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The Conn 6M: Implications for Contemporary Saxophone Performance and Pedagogy

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THE CONN 6M: IMPLICATIONS FOR CONTEMPORARY SAXOPHONE PERFORMANCE AND PEDAGOGY

By
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Introduction

The saxophone—and the alto specifically—is a first choice for many beginning musicians in school band programs, often selected for its size, weight, and availability. Now, roughly 150 years into the instrument's lifespan, the alto saxophone remains a primary instrument in the saxophone family, increasingly enjoyed worldwide.

In the first half of the twentieth century, C. G. Conn Ltd. and its neighboring instrument companies in Elkhart, IN pushed the boundaries of saxophone design. These producers of top-of-the-line instruments boasted unique features and sound qualities that drew artists to their saxophones specifically. Special key designs, finishes, and technologies enticed artists to choose different brands over the years; yet at the center of the American saxophone's story remains Conn and its New Wonder saxophones.

This thesis about one of the New Wonder saxophone models, the Conn 6M alto —particularly its 1930s redesigned model known as the "Naked Lady"—will begin with a discussion of the patents related to its development, as well as its production specifications and public reception. The discussion will continue in a collection of pedagogical studies related to the 6M's design, with commentary on how to approach its patented features. The third chapter considers the Conn 6M's features in select performance situations, discussing potential advantages in literature examples commonly performed today.

Chapter 1

The Conn 6M

History

Conn saxophones, in their many iterations, have been a choice instrument of saxophonists now for over 125 years. In the 1930s, Conn redesigned its saxophone line, creating the professional Conn saxophones known today. These saxophones, which were once on the cutting edge of engineering and design, are an important product of the American instrument's history. Conn's New Wonder saxophones were first offered in catalogues of the 1920s, with a factory/manufacturer's mark for each saxophone specifically—M).[1]

In saxophone history, Conn has a unique place as the official manufacturer of America's first saxophones. C. G. Conn saxophone No. 1 is an E-flat alto saxophone modeled after an Adolphe Sax design of later years. Said to be built between 1884 and 1888, Conn's first saxophones were assembled by a later competitor, Ferdinand 'Gus' Buescher, who was Conn's woodwind foreman at the time.

The New Wonder models were a great success in the first years of Conn's saxophone production, and the Elkhart instrument industry grew in response to healthy competition. As the saxophone continued gaining popularity in music performance programs nationwide, Conn's reputation as a manufacturer and supporter

[1] Conn used alpha-numeric nomenclature for their instrument families; B for Trumpet, H for trombone; Saxophones were the 4M Soprano, 6M alto, 8M C-Melody, 10M Tenor, 12M Baritone, and 14M bass.

of the arts grew as well[2]. The 1910s and 1920s saw the saxophone craze move from newfound fascination to something of a national instrument in America, and by the end of the century's second decade, a new generation of instruments were needed. Demand for a better instrument was fueled by early virtuosos like H. Benne Henton, "one of the first [saxophonists] to master the altissimo range"; Jascha Gurewich, the "Saxophone Prince" (Segell 2005, 60); and Rudy Wiedoeft, "the icon of the American saxophone craze" (Segell 2005, 72). As a result of this growth in popularity, Conn employed a full-time research team to improve the basic functions of their instruments, notably their saxophone lineup. By 1934, an unofficial fiftieth anniversary of the American saxophone, Conn delivered a "new era in saxophone making" for the years to come (Conn 1934a, 2).

This new era came after the first four years of the 1930s, known to saxophone collectors as Conn's "transitional" years, with experiments in bell placement, key shapes, and engraving designs of varying degrees—marking Conn's search for a completely new saxophone (Stohrer 2012). Instruments from these years often vary from one to another, making them sought out for their unique personalities and sometimes one-of-a-kind options. However, in Conn's 1934 *New Wonder Saxophones* publication, Conn's "new model" 6M alto was unveiled on the cover, designed to meet "all demands of modern engagements" by "a host of America's greatest saxophone artists" (Conn 1934a, 6).

[2] Prior to the 1940s, there were over fifty other university or conservatory programs offering saxophone instruction in America. Conn founded their own conservatory in 1896 for Military Band music in Elkhart, IN. (Murphy 1996, 2-5)

1934 Redesign

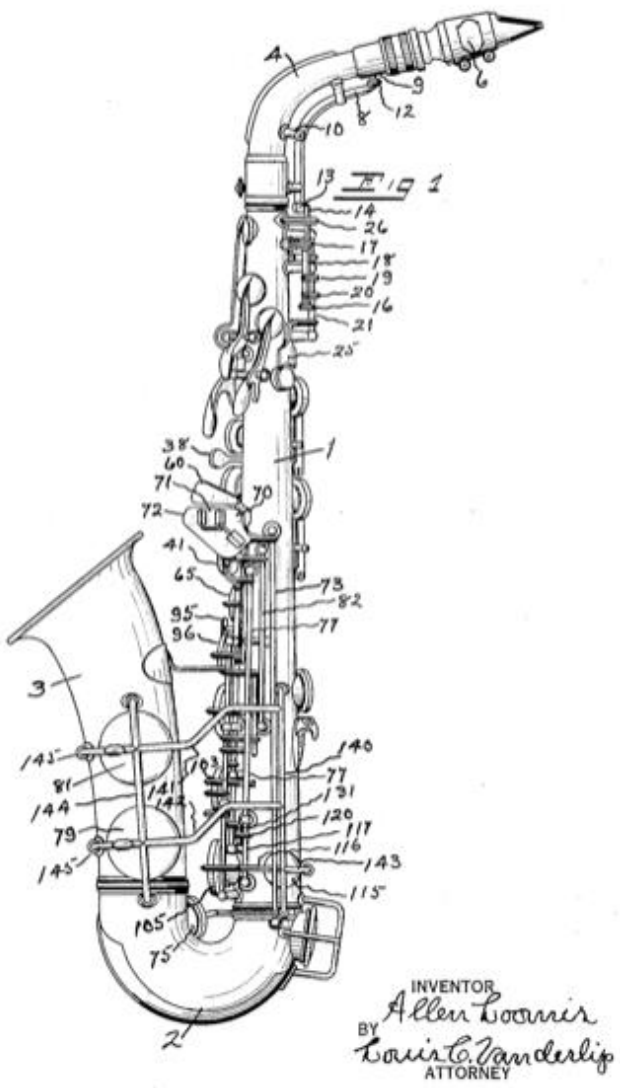

Figure 1.1: Allen Loomis's 6M Design (1933)

The 1934 6M model contained many new integrated design features, described in Figure 1.1, Allen Loomis's U.S. Patent 2,033,774 "Saxophone," filed March 23, 1933. Loomis worked on multiple aspects of the instrument's design, including new ways to assure "the permanence of the regulation" in keys, "various combinations of keys [. . .] for obtaining similar notes," a new way to protect the "upper octave key

against injury," as well as a "novel manner" to arrange the "four finger-pieces of keys adapted to be played by the little finger of the left hand." (Loomis 1936a, 1) These selected "objects of the invention" display a fully re-engineered saxophone, in as many ways possible. It was clear that C. G. Conn Ltd. used this new 6M as their way to distinguish their design from their competitors', as brands were aiming to do after the heavily "stenciled[3]" era of the previous decade.

Other claims and inventions seen in the 1934 6M are the "long cross-hinges" on the upper palm keys D, E-flat, and F; a completely "new octave mechanism," a "smooth hook-up" of an articulated G-sharp key to aid "rapid passages" between the left pinky table keys, as well as a "drip bushing in low Eb socket," redesigned clothes guard, and the newly "raised E key" (Conn 1934, 4). The Conn 6M also featured rolled tone holes and—at initial release—an adjustable "thumb-hook" (Loomis 1936a, 1).

One of the most visually striking redesigns of the 6M was the left-hand pinky table, also known as the "spatula" keys. The 1934 model came equipped with a completely different feel and mechanism from its predecessors. 1934 was also the model year that competitors like Buescher promoted a similar redesign in spatula keys, with both companies advertising an "articulated" mechanism (Conn 1934a, 4). As Loomis states, the 6M's new spatula "comprises a plurality of flat finger-pieces arranged closely to each other and permitting the little finger to slide from one to the other of these plates, and it also permits the opening of the G-sharp pad by any one of these keys, even though the G-sharp finger-piece itself *should not be actuated*" (Loomis 1936a, 3). The left-pinky key table is designed not only to reach the low

[3] "Stencil" saxophones refer to the process of one manufacturer building a saxophone, branded with another company's logo, or name. The Elkhart companies made many stencil horns in the 1920s, and the 1930s marked the distinguishing of their own 'professional' model saxophones from their previous designs.

notes of the saxophone (B-flat, B, and C-sharp), but it is also to allow the user to not rely on the G-sharp key in the table, as the note can now be played by four alternate keys in addition to its own. Loomis also filed Figure 1.2, U.S. Patent 2,055,382 in conjunction with 2,033,774, as a “divisional” subsection of the design (Loomis 1936b, 2).

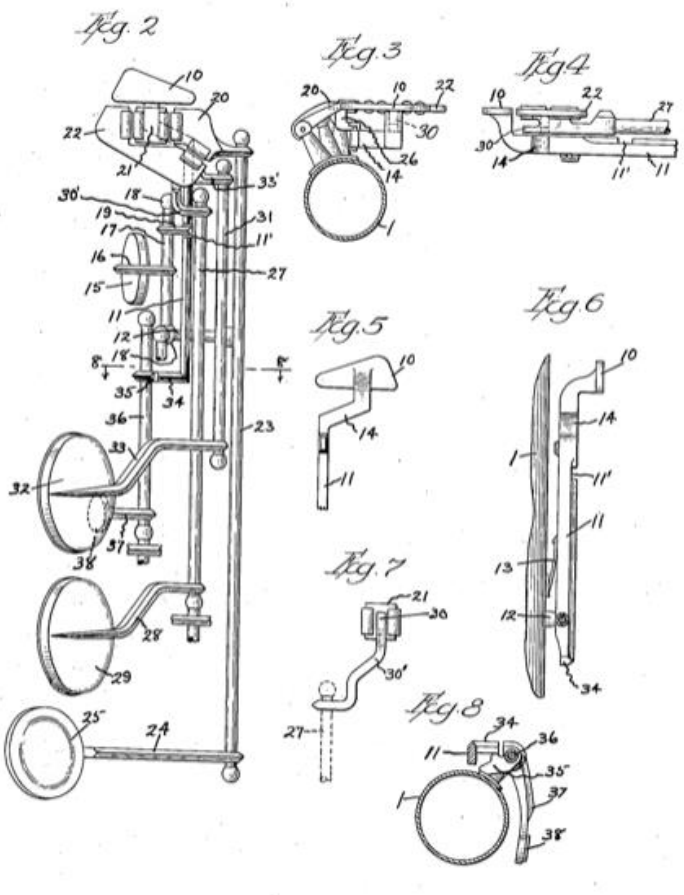

Figure 1.2: Schematics for Loomis’s left-hand table, from Patent 2,055,382

Conn’s 1934 articulated table also gives a unique opportunity to the player to find the most comfortable approach to the instrument. As the spatula is adapted “to move in a direction which is natural for the little finger of the left hand,” these keys are meant to be pressed towards the “axis of the instrument” (Loomis 1936b, 4). Any of the four plates in the group will actuate G-sharp, so the player must no longer

worry about pressing a specific key to achieve the desired note, which will be discussed in length in a later chapter.

The 1934 6M also featured a fully redesigned neck. The Loomis patent describes different updates made to the underslung octave mechanism as well as the receiver socket of the neck. The new 6M neck retained Conn's signature tuning device, which was previously developed to "overcome serious faults resulting from tuning the saxophone by pushing the mouthpiece in or out on the mouthpipe," or neck. (Conn 1934a, 4) Conn's tuning device went through two main iterations over the years which were used in production runs. A third, more experimental patent was filed by Alfred L. Smith on Sept. 8, 1931, titled "Tuning Device for Wind Musical Instruments," U.S. Patent 1,870,211. Smith's microtuner featured a sliding length of tube with a single tightening screw, and can be seen on a few transitional saxophones as a collectable or experimental feature.

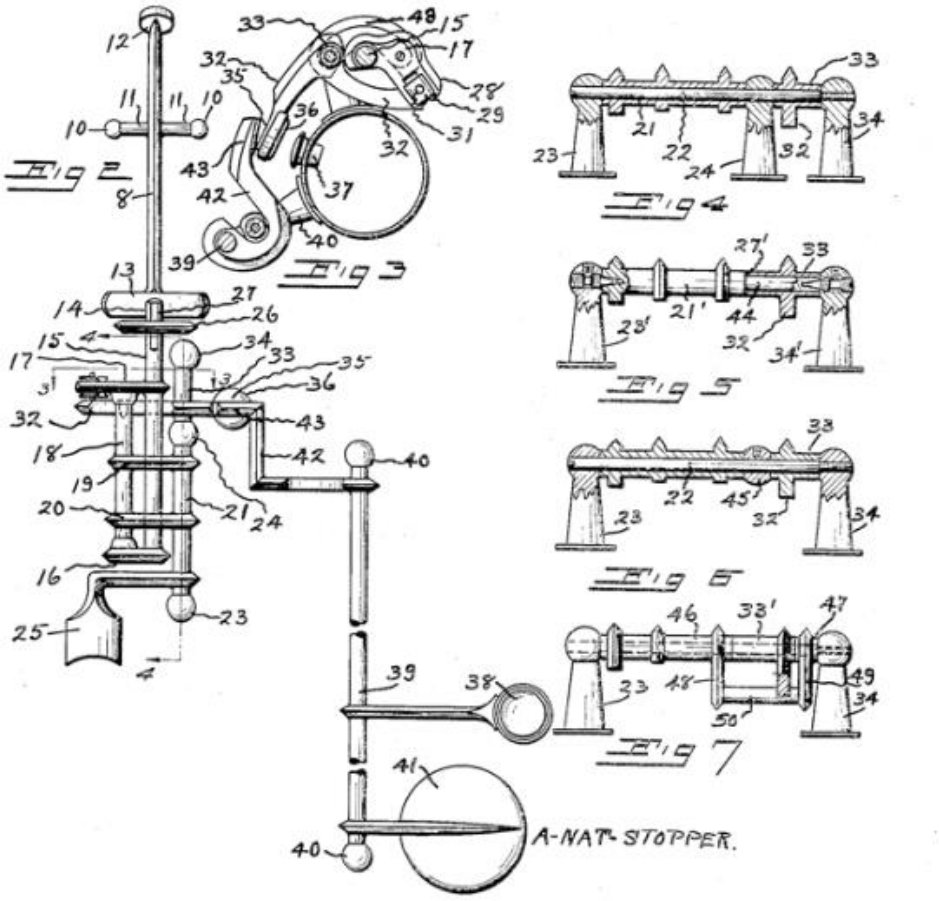

Figure 1.3: Octave mechanism schematics, Loomis 2,033,774

The octave mechanism for the 1934 Conn 6M (Figure 1.3) is the first of its kind to move “in a direction contrary to that employed heretofore for the same purpose” in Conn’s earlier models. (Loomis 1936a, 1) By moving the octave pip to the bottom side of the “mouthpipe,” Conn’s new octave/neck design was to “guard said upper octave key against injury” as well as facilitate “an automatic structure” effecting “the opening or closure” of the two octave holes. (Loomis 1936a, 1) This “sliding block” octave mechanism creates a security against “end thrust” by overlaying hinges and tensions; in previous models the octave key, when depressed, pulled backwards towards the player, lifting the ring connected to the arm and top-

mounted octave hole.[4] Now, by a means of a forward press, the sliding-block mechanism presses an "abutment bar" (Loomis 1936a, 3) which results in the "positive action" (Conn 1934a, 4) of the new model. Loomis's design features metal posts that surround the levers, protecting the arms from damage as well.

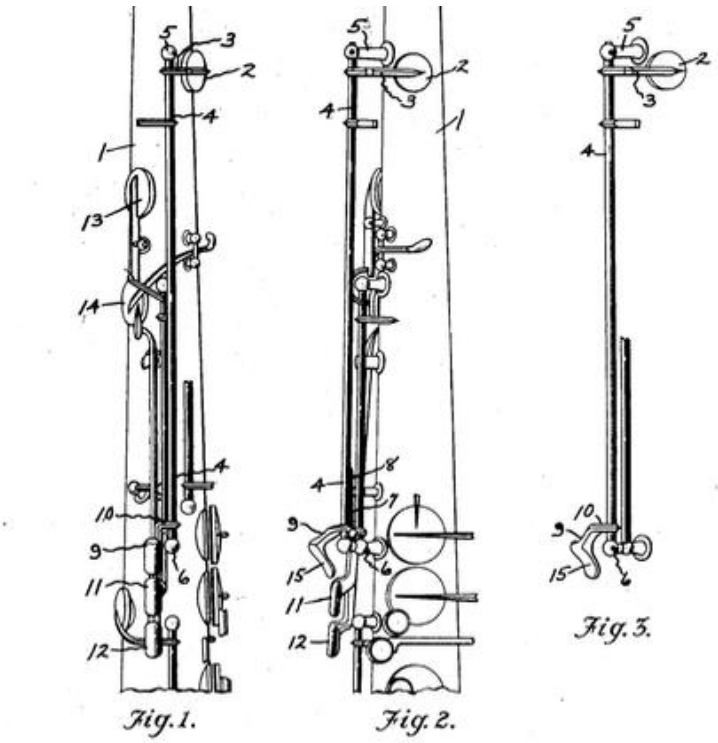

Figure 1.4: Kerr's "Key Spatule for Musical Instruments"

Russell Kerr's "Key Spatule for Musical Instruments," U.S. Patent 1,836,256, is also an incorporated part of the redesign, remaining in production from the transitional years. As shown in Figure 1.4, Kerr's patent aimed to "provide a humped key spatula to facilitate the operation of the high E key of a saxophone" that could also be played "by the side of the player's hand." This design eliminates the

[4] Loomis' "sliding block" mechanism can also be seen in an earlier patent, U.S. 1,706,796 "Octave Key Mechanism for Musical Instruments," filed Jan. 21, 1927, awarded March 26, 1929.

possibility of "overrunning" the correct key by moving the hand an incorrect distance in the row: E, C, or B-flat (Kerr 1931, 1).

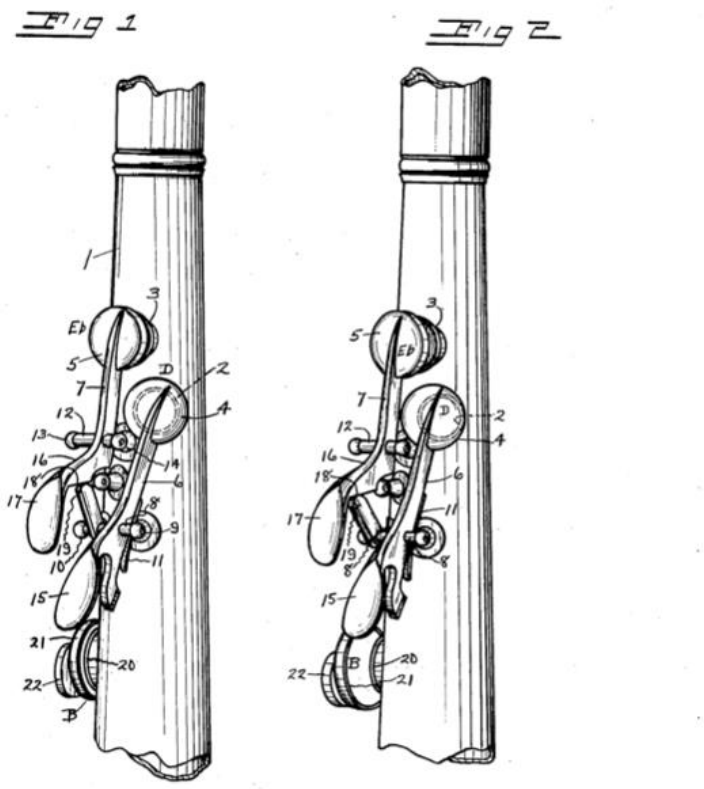

Figure 1.5: Loney's "Saxophone" Patent schematics, with stop lug and wiper surface

In the new model's later production, the initial 1936 Loomis patent would not be the only one to mark its design. Shortly after the release of the new instrument, H. W. Loney filed "Saxophone," U.S. Patent 2,056,608, expanding on the nature of the redesigned E-flat and D palm keys (Figure 1.5). In its debut, the 1934 6M featured "the longest [cross hinges] on any [saxophone's]" high D, E-flat, and F keys. These cross-hinges featured "a stop lug under the high D key" to bring the "forked C to D trill into better tune" (Conn 1934a, 4). Loney's patent, however, also featured a swivel arm on a "wiper surface" (Loney 1936, 1) that rests underneath the E-flat key. It was designed to activate with the opening of the E-flat key for performance of the C-D trill, with the arm stopping the E-flat key from opening too wide, causing the note (D)

to be out of tune. Ultimately, Loney's blade was not incorporated into the design of the instrument, but the cross-hinges and stop lug remained.

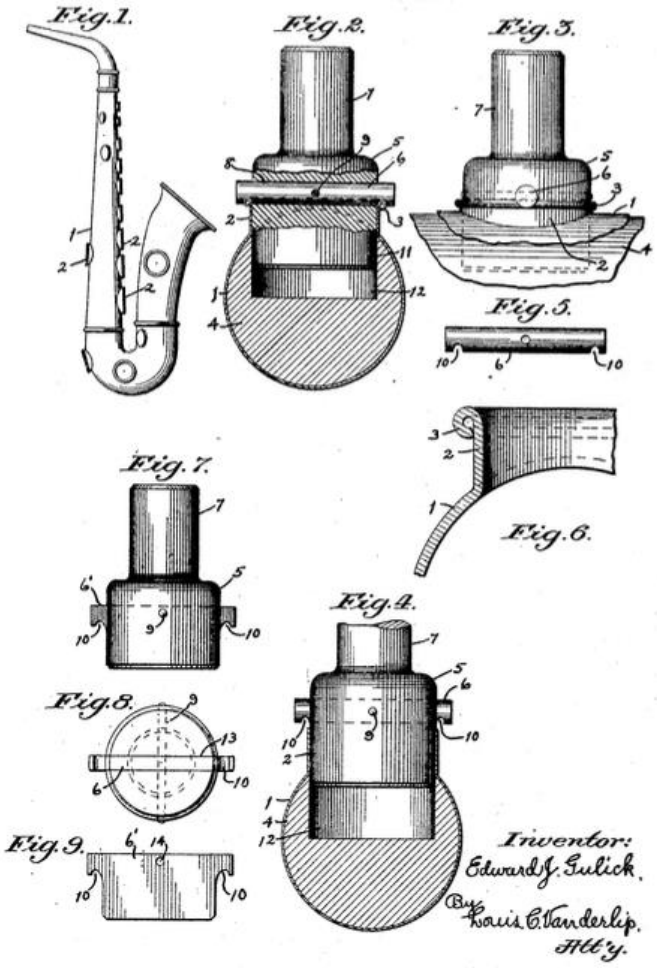

Figure 1.6: Image from E.J. Gulick's Rolled Tone-hole Patent

Like its predecessors, the 1934 6M had rolled tone-holes. Rolled tone holes were an integral part of Conn saxophone designs from the mid-1910s through the 1960s. Rolled tone-holes were used to minimize pad wear by a rounded, rather than sharp, edge as a point-of-contact with the leather pads. Conn's process for rolling tone-holes is described in Edward Gulick's 1923 "Tool for Rolling the Edge of a Wind Musical Instrument Valve Seat," U.S. Patent 1,529,430. Expanding on William Haynes's "Musical Wind Instrument" of December 1914, tone-holes on the 6M were rolled by a "mandrel positioned interiorly of the tubular saxophone body" while the

“cylindrical head” and “shoe” elements are pressed against the edge of the tone-holes structure. This “rolling” or “beading” the edge of a saxophone’s tone-hole occurs “without distorting, denting or in any manner injuring the saxophone body.” (Gulick 1925, 2)

Mid-decade developments

Conn’s other saxophones would also receive design overhauls in the 1930s. The Conn 10M Tenor Saxophone received its overhaul in 1936, gaining many of the new design attributes of the 6M. The “new type octave mechanism” was incorporated into the 10M, as well as the “articulated keys for the little finger of the left hand,” the “long hinges” for the upper palm keys, and “a number of other improvements” based on their success with their alto redesign (Conn 1936, 24). The 12M Baritone would begin incorporating the elevated high E key (Kerr) in 1936; however, it would not see the relocation of low B and B-flat until 1938.

H. W. Loney would also work on an extended revision of Loomis’s spatula key design, as seen in Figure 1.7, “Woodwind Instrument,” U.S. Patent 2,180,118, filed March 28, 1938. Loney’s redesign of the left-hand pinky table was made in conjunction with the release of the Connqueror saxophone models. Loney’s patent did two things: it mapped out the shifted location of the Connqueror’s improved table, as well as officially solidify the change of direction for the G-sharp key, now facing the opposite direction from Loomis’s original concept (Loney 1939; Loomis 1936b). The G-sharp direction would remain in this 1938 position until the end of production. The 1938 introduction of the 26M and 30M Connqueror models also meant that for the first time, the 6M model was now one step below the top-of-the-line in Conn’s catalog. However, many of the features remained shared between the 6M and 26M.

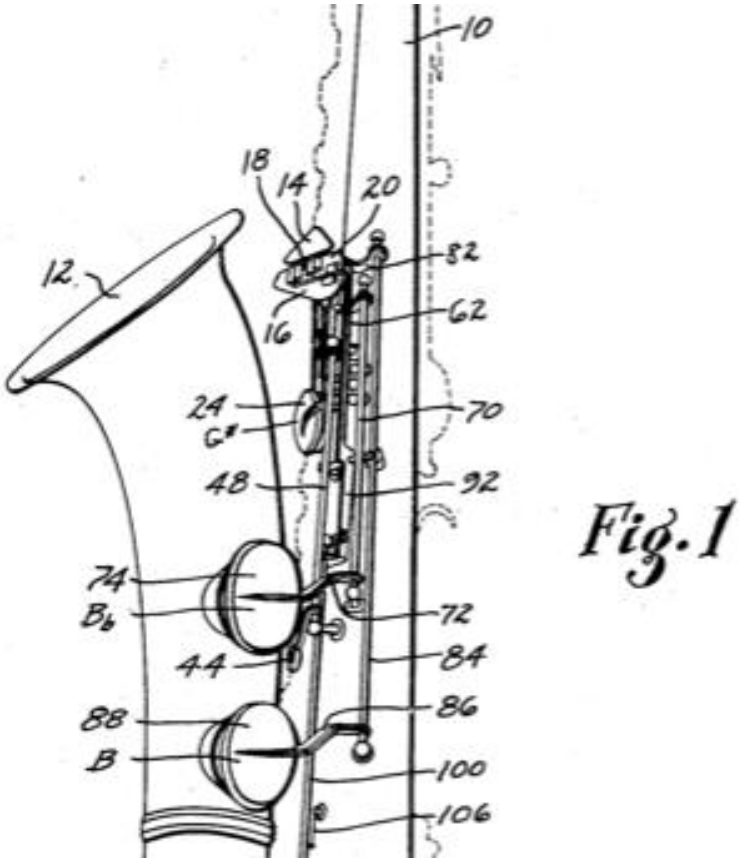

Figure 1.7: Improved left pinky table from Loney's "Woodwind Instrument" (1938)

The other primary shared feature was the "new tuning device" seen on the 1938 model alto saxophones (Conn 1938, 13). This final iteration of the microtuner is from E. J. Gulick's 1929 "Tuning Device for Woodwind Instruments," U.S. Patent 1,736,880, a revision of his first tuning mechanism, patented in 1919. As stated in the 1938 brochure, Conn's new alto saxophones have an "extra wide tuning range" because of the device feature, "from below A-437 to A-445." (Conn 1938, 7) It is not clear as to why Conn waited four years into production to implement the new neck design; however, these third-version alto saxophones are marked by a VIII designator on the neck and body.[5]

[5] It can be inferred here, that with the 1938 Connqueror release, Conn's Alto saxophones were now in their third version. There are multiple myths regarding the "VIII" legacy, including its reading as a roman numeral 8, following the Selmer Mark VI tradition. However, this "V3" saxophone design is seen with the stamp until WWII, when saxophone production resumed anew after wartime efforts. The maintained

Ordering options

The 1934 Conn saxophone lineup came with new options and finishes as well. The previous "transitional" years featured an engraving pattern by Harry W. Schwartz, filed with the U.S. Patent office as Des. 82,061, "Saxophone or Similar Article." This design, now commonly known as the "Art Deco" engraving, would be replaced by the "Naked Lady" (Figure 1.8) in the unveiling of the 1934 model. This new engraving pattern, with the portrait of a woman in a pentagon, would be the nickname given to these horns for the next few decades, until the engraving pattern was discontinued in production.

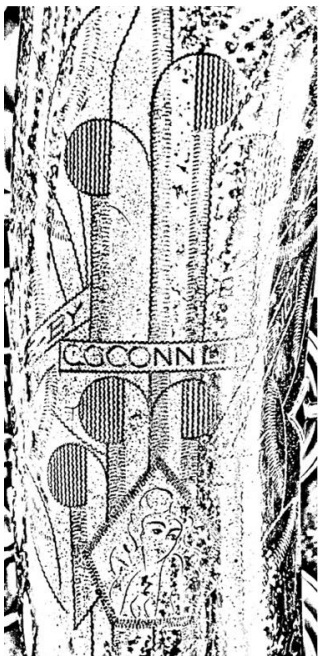

Figure 1.8: Engraving pattern, Conn "Naked Lady"

The 1934 Conn was offered with the following finishes: "Satin silver, gold burnished inside bell, 6-M-2; Polished brass, 6-M-4; Nickel, 6-M-6; Satin gold, 6-M-0; Burnished gold, 6-M-00." The 6M could also be, on special order, "supplied with octave key on top and without tuning device, at no extra charge." However, Conn

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third-version design of the alto saxophone may have deemed the signifying mark unnecessary moving forward.

suggested the buyer select the model "with octave key on bottom and with tuning device" for its superiority "musically and mechanically," which were also its most distinguishing features visually (Conn 1935, 6).

An accessories catalog from 1936 mapped out more options for the saxophone which could be added alongside the instrument when ordered.[6] Featuring an endorsement from Bennie Bonacio, the "Steelay" mouthpieces—developed with Conn—were offered in six different sizes from short to long facings and closed to wide tip openings (Conn 1936, 13). This 1936 publication was also the introduction of the Conn "Res-O-Pad" made from "organ bellows leather" wrapped around "various layers of thin carboard in combination with the new metal disc" as described by Edward J. Gulick's 1927 "Key Pad for Wind Musical Instruments," U.S. Patent 1,747,113 (Conn 1936, 18). Additional replacement parts could be ordered, including finish-matched "mouthpiece caps," "music lyre screws," "instrument plugs," and "saxophone mouthpipes," the latter of which offered in both "old" or "new model," with or without the microtuner (Conn 1936, 24). Conn also offered in-factory repairs and relacquer services.

Conn saxophones were ordered without a case in their original price. A factory case "styled for beauty and protection" was made of "dovetailed, rounded corners and best quality 3-ply veneer sides," and were "completely covered with genuine fine grain, black Keratol, and lined with either silk plush or soft velvet." (Conn 1936, 29) Conn also made multi-instrument combination cases which could be "furnished to accommodate [any] different groups of instruments." (Conn 1936, 30) Options shown were for combinations of saxophone, clarinet, and flute; however Conn's wording allowed for potential of multi-saxophone constructions as well. A new "crushed plush

[6] Also listed are the saxophone method books by Eby, Henry Lindeman, Vereecken, and Henton.

lining" in a "royal blue" shade for saxophone cases was offered in 1936 as an additional feature (Conn 1936, 30). Later, alongside the other 1938 releases, the new "Skyway" styling was offered, with the standard instrument case now "covered with highest quality, specially treated, waterproof canvas in a rich brown color with attractive colored stripes around the middle of the case." (Conn 1938, 38) The Skyway option was offered at a price increase of five dollars per unit and had an option of an "added snap-catch in the center" for increased security (ibid).

Public reception

The 1934 Conn 6M saxophone was publicly debuted by Larry Teal in April 1934 during a three-day demonstration at the former Detroit Branch of C. G. Conn, Ltd. Teal, a featured Conn saxophone endorser, is known for his pedagogical influence at the University of Michigan, as well as his encompassing book, *The Art of Saxophone Playing.* His praise of this redesigned saxophone is noteworthy: "after trying all leading makes, I can truthfully say that the new Conn Alto is by far the best instrument I have ever played" (Conn 1934b, 6).

Another unique endorsement of the 1934 6M came from Maurice Decruck, former husband of Fernande Decruck, prominent composer for, and proponent of, the saxophone. Volume 24, no. 55 of *C. G. Conn's Musical Truth* notes the story of how Decruck, when performing with the New York Philharmonic, one day "took a Conn to rehearsal while his [French-made saxophone] was being repaired." (Conn 1934b, 3) When conductor Toscanini "noticed the improved tone immediately," he "advised DeCruck to trade his foreign make in [for the] new Conn." (Conn 1934b, 3) DeCruck's impressions of the Conn saxophones were strong enough that upon his

return to Paris, he became a leading endorser of "Conn saxes to the French"[7] (Conn 1934b, 3).

The fall edition of the 1934 *Musical Truth* also featured a page specifically on the symphonic placement of Conn saxophones. Roland Tapley, "first saxophone, Boston Symphony," was a Conn-endorsing artist whose solos can be heard in the first Victor Recordings of Moussorgsky-Ravel's *Pictures at an Exhibition* and *Bolero,* as recorded by the Boston Symphony under Koussevitsky. (Conn 1934c, 3) Other Conn-endorsing saxophonists mentioned performed regularly with the Detroit, Rochester, San Francisco, Chicago, and Philadelphia Symphonies.

Outside the classical world, Conn saxophones were heavily used by dance bands, swing orchestras, and solo instrumentalists of the time. Referred to as the 'Choice of the Artists', the saxophone players from the BBC, Duke Ellington Orchestra, Benny Carter, Chick Webb, and Rudy Vallee bands were all featured playing Conn saxophones in the *Musical Truth*. Many leading saxophonists—although not advertised by the company—also played Conn 6M, 10M, and 12M saxophones: Charlie Parker, Charles McPherson, Lou Donaldson, on alto (6M); Lester Young, Dexter Gordon, Gene Ammons, Ike Quebec, Buddy Tate, on tenor (10M); and Gerry Mulligan, Harry Carney, Joe Temperley, on baritone (12M). (Trefeil 2007)

After World War II, production of saxophones slowly resumed in Elkhart, but Conn's soprano, C-melody, and F-mezzo saxophones would be discontinued. Conn saxophone offerings would be limited to E-flat altos, B-flat tenors, and E-flat baritone models moving forward. The Conn saxophones of the following decades would keep

[7]The DeCruck name is often best associated with Fernande, composer. However, this interesting anecdote places a Conn saxophone in the family home, where her compositions were in production.

their third-version designs until 1971, with the “Artist” name given in the 1950s to distinguish it from Conn’s other models. Features like the microtuner neck, rolled tone holes, and alternate G# key would all be phased out after wartime production efforts, and eventually, nickel keys would replace brass in construction. In the 1960s, the 10M would receive an “underslung” neck and the famous “Naked Lady” engraving would be discontinued (Conn 1960, 195). Despite an eventual decline in their history, the 6M remains a powerful tribute to Conn’s crowning achievements in saxophone designs of the twentieth century.

Chapter 2

The CONN 6M in Saxophone Performance and Pedagogy

This chapter focuses on three specific design features of the Conn 6M and their applied uses in a teaching/performance setting. By discussing the history, shape, and attributes of the Conn 6M's spatula keys, alternate G-sharp key, and microtuner neck, the reader will gain a stronger understanding of how to approach this vintage instrument in performance. The subchapters will also include advice on how to navigate these designs efficiently, with figure exercises given to incorporate these topics in practice.

Spatula Keys

History

The left-hand pinky tables (spatula keys) on vintage American saxophone designs are major distinguishing features from their European or modern counterparts. These tables have an inward motion, a larger surface area, and activate with a different motion and dexterity of the left-pinky finger. The Conn 6M has its own unique design, the performing and teaching implications of which shall be discussed in this chapter. Although this discussion focuses on the 6M, the following observations and comments are relevant to other American saxophones of the generation that share similar designs.

Before the 1934 production year, American saxophones had a similar spatula shape across manufacturers. As transitional designs became the models known today, Conn, Buescher, H. N. White (King), and Martin would all form their own unique spatula shapes, distinguishing themselves from Elkhart's earlier stencil boom. However, the function and layout of the keys would remain the same: G-sharp on top, C-sharp lower left, B middle, and B-flat lower right/bottom.

As mentioned in Chapter 1, the Conn 6M had different spatula key designs in its production run. The 6M has two main eras of spatula key design: the pre-1930s New Wonder saxophone models, and the flat-table redesign of 1934. A third and final revision to the spatula was the directional change in the G-sharp key in 1938, inspired by the Loney patent and introduction of the Connqueror saxophones. Given the two versions of the 6M's spatula keys, Figure 2.1 will accommodate both iterations for the concepts in this thesis.

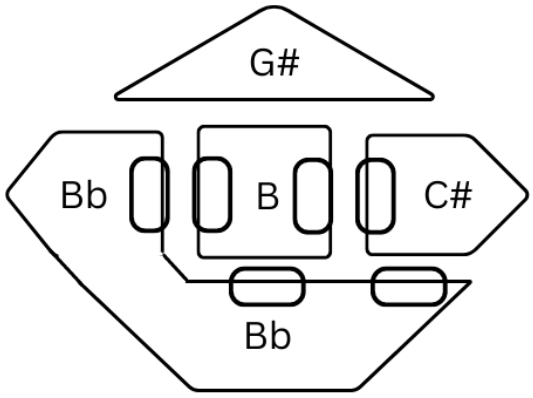


Figure 2.1: Conn 6M spatula design

Articulated G-sharp

The year 1934 also brought an important invention to the engineering of American spatula keys: the "articulated G#" (Loomis 1936a). An articulated G-sharp allows the saxophonist to use the entire spatula table or "cluster[8]" to perform G-sharp/A-flat, as well as remain uninterrupted by the performance of other notes. This was a breakthrough in its time and remains a vital part of the spatula table's function today, as seen in the designs of Selmer, Yamaha, and others. The articulation of the table occurs as it is "adapted to operate an additional valve which forms a G-sharp stopper, so that the [G-sharp key] is operated upon actuation of any one of said finger plates" adjacent to another. (Loomis 1936a, 2) Appearing as the "Automatic G#/Ab" on Martin's Imperial (Martin 1934, 4) or "fully articulated G#" on the Buescher Aristocrat (Buescher 1934, 8), this new feature was one of the standards in professional model instruments coming from Elkhart, IN, that year. The Conn 6M's articulated G-sharp mechanism provides the saxophonist with the following G-sharp performance options with just the spatula table alone, as seen in Figure 2.2:

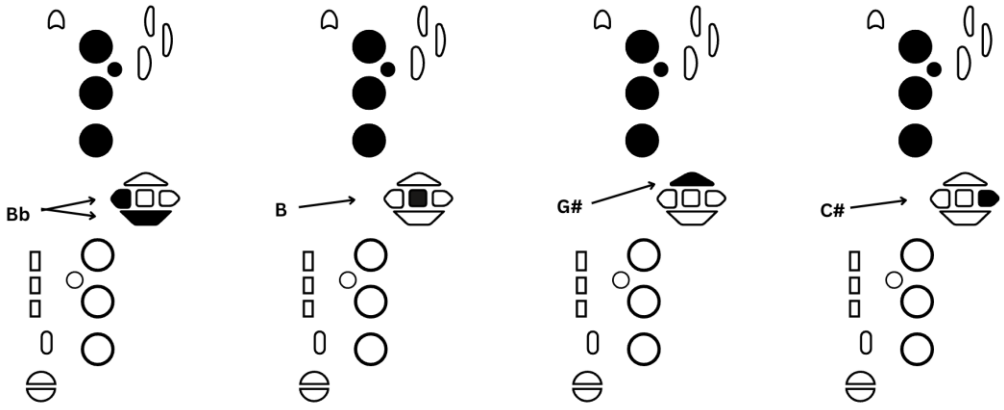


Figure 2.2: G-sharp performance options with articulated keys

[8] This cluster of notes, as described in Loomis' 1933 patent, refers to the close arrangements of notes B-flat, B, C-sharp, and G-sharp on the left-hand pinky table.

Dissecting the nature of the American spatula design further, the table is “an assembly of finger plates closely adjacent” to each other, organized on “a single plane.” (Loomis 1936a, 2) Saxophones have “rollers” on the shared sides of the finger plates to “allow easy passage” from note to note (Conn 1934a, 4). The Conn 6M, however, has a distinct pattern of rollers on the B-flat, B, and C-sharp keys, with an extra roller along the shared side of B-flat and C-sharp.

The spatula table on the Conn 6M is also split into two parts. The G-sharp key sits above the table of B-flat, B, and C-sharp. In an unbalanced setup, this may cause the saxophonist to rely one or more keys rather than just the G-sharp itself for performance. Depending on hand size, the player may also find a more comfortable orientation on the B-flat or B keys, as they form the center of the table as well as the largest surface areas.

Rollers

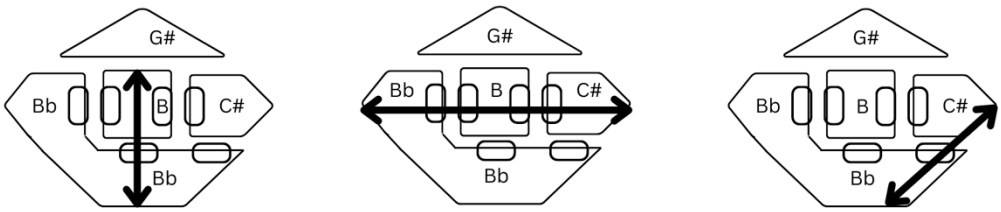


Figure 2.3: Roller directions

On the Conn 6M, a saxophonist moves their pinky finger over the spatula table via the use of rollers. The Conn 6M has roller movement across the horizontal (side-to-side) axis over C-sharp, B-flat, and B; vertically over B-flat and B; B-flat; and

diagonally from C-sharp to B-flat. Using the B key as an orientation, the saxophonist is always one position away from another on the table. Loomis states in his saxophone patent that the rollers on the B-flat key are “more [most] important, owing to the fact that the end of the finger would [otherwise] have a tendency to catch at the edge of the plate,” especially at the diagonal cross-section of B-flat/C-sharp. (Loomis 1936a, 5)

When playing the Conn 6M, it is important to move with the rollers and make sure they are in working condition. If not properly maintained, rollers can get stuck over time, which may cause them to become brittle or break if mishandled. To ensure the proper performance of the 6M (or any American-style pinky table), check to make sure all rollers are free of obstructions or replaced when necessary. Having a smooth transition between keys is a vital part of the design’s success and will aid in playing quick passages involving the lowest notes.

Hand/Finger Activation

Second to visual differences, the greatest difference in the American spatula design is the activating movement of the pinky itself. American-style spatula keys require the tip of the pinky finger to press forward against the table. In conjunction with left-side bell keys, the Conn 6M’s pinky table operates inwards towards the body of the saxophone. For a saxophonist with larger hands, the articulated finger plates allow a wider range of error while still achieving the correct note.

This pressing motion leads to two common hand positions: either the pinky rests flat with the length of the G-sharp key, or with its fingertip on B/B-flat. Utilizing a B/B-flat resting position on the spatula table, one can become more familiarized with the intervallic ergonomics of the horn. In general, the articulated G-sharp on a saxophone may also encourage a saxophonist to incorporate the relationships of B-

flat/G-sharp (enharmonic 7^{th}) and B/G-sharp (6^{th}) in their practicing. When practicing with a Conn 6M, consider the relationship of B-flat (key) and A-flat (note) in passages with flats. In key signatures with sharps, experiment with B and C-sharp (keys) and G-sharp (note), *et vice versa*—the articulated G-sharp will ensure the right sound of the note.

One other noticeable difference in the Conn 6M's pinky table is that it does not protrude outward away from the horn like in modern designs. Each note on the spatula is connected directly to the rod related to that key, operating the note with a single motion. Not only does this simplify the mechanism of activating the bell keys, the inward angle of the table also provides a potential safeguard against fall damage, given the flat side-profile of the instrument.

Alternate G#

The Alternate G-sharp (trill) key is situated between the first two fingers of the right hand—marked as 38 in Figure 2.4—and appeared on the Conn 6M as a standard feature throughout its production. No longer offered as an option on modern saxophones, this alternate fingering not only gives the right hand an extended playing range, but also aids the saxophonist in certain performance passages.

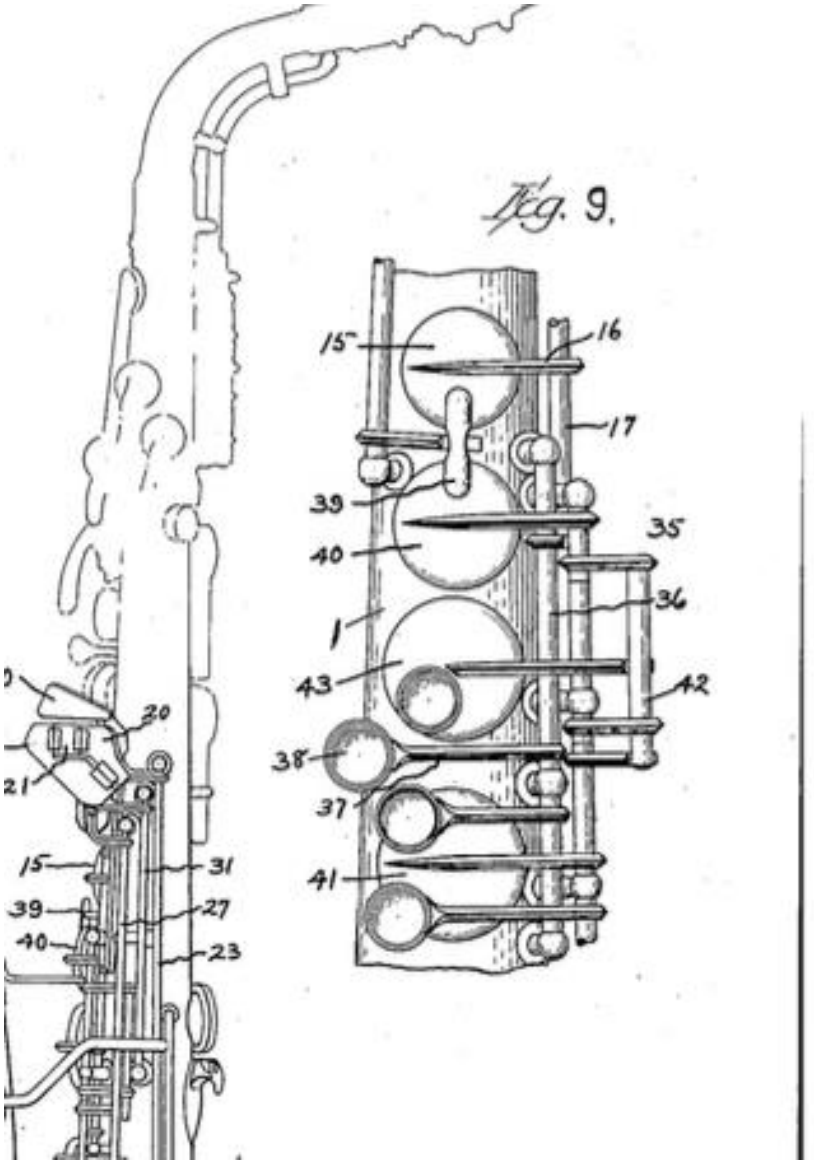


Figure 2.4: Loomis's Alternate G# Key

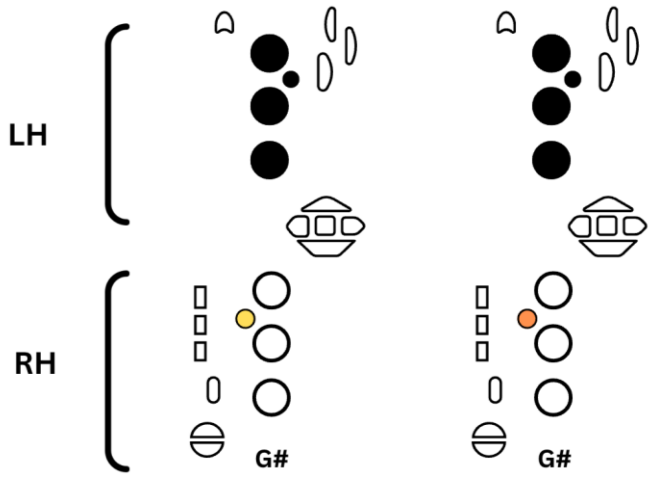
History

Before the 1934 6M, the alternate G-sharp was known as a "trill key" and would be actuated against the traditional left-pinky G-sharp in the spatula. This means that the saxophonist would have to depress and hold the traditional G-sharp to use the alternate key at all. This style key mechanism, unless utilized unconventionally, made the purpose of the G-sharp trill key singular and limited. However, in the 6M's 1934 redesign, Loomis included an extra freely rotatable "hinge sleeve" on the extra G-sharp key's "support arm," adapting the key to "be converted to a trill stopper for the

corresponding tone hole." (Loomis 1936a, 2) By altering the connection to the G-sharp linkage, this extra key arm would actuate in conjunction with the rods, springs, and hinges controlling the G-sharp pad, making this extra G-sharp trill a stand-alone alternate fingering.[9]

Performance

The 6M's alternate G-sharp is fully chromatic in performance and can be activated by different fingers of the right hand. In the patent design, Loomis states that the alternate G-sharp is "within reach of a finger of the player's right hand, to be moved in such a manner that [G-sharp/A-flat] will be rapidly and repeatedly operable when desired." (Loomis 1936a, 2) In this description, however, Loomis does not state explicitly which finger should be used, unlike the left-hand pinky descriptions of the spatula table. In theory, the alternate G-sharp can be operated by any finger of the right hand. However, the right-hand first (index) or second (middle) finger are most commonly used depending on the musical passage and context, as seen in Figure 2.5.



[9] Alternate G-sharp keys are also found on various vintage twentieth century saxophones from other manufacturers, including Buffet, Buescher, and Martin, and may vary in use potential given the age of the design.

Figure 2.5: Alternate G-sharp played by RH index (yellow) and middle (orange) fingers.

A saxophonist should gain familiarity playing the alternate G# with the right index finger—shown as yellow in Figures 2.5 and 2.6—first. Once familiar with RH 1, begin incorporating the middle—shown as orange in Figures 2.5 and 2.6—finger to play the note. Using the middle finger, however, will require a larger alteration in hand position. This alteration is exaggerated when playing F-sharp to G-sharp in their possible positions. Figure 2.6 can be used as a practice exercise for the right hand to comfortably train the transitional passage in both forms.

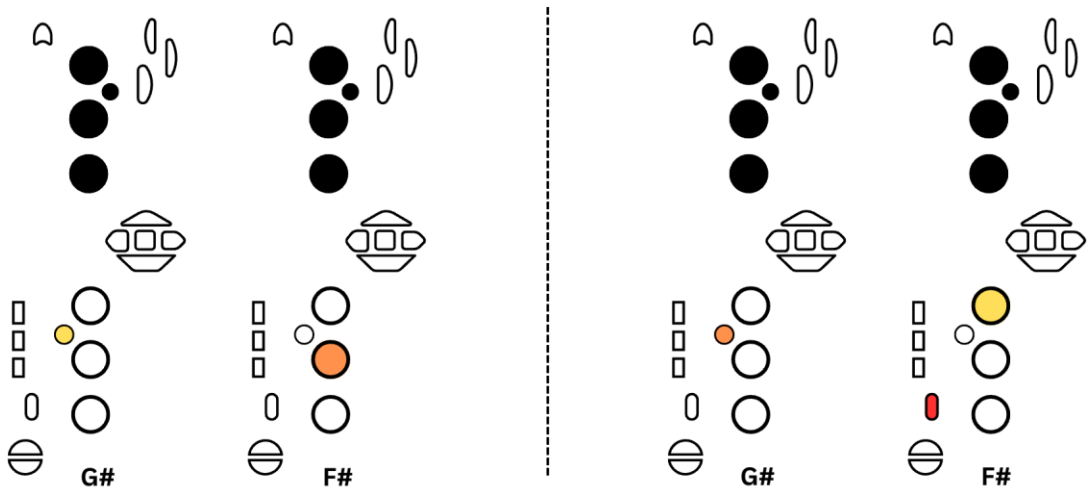


Figure 2.6: Alternate G-sharp to F-sharp performance options

The alternate G-sharp also provides the saxophonist with a new way of experiencing the half-step resolution of either G-sharp/A or G/A-flat. Whereas only playable by the left-pinky in modern horns, the Conn 6M offers two options, allowing

the saxophonist to rely on a "stronger finger" of the right hand rather than the weaker digit of left[10].

Figure 2.6 is also an exercise to begin incorporating this half-step. By training the alternate G-sharp in scalar passages and arpeggios, the Conn 6M's key can be incorporated into the playing style of the performer. Given time, the alternate G-sharp key may become the preferred key over the spatula; however, they should still be used interchangeably.

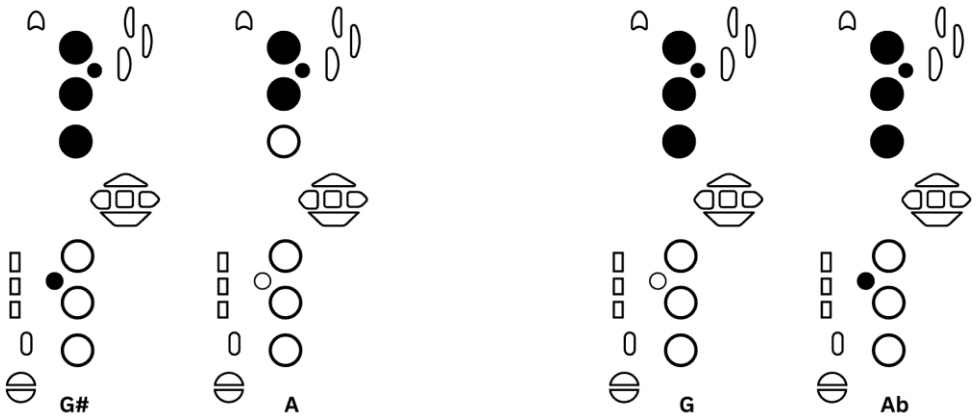


Figure 2.7: G-sharp/A, G/A-flat half-step

Microtuner

Perhaps the most distinguishable feature on the Conn 6M is the integrated tuning device on the instrument's mouthpipe[11]. This tuning mechanism was a staple feature of the Conn alto and C-Melody saxophones throughout their production, first

[10] This tactile response of training the alternate G-sharp/A-flat may also encourage the saxophonist to see the alternate roles of the G-sharp key as a type of mirror to the left hand's Bis-B-flat key, and the two positions of the index finger's placement.

[11] Mouthpipe refers to the "Neck," "Crook", or "*S-Bogen*" of the saxophone. This terminology was very common in the patent documentation of the early twentieth century designs and has since fallen out of standard use.

appearing after Edward Gulick's "Tuning Attachment for Wind Musical Instruments" U.S. Patent, 1,308,903, filed Feb. 20, 1918. The concept and invention of this device--Figure 2.8--was to facilitate the tuning of the instrument without changing the mouthpiece position on the saxophone, and when in working condition, it still serves the same purpose today.

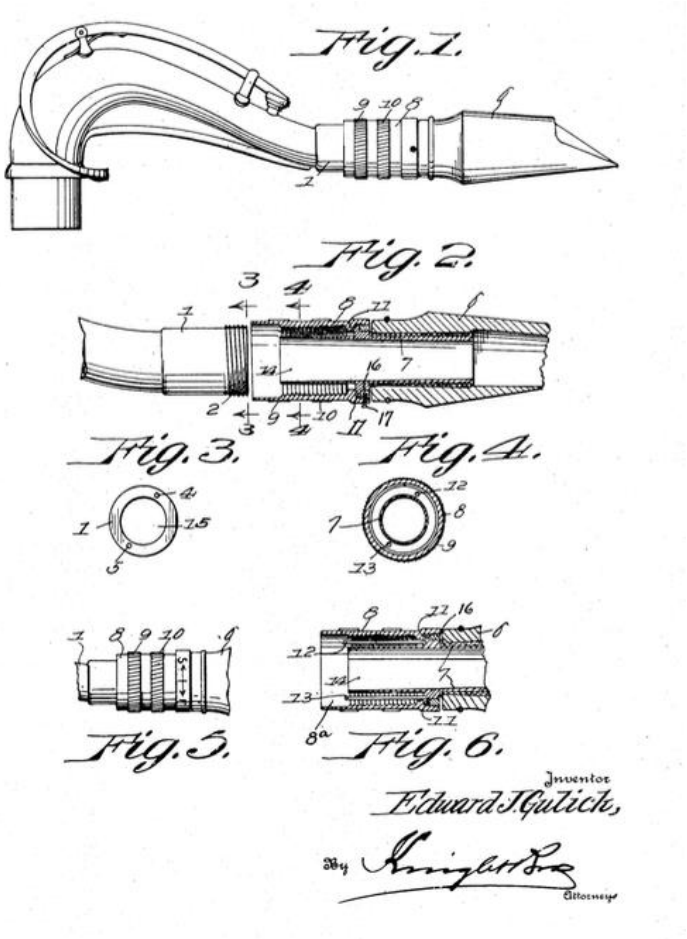


Figure 2.8: Gulick's "Tuning Attachment for Wind Musical Instruments" (1919)

History

The "microtuner" neck of Figure 2.8 is found on 6M saxophones from 1918 to roughly 1938. Gulick's invention aimed to "provide an improved means whereby the air column [of the saxophone] may be lengthened or shortened for the purpose of tuning" (Gulick 1919, 1). Although the device was "particularly adapted as a mouthpiece adjustment for saxophones," Gulick's mechanism was a part of Conn's

many experiments in tuning devices and could be applied to “different forms of reed instruments” as well (Gulick 1919, 1).

A saxophone is made in specification to a certain tuning. Until the 1930s, a Conn saxophone could be ordered in “Low” or “High Pitch” (Conn 1920, 11). The Conn 6M was the designated low pitch instrument and its sibling, the odd-numbered 7M, was the high pitch version, one inch shorter in length[12]. Both versions were equipped with the attachment, a noted feature on the Conn alto saxophones. In the 1930s, the high-pitched saxophones were discontinued from the Conn instrument catalog; however, the adjustment device remained (Conn 1930, 35).

Following Gulick’s initial design, this first-generation attachment has a “thin tube” liner for the internal portion of the mechanism, acting simultaneously as “a liner for the mouth-piece” which is carried in “longitudinal movement” against the “rotative” function of its threaded housing ring. (Gulick 1919, 1) The space in which the liner travels inside of the mouthpipe is lined with “guide pins” that keep the extendable portion of the mouthpipe in proper orientation. (Gulick 1919, 1) These pins ensure that the mouthpiece/mouthpipe combination will not rotate when the housing ring is turned. As Gulick mentions before finishing his claim descriptions, the liner tube of the mouthpipe remains thin enough to make “no disadvantageous abrupt [changes] in the bore of the instrument at any tuning adjustment.” (Gulick 1919, 2)

In the 1919 C. G. Conn Ltd. General Catalog, the entire saxophone family is pictured with Gulick’s tuning device for the first time. However, as previously stated, these devices in subsequent production were only made on the alto and C-Melody models. In its catalog description, Conn’s “new tuning device” eliminates “the usual

[12] The high-pitched 9M C-Melody and 11M Tenor saxophones were one and a half inches shorter than their low-pitched counterparts, and the 13M Baritone was two inches shorter. 19M straight Soprano was only a quarter of an inch shorter, and there was no high-pitch Bass saxophone produced.

pushing in or drawing out of the mouthpiece" while maintaining "a perfectly clear bore thru the mouthpiece to the mouthpipe no matter how far the mouthpiece is drawn." (Conn 1919, 111) This concept remains true when the device is in use.

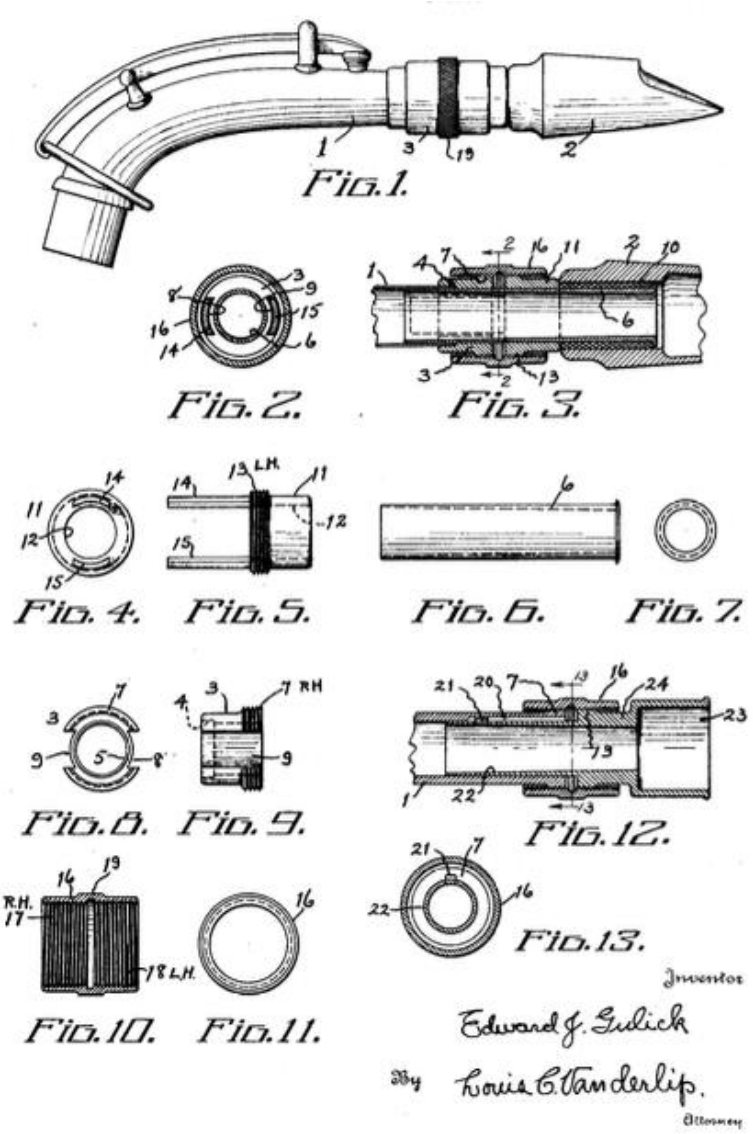


Figure 2.9: Edward Gulick's "Tuning Device for Wind Musical Instruments" (1929)

Ten years after its initial design, Edward Gulick would file a second patent regarding his invention, with a similar title as the first. Figure 2.9 is the cover of U.S. Patent 1,736,880, "Tuning Device For Wind Musical Instruments," filed October 11, 1929, showing a revisited approach to the mouthpipe's mechanism. This improved mechanism found its production with the VIII model saxophone necks as part of their

instrument's third design. The new device had an "extra wide tuning range [from] below A-437 to [above] A-445" (Conn 1938, 7) and a few different features, the biggest two being the "boss and slot connection" type used to secure the two leads and the "right and left hand threads" to move the mouthpiece "at double the speed of the adjusting collar." (Gulick 1929, 1) This later design came at the time where high and low pitch saxophones are no longer offered; the longer tuning range accommodated for faster longitudinal travel speed in the extendable mouthpipe/mouthpiece combination.

Design and Use

The tuning device on a Conn 6M lengthens or shortens the total length of the saxophone, rather than just the distance of the mouthpiece on the cork. Conn saxophones with a functioning tuning device should be used with the mouthpiece positioned at the base of the cork, matching the edge of the (mouthpiece) chamber with the beginning of the saxophone's tapered bore.[13] By placing the mouthpiece fully on the cork, the saxophone will match the "optimal placement" for performance, giving the saxophonist a consistent airstream through the instrument regardless of tuning position. As summarized by Conn's advertising material:

> When mouthpipe extends too far into mouthpiece chamber, the low notes do not respond properly; when it does not extend far enough, the high notes are hard to get. There is an exact position of the mouthpipe in the mouthpiece chamber which should be maintained for proper results and the Conn tuning device permits tuning by turning a knurled ring, without disturbing this position (1936).

[13]Throughout the research, this fully utilized position works with "modern" and "vintage" mouthpieces alike. Vintage saxophones do not require the stock mouthpieces available from the time as the only performance option, although these mouthpieces offer a glimpse of the sound concepts of these earlier instruments.

Depending on mouthpiece setup and physical attributes, every saxophonist can accommodate their tuning tendencies with the tuning ring as an aid. When closest to the octave pip, the Conn 6M is at its sharpest (shortest); at its farthest position the instrument is at its lowest (flattest). A saxophonist should take the necessary time to find a centered position that keeps the instrument's tuning steady and leave a small mark on the location to act as an orientation guide or starting place. The 6M's tuning device may also require different position(s) to achieve desired performance results. Once a placement is determined, however, the saxophonist should continue playing normally, using the left-and-right threaded motion to "microtune"—like its nickname—the instrument.

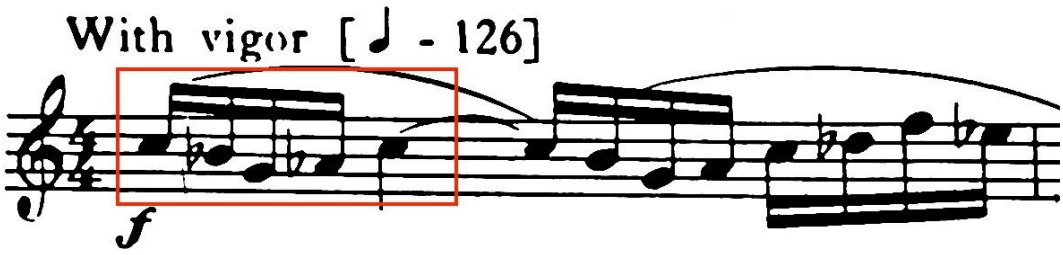
Chapter 3

The CONN 6M in Common Literature

The Conn 6M, like any saxophone, requires practice to master and control. With design features different from modern saxophones, older designs (like the Conn 6M) can offer alternatives in performance that are not possible on modern models. This chapter contains short analyses of canonic literature in saxophone instruction, as well as thoughts on other performance uses for a Conn 6M.

Paul Creston, *Sonata op. 19 for E-flat Alto Saxophone and Piano*

Example 1. Creston, *Sonata op. 19 for E-flat Alto Saxophone and Piano*, Movement 1: "With vigor"



Paul Creston's *Sonata for E-flat Alto Saxophone and Piano* is part of standard concert saxophone repertoire. Written in 1941 and dedicated to the saxophone pioneer Cecil Leeson, this composition is favored by professional and beginning students alike. Because of its canonic status, the Creston *Sonata* is a good example for exploring the performance potential of the Conn 6M.

Movement 1 begins with the saxophone passage as seen in Example 1. The opening consists of a pattern of C-B-flat-G-A-flat-C in slurred sixteenth notes, with the

motif arriving on a tied middle C[14] of longer duration on beat two. Figure 18 shows a typical fingering series for performing these five notes on a modern saxophone. From the diagram, one can see that this pattern requires a total of five finger combinations: depressed LH middle finger C; a switch to depressed LH index finger B-flat; an addition of LH middle and fourth fingers for G; an added finger for the A-flat half-step raise; and a final release of LH index, fourth, and pinky fingers.

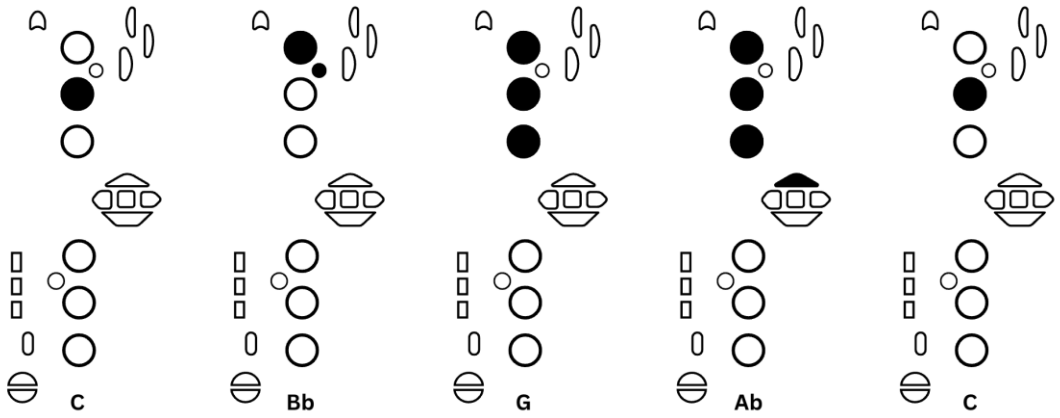


Figure 3.1: Creston Measure 1, traditional fingering pattern

Although this fingering series is playable on a modern saxophone, it uses the LH exclusively for the entire measure. On a modern saxophone, the primary possible variation to the passage would be to use a side-B-flat fingering, which extends to the

[14] The saxophone has a two-and-a-half octave keyed and notated range from low Bb to high F. This "Middle C" refers to the C in the middle range of the saxophone, as it has octave counterparts above and below.

RH by means of a side palm key. A Conn 6M, however, provides an extra variation to the performer: the alternate G-sharp/A-flat fingering, shown in Figure 3.2:

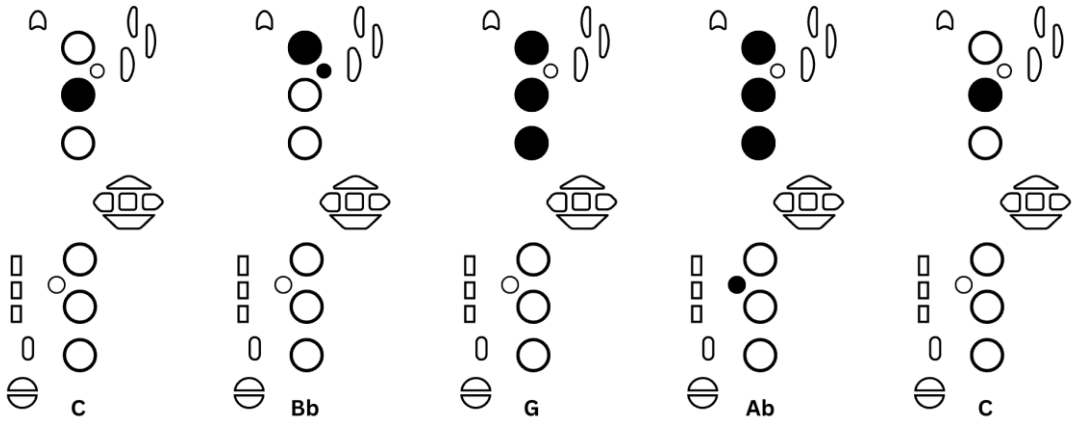


Figure 3.2: Creston mm. 1, with alternate fingerings

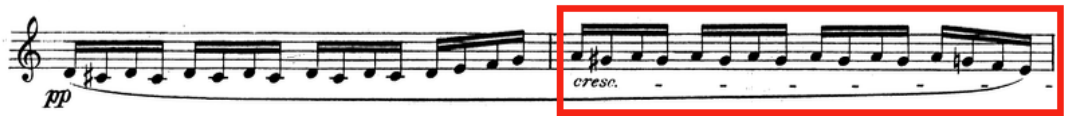
Utilizing the alternate G-sharp/A-flat fingering alleviates the reliance on LH when playing this passage. Performing the A-flat with this "stronger finger" (RH index or middle) may become advantageous to the saxophonist as a faster, more dexterous option. A student should practice this passage with the right-hand index finger. Whereas the A-flat in the left-hand pinky—as illustrated in Figure 3.2—may impede performance speed, the right-hand option removes one extra step that might otherwise get in the way (Loomis 1936a).

Cecil Leeson, the *Sonata*'s dedicatee, was a noted proponent of American saxophone manufacturers, especially the Elkhart companies (Conn, Buescher, and Martin). In an autographed photo of Cecil Leeson addressed to Paul Creston, Leeson is seen holding a saxophone with an alternate G-sharp key.[15] Whether or not Leeson played this opening line with the alternate fingering is unknown to the author.

[15] Although known to play a Martin saxophone for many of his professional premieres, that particular photo to Creston is of Leeson holding a "Conservatory Model" Selmer Mark VI with alternate G-sharp and C-sharp keys. Leeson was a long-time proponent of American saxophone manufacturers, preferring their instruments over European designs.

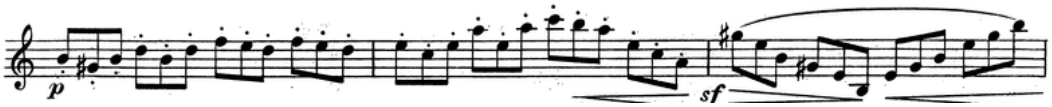
Johann Heinrich Luft's "24 Etudes for Oboe or Saxophone"

Example 2: J. H. Luft Etude 1 "Allegro," mm. 5-6



Johann Heinrich Luft's *24 Etudes* are another example of common literature where the Conn 6M's varying G-sharp mechanisms can be utilized. These etudes, set as a study for oboe or saxophone, are enjoyed by many. The first two etudes provide excellent opportunities to explore the alternate G-sharp or the articulated G-sharp key (by means of the lower spatula fingerings). As seen in Example 2, m. 6 of Etude 1 begins an upbeat passage of repeated slurred sixteenth notes. Rather than a repeated LH pinky movement for the performance of G-sharp, the "stronger finger" of a RH alternate can be used as an alleviating option, especially when performed at tempo.

Example 3: J.H. Luft Etude 2 "Allegro brillante" mm. 11-13



Example 3 comes from Luft's Etude 2, and makes a compelling case for the articulated G-sharp mechanism in performance by means of the low B key. The saxophonist may hold down B for the G-sharp notes; the articulated mechanism will account for both the G-sharp and the low B without interfering with the other notes in the series.

Franz Willhelm Ferling's "48 Famous Studies or Oboe or Saxophone," Op. 31

Example 4: Ferling Etude No. 1, measure 14

Franz Willhelm Ferling's *Etudes* are also canonical in saxophone literature, known for their range of dynamics, phrasing, meter, and lyric expression. Seen in Example 4, Etude No. 1 has a G-sharp accidental in measure 14, followed by a G-natural in the second beat. This passage can be navigated smoothly using an alternate G# deployment, in which the LH pinky would not be required for the measure.

Epilogue

Until its final production date, the Conn 6M was considered a professional model instrument. It was only when Conn began to shift its instrument designs towards lower-cost student/intermediate models that Conn saxophones came to be regarded as lesser quality than their previous professional model instruments. Now, with more saxophonists looking for different market options, saxophones like the Conn 6M are a unique way to alter or enhance one's performance. Because these instruments are still on the vintage instrument market, musicians today can experience the performing potential of this classic American professional model saxophone.

Technical specifications and performing implications aside, cost is another factor that might draw players today to a Conn 6M. A Conn 6M is, on average, lower in price[16] than its modern competitors. However, this does not guarantee that every instrument is in peak physical condition. When searching for a vintage 6M, it is important to spend ample time playtesting to decide if it is the right fit. As described in length throughout the thesis, these saxophones have a different mechanism design, which can limit one's choice of technician should the instrument need repair, as some technicians are unfamiliar with vintage designs.

Since every saxophonist is physically different and has different performance habits, instrument choice will differ from person to person. As such, the Conn 6M

[16] In a price comparison of current professional saxophone models offered at Saxquest (St. Louis, MO, USA), a Conn 6M, Silver Plate, in "Excellent Condition" is listed at 2,595 dollars. New instruments of similar setup (professional model, silver plate) are listed at 6,320 dollars, Buffet *Senzo*; 8,789 dollars, Selmer *Supreme*; 5,999 dollars, Yanigasawa *AWO10*. (Saxquest 2023) Even at this price, the Conn 6M is still in contest with lower-priced models of P. Mauriat, Eastman, and other Taiwanese-production professional models offered today.

might not be the right choice for every alto saxophonist. But it is important to know that, even as an older "vintage" model, the Conn 6M can handle the most demanding of twenty-first-century repertoire standards. The only added requirement, however, may be ample practice—a normal part of music study—as a player needs time with an instrument to become comfortable with it and thereby utilize its full potential.

In many ways, the full potential of the Conn 6M has yet to be explored in general. Although they are receiving a growing amount of attention, Conn saxophones remain on the margin in contemporary saxophone performance practice. When remarking on his past instruments in an interview, Charles McPherson noted that there's nothing "like an old Conn" (McPherson 1988, 1). If the 6M was so treasured in its day, what might it take to bring it back to the standing that it once commanded?

This conclusion is by no means a claim or instruction; in my time spent studying vintage American saxophones, I have found that every horn is unique and no two models play the same. The 6M is only one of many different saxophones to have reached the market and is only one of many yet to come. This thesis is a product of my own curiosity regarding the historic significance of a classic instrument and its pedagogical and performance potential. As the Conn 6M was once a part of American conservatory tradition, reintroducing the Conn 6M to today's practice seemed to be a unique case study in pedagogy. This thesis aims to help modern saxophonists rediscover what made this vintage saxophone so desirable in its production lifetime. It is my hope that this work may pave a path for future studies on other vintage models, their histories, and their performance advantages. By studying these instruments, we enrich our understanding of what makes the saxophone's history so fascinating and remarkable today.

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