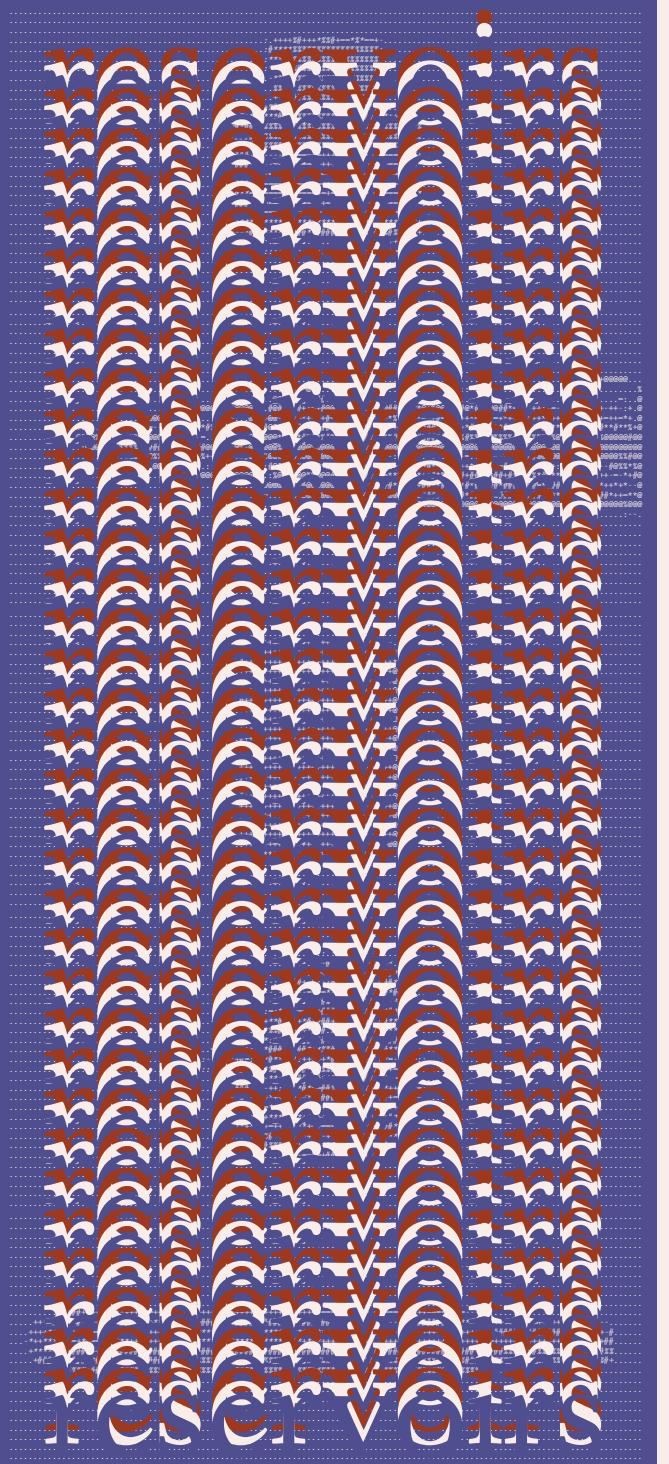

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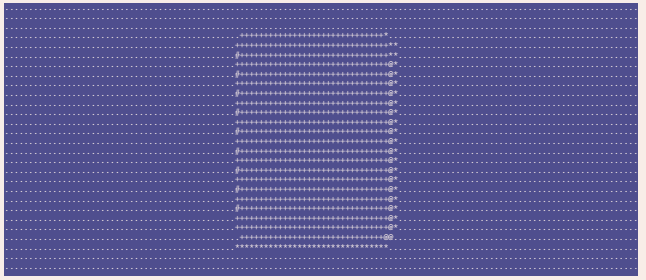

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