

# **PROLETARIAN TERRACE:**

A BRIEF HISTORY OF THE NEW YORK FIRE ESCAPE  
AS SAFETY MEASURE, URBAN PORCH, AND  
ACCIDENTAL ICON

ADRIAN COLEMAN (acc2159), 3<sup>RD</sup> YR. M. ARCH  
ARCHITECTURE AND DEVELOPMENT OF NEW YORK  
APRIL 2012

PROFESSOR ANDREW DOLKART

In 2004, the director Charles Shyer released the film *Alfie*, a remake of a 1966 British picture by the same name. Shyer exchanged a young Michael Caine for an equally charming Jude Law, but his most significant adaptation was to swap London of the swinging sixties for a New York of the glossy twenty-first century. Despite the change of settings, budgetary restraints required most of the shooting to take place in Britain. The architecture of older New York drew extensively from English precedent. With a little cosmetic help, locations in London and Manchester could reasonably stand in for Manhattan backdrops (figure 1). In particular, there was one obvious difference. The facades of New York feature the iron appendages of fire escapes, a vertebral aesthetic alien to British cities. Sophie Becher, the film's artistic director, described how designers invoked the illusion of New York by fabricating and installing dozens of mock fire escapes (figure 2).<sup>1</sup> The fire escape, the film implied, was the iconic artifact of the New York street.

The fire escapes provided a credible texture to the *Alfie* remake, but other films have prominently cast this structure as a quintessential New York space. In *Westside Story*, it is the setting of the Shakespearean balcony scene (figure 3). In *Rear Window*, it is the means to investigate a murder. In *Breakfast at Tiffany's*, it is where Audrey Hepburn strums "Moon River," hides from suitors, and discovers George Peppard upstairs. For Hollywood, the fire escape epitomized New York through the possibilities of its public anonymity. The fire escape was at once a setting of intimacy and urban engagement, a place to which one withdrew and yet entered the collective fray.

Ironically, the richness of this imagery is the result of a sober legal provision. New York's fire escape is kindred to the hydrant, a cousin of its wood construction ban.

---

<sup>1</sup> Interview with Sophie Becher (artistic director), "Behind the Scenes: The Design of *Alfie*," *Alfie* DVD, dir. Charles Shyer (Hollywood, CA: Paramount Pictures, 2004).

The fire escape was intended to have no function beyond its name, a utilitarian safety device allowing alternate egress from a burning building. Nevertheless, the legal requirement of this attachment provided the most modest New York apartment with a space of unexpected value: a requisite outdoor area. Through the rarity of this condition, the fire escape would host a variety of rituals outside its original purpose, and in the process, become an accidental icon of the New York cityscape and culture.

The city decreed fire escapes obligatory in 1862. By the time of the Civil War, “fire had ravaged New York City seven times, most devastating in 1835 and 1845.”<sup>2</sup> The New York fire escape evolved from a series of postmortem reactions. Significantly, the emergence of the fire escape and is inextricably linked to the development and reform of the tenement house. As legislation continuously revised the legal constitution of a “fire escape” or a “tenement,” the familiar iron balconies and stairs proliferated New York facades between the mid-nineteenth and twentieth centuries.

Although the term “tenement” was not formally defined until the Tenement House Act of 1867, the word existed previously as a colloquial reference to densely packed, lower income housing. Andrew Dolkart describes the tenement as “those multiple dwellings built for the poor and which contained few, if any amenities... such as private toilets, running water, gas lines, and one or more windows in every room.”<sup>3</sup>

In the early 19<sup>th</sup> century, the city’s population swelled with a rising immigrant influx. Landlords crammed low-cost, multi-family housing into conventional 100 by 25 foot lots. These properties, intended to accommodate single-family row houses, were

---

<sup>2</sup> Robert A.M. Stern, Thomas Mellins, and David Fishman, *New York 1880: Architecture and Urbanism in the Gilded Age* (New York: Montacelli Press, 1999)139.

<sup>3</sup> Andrew Dolkart, *Biography of a Tenement House in New York City: An Architectural History of 97 Orchard Street* (Santa Fe: Center for American Places, 2006), 14-15.

sometimes home to more than twenty households.<sup>4</sup> This burst of density accompanied an increased vertical dimension. While previous construction rarely breached two floors, the 1850s witnessed an explosive growth of four, five, and six-storey tenement neighborhoods,<sup>5</sup> a height with which the Fire Department and its ladders could not contend.

Brooklyn, then autonomous, was the first American city to sanction fire safety regulations. In 1852, its authorities required all buildings to have an emergency roof exit or “scuttle.”<sup>6</sup> New York followed tentatively. In 1856, a committee of city officials conducted a survey of tenement conditions. Among its findings, their report highlighted the flammable, claustrophobic interiors and irregular, single staircases.<sup>7</sup> The report deemed the buildings an inevitable fire hazard and specifically implored the City to regulate tenement stairways “to ensure easy egress in case of fire.”<sup>8</sup> Unfortunately, the authorities hesitated. The consequences were deadly. In February 1860, a bakery fire set a six-storey Elm Street tenement ablaze. According to the *New York Times*:

The stairway was burned away, and of course all chance of escape in that direction was cut off. Men, women, and children could be seen by the spectators on the sidewalk, clustered at the windows, screaming for assistance, and wringing their hands in the agony of their despair. Some of them mustered courage enough to jump from the windows, and escaped with slight injuries. The fire-bells quickly gave the alarm for the Fifth District, and the firemen repaired to the spot. Ladders were immediately elevated to the windows, but the longest of them could not reach above the fourth floor. The firemen rescued some of the occupants but were obliged to abandon all hope of saving the poor creatures in the two upper stories...<sup>9</sup>

---

<sup>4</sup> *Ibid.* 14

<sup>5</sup> Sara Wermiel, “No Exit: The Rise and Demise of the Outside Fire Escape,” *Technology and Culture*, Vol. 44, No. 22 (Johns Hopkins University Press: Baltimore, April 2003), 260.

<sup>6</sup> Laws of New York, Chapter 355, Section 7 (1852).

<sup>7</sup> Wermiel, 260.

<sup>8</sup> New York Assembly, “Report of the Select Committee Appointed to Examine into the Condition of Tenant Houses in New-York and Brooklyn”, 1857, report no. 205, vol. 3 (Albany, 1857), 3.

<sup>9</sup> Unknown Author, “Calamitous Fire,” *The New York Times* (February 3, 1860) 1.

The tragedy and the subsequent outcry provoked the drafting of New York City's first complete building codes, including its "first exit regulations, which applied only to tenements."<sup>10</sup> The Fire Department also created a position of "Superintendent of Buildings". The legislation required tenements to have a non-combustible tower staircase, the progenitor of the modern fire stair, or "fireproof balconies on each story on the outside of the building, connected by fireproof stairs."<sup>11</sup>

When the law was revisited in 1862, the authorities replaced this lengthier description with the term "fire escape." The revision in fact loosened regulations. The term "fire escape" was not rigidly defined and commonly referenced a number of evacuation contraptions. Somewhat dubiously, the city of Birmingham, England claims to be the birthplace of the fire escape,<sup>12</sup> although their archetype is very different to our modern notion. In the 1840s, Abraham Wivell invented an extendable ladder that could be rolled around like a wheelbarrow (figure 4). Wivell was possibly the first person to designate his apparatus "fire escape." The device had its merits but was utterly useless with taller buildings. Countless others would follow. According to Sara Wermiel, the ambiguity of the legislation "inspired inventors to turn out a range of mainly impractical things they dubbed "fire escapes... From 1862 until the end of the decade, New York City's building officials accepted portable devices for the purposes of law,"<sup>13</sup> many of which involved portable ladders, chutes, ropes, and complicated pulley-systems.

In 1867, the first Tenement Housing Act officially clarified the term "tenement" but offered little guidance on fire escapes. Tenements were strictly defined as "every

---

<sup>10</sup> Wermiel, 260.

<sup>11</sup> Laws of New York, Chapter 470, Section 25 (1860).

<sup>12</sup> "Biography for Abraham Wivell," Birmingham City Museum. accessed April 10, 2012: <http://www.bmagic.org.uk/people/Abraham+Wivell>.

<sup>13</sup> Wermiel, 260-1.

house, building, or portion thereof which is rented, leased, let or hired out to be occupied or is occupied as the home or residence of more than three families.”<sup>14</sup> They required a fire escape or “some other means of egress” approved by a building inspector.<sup>15</sup> However, issues of materiality or flammability were not addressed. “An inconveniently located wooden ladder thus satisfied the legal requirements, if approved by these officials.”<sup>16</sup> The law was further crippled because it was officially a health ordinance. Officials in the Building Department were not obligated to consult the law during their pre-construction reviews. “As a result, inspections by health officials, which uncovered enormous abuses, were laughably confined to post-construction, when little could be done.”<sup>17</sup>

Iron fire escapes appeared on New York tenements in the 1860s and 70s, but they were sporadic as a consequence of uncertain definitions and soft enforcement. In 1879, the *American Architect and Buildings News* reported on the frustration of the enduring tenement fire problem:

Existing building laws [in New York], imperfect as they are, call for precautions which would in a considerable degree offset the dangers... The immediate difficulty is that the laws as they exist have not been, and possibly with the existing machinery could not be, properly enforced... As for the fire escapes, required as they are by building ordinances, they hardly ever exist. Inspectors complain that it would require a much greater force than they have to see that all the provisions of the laws are duly observed, and it is difficult to refuse to believe them. Even to keep watch and record of the tenement houses as they are built, and to insist on their fulfilling the law, requires a great deal of watching and many inspectors... To insure that the many thousands which already exist are put into the proper condition is a more difficult duty, and to see that their

---

<sup>14</sup> Laws of New York, Chapter 908, Section 19 (1867).

<sup>15</sup> Laws of New York, Chapter 908, Section 17 (1867).

<sup>16</sup> Roy Lubove, *The Progressives and the Slums: Tenement House Reform in New York City, 1890-1917* (Pittsburgh: University of Pittsburgh Press, 1962) 26.

<sup>17</sup> Stern, 501.

ever-varying tenants do not sublet and crowd them beyond what is allowed is yet more arduous.<sup>18</sup>

The iron balcony, three feet deep and fitted with stairs, became the convention through municipal reform efforts. In 1900, Lawrence Veiller was secretary of the Tenement Housing Commission. Veiller oversaw an influential report entitled *The Tenement House Problem*. The document condemned numerous tenement construction practices, including the interior airshafts that collected refuse and the laxness with which existing tenement codes were imposed. Veiller devoted an entire chapter to fire escapes (figure 5). According to his findings, approximately 23% of tenements had no street-side fire escapes, and 15% had no fire escapes whatsoever.<sup>19</sup> This was unacceptable. Veiller demanded stricter standards. He proposed a ban of the inclined ladders he felt too treacherous,<sup>20</sup> and he insisted that fire escapes be installed in front:

The purpose of the fire escape is quite as much to enable the firemen to reach the tenants and the fire as it is to allow the tenants to leave the building. Where there are no fire escapes on the front of the building, the work of the firemen is greatly retarded; again, where there are fire escapes only in the rear it is quite possible and generally probable that the fire may occur in that part of the building, and that therefore escape from the rear will be cut off, and the tenants will perish.<sup>21</sup>

There is no reason why fire escapes should be omitted on the front of such buildings, except the pride of the architect and the owner, who dislike seeing cheap iron balconies on the front of their buildings. If these balconies offend their artistic sensibilities, they have two remedies: one, to make the balconies artistic; the other, to make their buildings fireproof. We believe that the protection of human life is much more important than anything else.<sup>22</sup>

---

<sup>18</sup> Unknown Author, "Editorial," *American Architect and Building News* (New York: October 4, 1879) 6.

<sup>19</sup> Hugh Bonner and Lawrence Veiller, "Tenement House Fire-Escapes in New York and Brooklyn," in DeForest and Veiller, *The Tenement House Problem*, vol. 1, 277.

<sup>20</sup> *Ibid.* 287.

<sup>21</sup> *Ibid.* 286.

<sup>22</sup> *Ibid.* 287.

Veiller's report accompanied his shocking Tenement Housing Exhibition of 1899, a public informational display that introduced elegant society to the squalor of tenements. These efforts provoked the New York State Tenement House Act of 1901, which introduced several reforms, including a ban of the iron ladder escapes. Ironically, the same law permitted steel rope ladders on three-storey buildings due to a questionable relationship between a steel rope manufacturer and several Albany officials.<sup>23</sup> Fortunately, most tenements exceeded three floors, so this exit strategy remained rare.

Beyond its humanitarian achievements, Veiller's report is notable for its consideration of fire escapes as architecture. He commands architects to accept the frontal fire escape, aware his safety measure will influence the appearance of buildings. Furthermore, when Veiller describes the hazards of an encumbered fire escape, noting how the balconies are often cluttered with furniture or used for storage<sup>24</sup>, his report becomes a study of the alternate anthropology of the space. Veiller's admirable purpose was to make the tenements a safer environment, but his campaign would have a tremendous visual and social impact as well.

Between the passages of the various Tenement Housing Acts, the definition of a "tenement" had been modified again in 1887 to include all buildings occupied by three households.<sup>25</sup> This broader characterization encompassed the full gamut of New York residences, including, Andrew Dolkarts points out, the opulent "Dakota on Central Park West and West 72<sup>nd</sup>", and the Osborne on West 57 Street and Seventh Avenue..."<sup>26</sup>

---

<sup>23</sup> Roy Lubove, "Lawrence Veiller and the New York State Tenement Commission of 1900," *Mississippi Historical Review*, Vol. 47, No. 4 (March 1961), 674-675.

<sup>24</sup> Hugh Bonner and Lawrence Veiller, 288.

<sup>25</sup> Laws of New York, Chapter 85, Section 13 (1887).

<sup>26</sup> Dolkart, 13.

Consequently, the more stringent 1901 law required and coerced every building with at least four floors and three families to have an external fire escape with iron steps.<sup>27</sup> Until 1968, when building codes favored improved interior fire stairs,<sup>28</sup> the exterior fire escape was a fixture of residential construction. According to the New York Fire Department, roughly 200,000 fire escapes remain in New York today.<sup>29</sup> Although it is impossible to determine the number of lives they have saved, the enforced installation of “fire escapes dramatically altered the city’s street architecture and to an extent its street life, especially during the hot summer months, when families would use the escapes as balconies for socializing and even sleeping.”<sup>30</sup>

Despite its ubiquity, the fire escape scarcely featured in architectural discussions outside of codified safety talk. Even *The Encyclopedia of New York*, which contains exhaustive entries on city architecture and the banalities of water towers, manhole covers, and street lamps, bares no mention of the fire escape.<sup>31</sup> The omission reflects an architectural prejudice, that the fire escape was an after-thought of design, that it was not truly part of the building. In construction preceding the Tenement laws, owners retrofitted fire escapes to their facades. In later projects, architects rarely handled fire escapes; they were typically designed by anonymous foundry draftsmen or copied from stock templates.<sup>32</sup>

Daniel Driscoll’s *Architectural Iron Design and Detailing* (1926) was a handbook for such draftsmen (figure 7). Driscoll offered technical insight into a multitude of fire

---

<sup>27</sup> Laws of New York, Chapter 334, Section 29 (1901)

<sup>28</sup> David Chen, “An Escape, and a Retreat: Porches in the Sky Bind a Neighborhood,” *The New York Times* (New York: August 15, 2004).

<sup>29</sup> *Ibid.*

<sup>30</sup> *Stern*, 501.

<sup>31</sup> David Chen, “An Escape, and a Retreat: Porches in the Sky Bind a Neighborhood,” *The New York Times* (New York: August 15, 2004).

<sup>32</sup> *Wermiel*, 273.

escape nuances: the dimensions of strings, floor slats, brackets, and rails, the specifications of live loads and safety factors, a prescription of bolts, riveting, and screw holes, the angles of steps and guardrails, paint advice, and even the type of material on which drawings should be made (on cloth, at a scale of 3/4" = 1').<sup>33</sup> The language and measured drawings were antiseptic, but Driscoll's defined purpose was "to deal only with the structural features of fire escapes."<sup>34</sup> His clinical approach was a utilitarian reaction to danger and disorder: "People in a panic due to fire are likely to overcrowd a fire escape... As a fire escape is intended as a means of exit in case of fire too much care cannot be taken to make it perfectly safe."<sup>35</sup> Strangely, the book interspersed the technical descriptions with plates of elaborate ironwork. The images of ornamental screens and exfoliated railings suggested an interest beyond codes. The design of a fire escape was foremost a public duty, but Driscoll seemed to regard his manual as an armature for richer possibilities.

Fire escape designers were obscure, but the fire escape was often front-center of a façade. Owners sometimes paid for a more artistic treatment so the ironwork would not, as one critic wrote, "[suggest] a building of common or humbles uses rather than elegance."<sup>36</sup> Laced with arabesques and filigrees, the most decorative fire escapes drew from the influence of Beaux Art ornament. Many fire escapes incorporated the sensuous, vegetal curves of Parisian balconies. The early fire escape of the New York Cotton Exchange (1 Hanover Place, figure 8), for instance, is a ladder system that artfully negotiates the fenestration of two buildings with a series of rosettes and

---

<sup>33</sup> Daniel Driscoll, *Architectural Iron Design and Detailing (As Required by the Laws of New York)* (New York: D. Van Nostrand Company, 1926) 107-140.

<sup>34</sup> *Ibid*, 108.

<sup>35</sup> *Ibid*, 107.

<sup>36</sup> Russel Sturgis et al., *A Dictionary of Architecture and Building* (New York, 1902), s.v. "Fire Escape."

ornamental brackets. Although the designer is uncertain, it is interesting to note that George Post, the architect of the building, later worked with Lawrence Veiller on the Tenement Housing Committee.<sup>37</sup>

In contrast, the most minimal fire escapes resembled Driscoll's drawings (figure 9). The scaffold-like lattice structures projected an industrial image into the domestic sphere long before Modernism. Attached to an equally unadorned building, the stairway of the safety apparatus provided the most dynamic visual element of the exterior. Yet it was totally functional, an instrument of emergency circulation. A symptom of a more egalitarian spirit and the desire to build higher, the New York fire escape can be viewed as a precursor to Le Corbusier's vertical street.

Even in its most embellished forms, the fire escape distinguishes itself from the Parisian balcony in its vertical connections. As a pathway to the street literally wrapped upwards across the elevation, the fire escape implies the continuous urban fabric folded into the buildings. More so than any crafted ornament, the greatest aesthetic impact of the fire escape is to visualize the sectional anthropology of New York. Particularly in warmer months, the fire escape decorated facades with a cross-section of urban activity.

From the onset, as reported by Lawrence Veiller, the fire escape was used for just about everything besides evacuation. Access to a personal outdoor space was a privilege wasted if used only for emergencies. During the sweltering summer season, the iron balconies and stairways offered an unintended form of escape, a reprieve from the unbearable tenement interiors. In 1927, the Times described how "a hot night reveals hundreds of east siders sleeping alfresco" on their escapes and that "with many

---

<sup>37</sup> Roy Lubove, "Lawrence Veiller and the New York State Tenement Commission of 1900," *Mississippi Historical Review*, Vol. 47, No. 4 (March 1961), 662.

families camping out, each family on its own level, laughter and the latest gossip float pleasantly up and down."<sup>38</sup> The fire escape's programs were seasonal:

"The fire escape was always an extra room for us," said a middle-aged man, recalling his boyhood in a Lower East Side tenement. "And in the winter, it was also our icebox."<sup>39</sup>

With the advent of affordable refrigerators and air conditioning units, these rituals evolved. The city had also changed. By the 1960s, the building codes' new preference for interior fire stairs was due, in part, to the growing complicity of fire escapes in burglaries. In a New York Times article from 1972, an older woman commented on the lost tradition of fire escape slumber:

"Sleep on the fire escape? You're living 20 years ago." said a forty-ish grandmother who has spent all her life on or near East 11st Street. "Now you don't know who'll drop an empty bottle of God knows what on you. And to sleep on the roof, like in the old days, you're lucky to come down alive."<sup>40</sup>

New fire escape activities replaced the old. A kind of microcosmic front porch, the fire escape assumed all the roles of its suburban counterpart, but at a much higher density. It was a place to store bicycles or even hang a swing.<sup>41</sup> On the fire escape, children played, miniature gardens sprouted, and barbeques sizzled. It was a place to take coffee in the morning, to sip a cool drink at night. In Jewish neighborhoods, unlikely Sukkahs appeared in the fall (figure 10). In Dominican communities, old men watched the stick ball games in the street, heckling the players and calling to their companions across the way.

---

<sup>38</sup> quoted in Chen. Original source not located.

<sup>39</sup> Laurie Johnston, "The Great Escape, Alias Garden, Alias Sundeck, Alias," The New York Times (New York: August 31, 1972)

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid.*

The fire escape had the paradoxical quality of being intensely private and public. It was a retreat, a space to which one disappeared during a party for the relief of air or conversation. It was also a means of urban participation, a personal parcel of the street from which one observed and partook in public spectacle (figure 11).

The Tenement Laws that produced the fire escape were not concerned with the programmatic richness of their public-private invention. They were, however, motivated by a compassionate, communal ideal – that the city had the responsibility of protecting all its citizens, rich and poor. For its all hardships, the city had the advantage of being a collective enterprise. The legislation of the fire escape advanced the notion that even the poorest New Yorkers were granted certain rights and privileges simply by living within the community of the city. The fire escape, provided by law, was a private area, associated with a particular apartment but projected out into the public realm of the street. More than any other space, the fire escape embodies the fundamental equation of city living, that the New Yorker sacrifices a portion of private dominion for the experience of a tremendous urban event.

## Bibliography

- Bernardo, Leonard and Jennifer Weiss. "Great Escapes." *The New York Times*. (New York: January 23, 2009).
- Bonner, Hugh and Lawrence Veiller. "Tenement House Fire-Escapes in New York and Brooklyn," in DeForest and Veiller, *The Tenement House Problem*, vol. 1, 277. New York: 1900.
- Chen, David. "An Escape, and a Retreat: Porches in the Sky Bind a Neighborhood," *The New York Times*. (New York: August 15, 2004).
- Dolkart, Andrew. *Biography of a Tenement House in New York City: An Architectural History of 97 Orchard Street*. Santa Fe: Center for American Places, 2006.
- Driscoll, Daniel. *Architectural Iron Design and Detailing (As Required by the Laws of New York)*. New York: D. Van Nostrand Company, 1926.
- Lubove, Roy. "Lawrence Veiller and the New York State Tenement Commission of 1900." *Mississippi Historical Review*, Vol. 47, No. 4. (March 1961) 674-675.
- Lubove, Roy. *The Progressives and the Slums: Tenement House Reform in New York City, 1890-1917*. Pittsburgh: University of Pittsburgh Press, 1962.
- New York Assembly. "Report of the Select Committee Appointed to Examine into the Condition of Tenant Houses in New-York and Brooklyn." report no. 205, vol. 3 (Albany, 1857).
- Stern, Robert A.M., Thomas Mellins, and David Fishman. *New York 1880: Architecture and Urbanism in the Gilded Age*. New York: Montacelli Press, 1999.
- Sturgis, Russel et al. *A Dictionary of Architecture and Building*. New York, 1902. s.v. "Fire Escape."
- [Unknown Author]. "Biography for Abraham Wivell." Birmingham City Museum. accessed April 10, 2012: <http://www.bmagic.org.uk/people/Abraham+Wivell>.
- [Unknown Author]. "Calamitous Fire." *The New York Times*. (New York: February 3, 1860) 1.
- [Unknown Author]. "Editorial." *American Architect and Building News*. (New York: October 4, 1879) 6.
- Wermiel, Sara. "No Exit: The Rise and Demise of the Outside Fire Escape." *Technology and Culture*, Vol. 44, No. 22. (Johns Hopkins University Press: Baltimore, April 2003) 258-284.

Images Sources:

Figure 1 and 2:

“Behind the Scenes: The Design of Alfie,” *Alfie* DVD, dir. Charles Shyer (Hollywood, CA: Paramount Pictures, 2004).

Figure 3:

*West Side Story* DVD, dir. Robert Wise and Jerome Robbins. (Hollywood, CA: United Artists, 1961).

Figure 4:

“Biography for Abraham Wivell.” Birmingham City Museum. accessed April 10, 2012:  
<http://www.bmagic.org.uk/people/Abraham+Wivell>.

Figure 5:

originally

Bonner, Hugh and Lawrence Veiller, “Tenement House Fire-Escapes in New York and Brooklyn,” in DeForest and Veiller, *The Tenement House Problem*, vol. 1, 277. New York: 1900.

via

Dolkart, Andrew. *Biography of a Tenement House in New York City: An Architectural History of 97 Orchard Street*. Santa Fe: Center for American Places, 2006.

Figure 6:

Driscoll, Daniel. *Architectural Iron Design and Detailing (As Required by the Laws of New York)*. New York: D. Van Nostrand Company, 1926.

Figure 7:

Wermiel, Sara. “No Exit: The Rise and Demise of the Outside Fire Escape.” *Technology and Culture*, Vol. 44, No. 22. (Johns Hopkins University Press: Baltimore, April 2003) 258-284. (photograph by the author).

Figure 8:

Bernardo, Leonard and Jennifer Weiss. “Great Escapes.” *The New York Times*. (New York: January 23, 2009). (photograph by Ruth Fremson, NY Times).

Figure 9:

photograph courtesy of Dan Siegl.

Figure 10:

photograph courtesy of Dan Siegl.