

# Inventions: Need or Greed?

## Part 1: “A true contrabass wind instrument”

by Clifford Bevan

Though not generally accepted as being so important as “No Freeman shall be taken or imprisoned, or be disseised of his Freehold, or Liberties, or free Customs...but by lawful judgment of his Peers or by the Law of the Land,”<sup>1</sup> or “That these United Colonies are, and of right ought to be Free and Independent States,”<sup>2</sup> the words “und empfand daher wohl am schmerzlichsten das Bedürfnis eines wirklichen Contra-Bass-Blasinstruments” are of unique significance to readers of the *ITEA Journal*. For in this sentence Wilhelm Wieprecht explained, during his preamble to Prussian Patent 9121 of 21 September 1835, how he “felt most sorely the need of a true contrabass wind instrument” in his work directing military bands.

The reason for the invention of the Bass-Tuba was thus clearly explained. But why were other instruments conceived and constructed? What was the driving force behind the often painful processes of trial and error leading to success (or failure) in bringing a new instrument to the stage to make a valid contribution to performance?

One stimulus is obvious. In the United States alone, between 1800 and 1900 over 6,000 patents were granted for inventions related to music. A patent allows the person, or organization, to which it is granted to exercise sole control over the manufacture and exploitation of an object or process for a stipulated period of time. Simply, then, the reason is financial. But in the nineteenth century, as in the twenty-first, obtaining a patent was by no means an easy or cheap process, so the financial expectations had to be high. (Charles Dickens’s short story *A Poor Man’s Tale of a Patent*, touchingly written in the first person, recounts the trouble and expense to which a poorly-educated “working-man, that never labours less . . . than twelve or fourteen hours a day” is put when trying to patent his invention.) And in the vast majority of cases, patent applicants might well agree with Dickens’s final despairing remark: “is it reasonable to make a man feel as if, in inventing an ingenious improvement meant to do good, he had done something wrong?”

Wieprecht’s invention was for a specific musical purpose, although he must have known that he, and his co-inventor instrument-maker, Gottfried Moritz, were on to a good thing financially. When he was visited by composer Hector Berlioz, he could call upon a massed military band including twelve Bass-Tubas to successfully demonstrate the viability of the instrument. And within the first ten years, he claimed, he sold a total of eighty-four. Wieprecht himself probably never tried to play one. He had been taught clarinet and trombone by his town musician father, but his professional instrument was violin, which he played in the court orchestra at Berlin. However, it was precisely his knowledge of the production of harmonics by a string that led to his development of the Bass-Tuba, with its ability to produce such a wide chromatic range. There were already bass instruments in existence in Germany at the time, even in the same pitch of F; but since they had only three valves, their downwards compass was limited. In his patent document Wieprecht relates the function of each valve and combination of valves to the harmonics of a string, showing how he reached his conclusions. Despite his systematic approach to solving the problem of constructing a contrabass brass instrument, he would never have described his profession as “inventor” since apart from the Bass-Tuba, the Berliner-Pumpe valve and the Piangendo (a device allowing a valve instruments to play portamento),

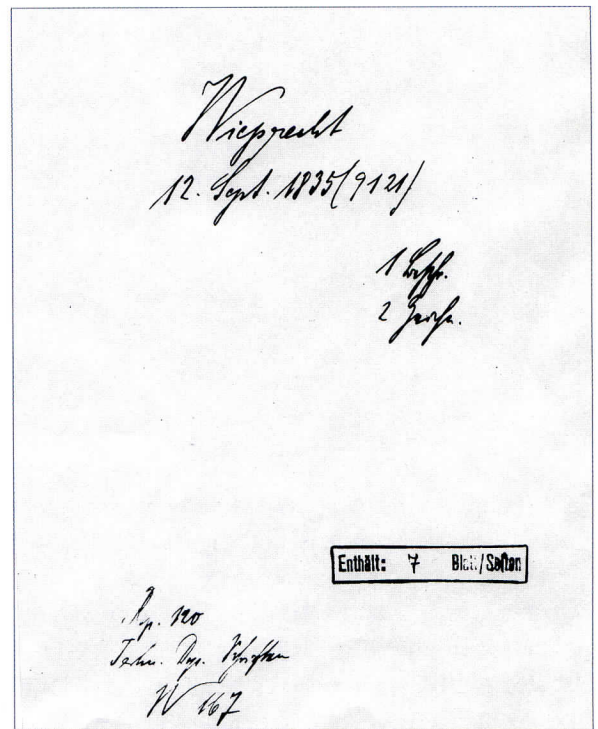


he was mainly occupied with military band matters. A few years after the first Bass-Tuba appeared, he was off reorganising military bands in Turkey and Guatemala.

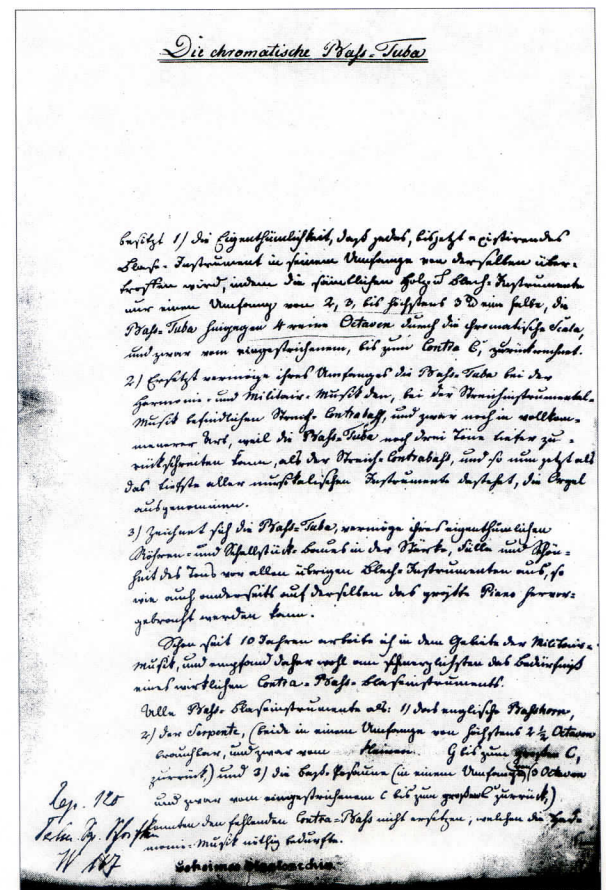
The nineteenth century saw musical instrument patent activity at its peak. More familiar than the name of Wieprecht is that of Adolphe Sax, son of a significant Belgian instrument-maker, Charles. Adolphe was not only the inventor of the saxophone (and much else, including a steam organ, the Saxocannon, and parabolic concert halls), but it is also generally considered that he invented the saxhorns, of which the most familiar present-day representatives are the flugelhorn, Eb horn, and baritone. Ferdinand Sommer's euphonium and Wieprecht's tuba were also soon modified by the inclusion of saxhorn characteristics. But just about all the saxhorns already existed before Sax "invented" them. The reason why he was successful where others weren't is that he designed a real family of instruments with matching timbres, and his craftsmanship enabled him to produce instruments of unsurpassed quality. He patented the family of instruments now called saxhorns but did he actually invent them?

In comparison to Wieprecht's 'need' for a contrabass instrument, Sax arrived in Paris from Brussels determined to make his mark in a city which was already an important centre of brass instrument making with such important firms as Besson, Courtois, Guichard, Halary and Thibouville-Lamy. He had every reason to expect success: not only was his craftsmanship of a high order (as can be literally felt by anyone who has been fortunate enough to handle a Sax instrument), but he had a gift for public relations and a useful way of making influential friends. There were those in Paris who had their eye on this gifted instrument maker as a result of Wieprecht's reforms to military bands in Prussia which were now putting French bands to shame. One of them was the influential General Comte de Rumigny, the Minister of War. Another was Hector Berlioz, who as well as being a composer was a journalist, contributing a regular column to the authoritative *Journal des Débats*. While he was on the conducting tour of Germany where he first heard the Bass-Tuba, he also recommended Sax's instruments to conductors and bandmasters who he met there. Sax needed friends, because the Parisian musical establishment was not particularly receptive to his ideas. Instrument makers like Besson, Courtois, and Guichard were considering their options. A threatened strike at the Paris Opéra was only averted when he withdrew the Sax bass clarinet stipulated by the composer Donizetti; nonetheless, his factory was broken into, and one of his workmen was murdered.

When Sax was swindled out of 4,000 francs, it also became apparent that he was not a particular astute businessman. Fortunately, De Rumigny persuaded Queen Marie-Amélie to pay off Sax's creditors. Meanwhile, the



The cover of Wieprecht's Prussian Patent 9121 of 12 September 1835 for The Chromatic Bass-Tuba.



The first page of Wieprecht's Chromatic Bass-Tuba patent, in which he begins his explanation of why he invented the instrument.



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Distin family, a touring English brass quintet, gave valuable publicity to the saxhorns, playing them as far away as the United States and constituting an important influence on the development of the brass bands becoming so vital to British music-making. De Rumigny continued to press for the reform of French military bands and eventually, after various play-offs and competitions, Sax's instruments were accepted as the best. Vast orders rolled in. However, his increasingly furious competitors now realised that for them there would be no more orders from the Minister for War. A United Association of Instrument Makers was formed, with the patents for saxhorns a particular matter for concern. The long-established maker Halary (inventor of the ophicleide) stated that they were simply "flugel horns in different keys." In Prussia, Wieprecht was under no illusions about Sax, aware that in Paris he was making versions of his Berliner-Pumpe valve and copies of his Bass-Tuba.

In 1845, the great and the good of European musicians were present at the unveiling of a statue of Beethoven at Bonn. Both Sax and Wieprecht were there, and when they came face-to-face Wieprecht named an instrument in current use in Germany that corresponded with each of the saxhorns. He suggested that Sax should consider not continuing to tarnish his reputation by claiming that his improvements were really inventions. On another occasion, when Italian instrument maker Giuseppe Pelitti was asked if he made Sax's instruments in Milan, he angrily responded that Sax made *his* instruments in Paris.

By 1846, Sax had 191 employees. Two years later the king was dethroned and escaped to England, with him went General De Rumigny, and the decree ordering Sax's instruments for military bands was revoked. Fortunately, on the accession of Napoleon III in 1849 it was reinstated. In 1858, Sax was made director of stage bands at the Opéra, a position that enabled him to arrange for the deployment of Sax instruments, sometimes in large numbers. Yet, when he died, at the age of eighty, he was living in some poverty,

mainly as the result of the expenses of defending the legal actions brought against him by other instrument makers—their names now largely forgotten.

Various court hearings had lasted in all for over eleven years, and Sax spent most of his earnings on lawyers' fees. Many of the legal actions were unnecessary; he had a habit of rushing into litigation at the slightest excuse and this weakness was undoubtedly exploited by members of the Association of Instrument Makers. As a result he was declared bankrupt three times. So why did Sax feel this compulsion to invent? Clearly, the stimulus was not financial. But it may be found in a paper he published late in life outlining a proposal for a School for Inventors. The reason he gave is simply that it would stimulate in inventors a desire for fame. ■

To be continued

## Notes

1. Magna Carta, 1215
2. United States Declaration of Independence, 1776  
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