



Brass Instruments

Mechanical Innovation: Keys

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The mechanical feature of these instruments is the key. The cornet used finger holes but in this case the holes in the tube are covered by keys which the player operates. This keyed trumpet is a model developed by a trumpet player - Anton Weidinger - at the end of the eighteenth century. And it was for an instrument of this style that Haydn's Trumpet Concerto was written. However the instrument met with limited success. The principle works, but doesn't work very well with a cylindrical bored instrument.

The keyed bugle was invented around 1810 and the tone holes are quite large in relation to the size of the bore.

Acoustically this means that when the tone holes are opened the tube length is shortened. The actual practical tube length in use on the instrument extends from the mouthpiece to the nearest open hole.

This principle was extended to bass instruments with the invention of the ophicleide. And this was an innovation at the time, such large keys hadn't been applied previously to either woodwind or brass wind instruments.

Taken together, the keyed bugle and the ophicleide provided instruments, which could be played fluently and these enabled brass instruments to have a distinct voice in the band music of the time.