

The Razors-and-Blades Myth(s)

Randal C. Picker†

The razors-and-blades story offers a foundational understanding of a key area of economics and strategy: invest in an installed base by selling the razor handles at low prices or even giving them away, then sell the razor blades at high prices to justify the prior investment. Large chunks of modern technological life—from VCRs and DVD players to video game systems like the Xbox and now e-book readers—seem to operate subject to the same dynamics of razors-and-blades.

The actual history of razors-and-blades is much richer than the standard story suggests. At the point that Gillette could most readily have played the strategy—from 1904 to 1921, during the period of the initial patents—it did not do so. The firm understood to have invented razors-and-blades as a business strategy did not play that strategy at the point that it was best situated to do so. It was only after the expiration of the patents that Gillette switched to something akin to razors-and-blades, and it did that only to match the market.

With the expiration of the patents, Gillette seemingly no longer had a way to tie the blades to the handles and thus, at least on paper, seemed to have no good way to play razors-and-blades. Yet with the sale of razor sets to the US government during World War I and the jump in handle sales with the introduction of the low-price, old-style handle, Gillette's installed base jumped rapidly and the profits followed.

INTRODUCTION

In a 1927 article on razor-blade counterfeiters, *Time* magazine stated the obvious: “As everyone knows, safety razor manufacturers derive the bulk of their profit, not from razors, but from the replaceable blades.”¹ And this is just as clear today. In his 2009 business bestseller, *Free: The Future of a Radical Price*, Chris Anderson turns early to the story of King C. Gillette's invention: “By selling cheaply to partners who would give away the razors, which were useless by themselves, he was creating demand for disposable blades. . . . Gillette made its real profit from the high margin on the blades.”² Anderson closes the book with a coda and returns to Gillette: “Just as King Gillette's free razors

† Paul and Theo Leffmann Professor of Commercial Law, The University of Chicago Law School; Senior Fellow, The Computation Institute of The University of Chicago and Argonne National Laboratory.

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¹ *Bogus Blades*, *Time* 35, 36 n * (Sept 12, 1927).

² Chris Anderson, *Free: The Future of a Radical Price* 11 (Hyperion 2009).

only made business sense paired with expensive blades, so will today's Web entrepreneurs have to invent not just products that people love but also those that they will pay for."³ The razors-and-blades strategy is a simple one: sacrifice returns—maybe even lose money—on the razor handle but make boatloads of profits on the blades. Razor handles are useless without blades, so razor makers had no reason to fear that customers would take free handles and never appear again.

But there turn out to be two central problems with this story: it does not seem to work in theory and it does not match the facts very well. Start with theory. If the razors are actually being sold at a loss—given away for free—then a better strategy seems clear: let the *other* guy sell the razors at a loss while you sell only the profitable blades. You do not have to lose money on the razors if some other poor sap is willing to do so. Remember, the money is in the blades. This suggests that low prices for razors make sense only if customers are loyal or if the razor producer can block other firms from entering the blade market.

Moreover, giving away free razors does not prevent anyone else from playing exactly the same strategy, if that turns out to be the winning one. You cannot lock in anyone with a free razor if someone else can give him another free razor. Indeed, all of this suggests just the opposite: if you want to create switching costs through the razor, then the razor needs to have a high price, not a low one. High-priced razors mean that consumers face substantial switching costs if the alternative is to buy another high-priced razor. Think of switching from the Xbox to the PlayStation 3. In contrast, users of free razors face zero switching costs if the alternative is another free razor. And even a high-priced-razor approach to switching costs works only if everyone is playing that strategy: if another competitor is willing to give away its razor, then your customers do not face substantial switching costs.

And you cannot lock them in through actual blade use, because once the blades are used, they are gone. The whole premise of razors-and-blades is that you get customers to buy more blades after they have disposed of the original blades. Razor blades are not, to jump ahead in the story, say, e-books or computer macros, where use of the product generates a library that has a going-forward value—and one that might be forfeited if you switched platforms. You could lose your library of Kindle books if you choose to switch to a Nook, and your Lotus 1-2-3 macros are worthless if you want to move to Microsoft Excel. But there is no equivalent razor-blade stock that arises from

³ Id at 240.

use: once you have used the razor blades that you have on hand, you can easily switch to the new, free razor provided by a market entrant.

The razors-and-blades strategy does not seem to work very well unless there is a good way to lock the razor blade (the aftermarket) to the razor (the platform). That gets us to the second problem, the actual facts. For seventeen years—from 1904 to 1921—Gillette could block other firms from the blade market, or, more precisely, the disposable-blades market that Gillette would create. Gillette's critical 1904 patents covered razors; thin, double-edged blades; and the combination of the two.⁴ The time to play razors-and-blades was during that period, as Gillette knew that it would get the benefits of its first-stage investment in the underpriced razors by selling high-priced blades at the second stage.

But, unfortunately—at least for the razors-and-blades story—the best available evidence suggests just the opposite. Gillette set an initial price of \$5 for the razor with an initial set of blades and used every available legal means to ensure that its dealers did not undercut that price.⁵ Five dollars was a particularly high price—roughly one-third of the average weekly industrial wage at the time—making the razor a premium product like today's iPod, except even more expensive. Gillette maintained a high price throughout the life of the patents, and it was only as the patents were ready to expire that Gillette switched strategies. And Gillette's profits did jump after it switched strategies and started selling more razors and more blades, suggesting that the expiration of the 1904 patents was actually good news for Gillette and that there was some truth to razors-and-blades, even if that had been lost on Gillette itself during the life of the 1904 patents.

The expiration of the 1904 patents effectively pushed Gillette into playing a version of razors-and-blades, and it did so at a point when Gillette no longer had a good legal way to lock entrants out of the compatible-blades market. Yet, notwithstanding that, Gillette prospered. We seem to have two razors-and-blades myths. The first is that Gillette invented razors-and-blades and gave away or sold low-priced handles to sell high-priced blades. Gillette certainly did not do that during the life of the 1904 patents, and it only did something like that when the

⁴ See K.C. Gillette, *Razor*, US Patent No 775,134 (filed Dec 3, 1901) (describing Gillette's first "Razor," which had a lampshade-shaped handle and a thin, double-edged disposable blade); K.C. Gillette, *Razor*, US Patent No 775,135 (filed May 24, 1904) (depicting Gillette's improved model, which featured a slimmer handle and wider blade).

⁵ See Russell B. Adams, Jr, *King C. Gillette: The Man and His Wonderful Shaving Device* 57–58 (Little, Brown 1978) (noting that Gillette would—among other things—print warnings on blade and razor cartons, threatening to prosecute any dealer selling them for under \$5, and would "keep vigilant eyes on [the dealers'] newspaper ads and store windows" for any evidence of price-cutting).

patents expired and it was forced to meet the prices of its multi-blade competitors. In some sense, it was Gillette's multi-blade competitors who invented razors-and-blades, and they did so to separate themselves from the high prices that Gillette charged for razor handles.

Our second razors-and-blades myth is that you cannot successfully play razors-and-blades without a way to lock—or tie—the devices together. Standard economics suggests that a firm playing razors-and-blades will face entry into the blades business and that entry will destroy the possibility of subsidizing handles with expensive blades.⁶ Even though Gillette did have a new handle patent in place after the expiration of the 1904 patents, it did not for blades, and the expected entry came. And yet, notwithstanding that—somewhat mysteriously from the distance of today—razors-and-blades seems to have worked even without a way to lock the blade to the razor.

All of this suggests that the actual story of razors-and-blades is more complicated and more interesting than the simple story indicates. This analysis is worth doing on its own, as we should get core examples right, but also important in that platform two-stage products like the cell phone, the iPod and iTunes, and the Xbox are pervasive today. The terms of access to those platforms are very much a live legal issue. Should the law facilitate devices, like digital rights management, that control access to the platform? Should we bar exclusive deals for cell phone handsets? And should we stop Apple from blocking interoperability with the iPod and iTunes?

We should have a firm grasp on razors-and-blades. For this Article, four eras are of interest: (1) the pre-Gillette years, ending in 1903; (2) the original Gillette patent years, from 1904 to 1921; (3) the new Gillette razor (and old Gillette blades), from 1922 to 1929; and (4) the blade format wars and the resulting merger between Gillette and its chief competitor, Auto Strop, from 1930 to 1931. Gillette could have played razors-and-blades during the patent years, but there seems to be little evidence to suggest that it did so. Gillette of course faced competition from the pre-Gillette razors and soon faced competition from other multi-blade entrants. And Gillette's power to charge a high price for blades was limited by the willingness of consumers to maintain the blades so as to extend the blades' useful life. After all, consumers shaving at home had always maintained blades before, so

⁶ See Florian Heubrandner, Anja Lambrecht, and Bernd Skiera, *Time Preferences and the Pricing of Complementary Durables and Consumables* *23 (unpublished manuscript, July 2010), online at <http://ssrn.com/abstract=1444782> (visited Nov 7, 2010) (arguing that where companies tie durable goods to nondurable goods, pricing for the durable goods cannot be below marginal cost if competitors can make competing, compatible nondurable goods).

the trick was not in getting them to strop, hone, and sharpen but rather in getting them to stop doing so.

Gillette first introduced razor giveaways after its 1904 patents expired—the first was with Wrigley gum in 1922—but faced strong limits on pricing its razor blades.⁷ Firms could—and, unsurprisingly, did—enter the market for Gillette blades after the 1904 patents expired, and that entry should have limited the possible success of playing razors-and-blades. And, with the introduction of the new patented Gillette razors in 1921, Gillette continued to charge a high price for its top-of-the-line razor, suggesting that the low prices and giveaways could easily have been part of a “freemium” strategy.⁸

But that strategy came to an abrupt halt in 1930, the year in which, in some fundamental way, Gillette imploded. Auto Strop, a much smaller competitor led by inventor Henry Gaisman, cleverly wedded patent and trademark law in an effort to lock in the blade aftermarket for its razor handles, introducing a new blade and blade format that was backward compatible with the existing stock of Gillette razors.⁹ Gillette responded by introducing a new razor, a new blade, a new blade format, and a new top price of \$1. But, as the new razor blades themselves made painfully clear—“patents pending”—Gillette had not secured its patent position at the time of the launch, and Gillette immediately found itself on the defensive when Auto Strop filed a patent infringement action alleging that the new razors and blades violated Auto Strop’s patents. By the end of 1930, Gillette and Auto Strop were to merge in a shotgun marriage designed to settle the patent litigation, but the Gillette board of directors—and patent portfolio—was remade. The Gillette insiders were swept from the executive committee of the board, and, by the end, only one razor man was on the executive committee: Henry Gaisman, formerly of Auto Strop.¹⁰

⁷ See Gordon McKibben, *Cutting Edge: Gillette’s Journey to Global Leadership* 20 (Harvard Business 1998) (reporting that, in 1921, “a host of competitors” stood ready to “hawk[] cut-rate imitations that would fit on Gillette handles just as well as Gillette blades”).

⁸ See *id.* (explaining that Gillette simultaneously slashed prices for old-style razors and introduced a premium “New Improved Razor” at the “familiar”—and high—\$5 price).

⁹ See Adams, *King C. Gillette* at 151 (cited in note 5).

¹⁰ See *Gillette to Obtain Auto Strop Razor*, NY Times 37 (Oct 16, 1930) (noting the addition of five new members—including Gaisman and another Auto Strop representative—to Gillette’s board); *Gaisman Heads Gillette*, NY Times 31 (May 2, 1931) (reporting Gaisman’s election to chairman of Gillette’s board and executive committee).

I. A NEW TECHNOLOGY

What did shaving look like as King Gillette set out to revolutionize it?¹¹ Gillette himself dated the conception of his invention to 1895,¹² so turn to the 1895 Montgomery Ward & Co catalogue to see a snapshot of the shaving market. Montgomery Ward was the Amazon of its day, a market leader in the mail-order business. Local stores, especially outside of big cities, may have offered only a limited selection, but Montgomery Ward promised the world to the entire country. Catalogue No 57—Spring and Summer 1895—was a behemoth, running 624 pages and offering more than 25,000 items for sale.

Razors covered one-and-a-half pages of the catalogue, which opened with an admonition:

Our razors are fully warranted by *us*, and if *properly* used and *stropped* on a *good smooth* strop they can be returned at our expense and money refunded or exchanged for another, if not as represented.

Many good razors are rendered useless by stropping them on the edge so as to “round” the edge. Lay the razor down flat on the strop, and turn on the back.

Never strop a razor by turning with the edge on the strop.¹³

Home shaving—and remember, many were shaved by professional barbers—was a high-maintenance undertaking, and woe to the home-shaver who stropped poorly. Thirty-six different razors were offered.¹⁴ Thirty-five of these were of the straight-razor variety. These differed in the size of the blade, the material in the protective handle, how the blade was ground, and more. You could get by spending as little as 60 cents for the Torrey, plain ground, five-eighths inch razor or as much as \$3.50 for the Cromwell Criterion razor, German silver lined with a pearl handle.

One razor stood out from the rest—the Star Safety Razor. The Star was a so-called “hoe” razor, and while to the modern eye, the Star looks a little clunky and a bit intimidating, it is an easily recognizable cousin of the razors that we see today on shelves in drugstores throughout the world. Patented in April 1887, we are told, the Star

¹¹ For a detailed look at shaving before the Gillette razor, see Robert K. Waits, *Before Gillette—The Quest for a Safe Razor: Inventors and Patents, 1762–1901* (Lulu 2009).

¹² See King Camp Gillette, *Origin of the Gillette Razor*, *Gillette Blade* 3, 3 (Feb 1918) (“It was in 1895, in my fortieth year, that I first thought of the razor.”).

¹³ *Montgomery Ward & Co Catalogue & Buyers’ Guide No 57, Spring and Summer 1895* 444 (Dover 1969).

¹⁴ *Id.* at 444–45.

was “a great invention which render[ed] shaving an easy and convenient luxury.”¹⁵ The catalogue recognized that the design of the Star was outside of the norm and promised that the Star’s blade could be easily removed and sharpened “as easily as an ordinary razor.”¹⁶ The catalogue offered the Star for \$1.50, an extra blade for \$1, a stropping machine for \$1.75, and strops themselves for 40 cents each. Note the implicit price for the Star handle alone: 50 cents, exactly half of the standalone price for the blade itself.

As all of this suggests, the Star’s design was an outlier. The Kampfe Brothers, Frederic and Otto, actually obtained their first US safety-razor patent on June 15, 1880.¹⁷ The key invention of the patent was the hollow metallic blade holder that served as a lather catcher that captured the shaved whiskers and lather and prevented soiling of the fingers. The patent contemplated that the wedge-shaped razor blade would be inserted into an accompanying blade holder for honing and stropping. Ads for the Star made clear that it was to be seen as a new, presumably superior technology. An ad in the advertising supplement to the May 1889 *Yale Literary Magazine*, pictured in Figure 1, referenced thirteen separate patents in the United States and England and offered, to boot, a testimonial from none other than Dr. Oliver Wendell Holmes.

¹⁵ Id at 445.

¹⁶ Id.

¹⁷ See Frederic Kampfe and Otto F. Kampfe, *Safety Razor*, US Patent No 228,904 (filed May 8, 1880).

FIGURE 1



Source: Kampfe Brothers, *Star Safety Razor*, Yale Literary Advertiser 14 (May 1889) (advertisement).

The 1895 catalogue makes clear that self-shavers faced a challenge. Almost all of the razors offered were standard straight razors, and poor maintenance of the blade could ruin the razor. This was a question of both time and skill. You could of course have someone else do the sharpening—the Ward’s catalogue offered regrinding services for 35 cents per plain-ground razor and 50 cents per hollow ground—but that might mean investing in a second razor, especially if you had to mail your razor to Ward’s in Chicago. The Star razor offered a different design but still required resharpener. And two years later, little had changed. The 1897 Sears, Roebuck catalogue—“Cheapest Supply House on Earth”—offered much the same selection. The catalogue makes clear that Sears believed that its razors were good for both “private and barbers’ use” but otherwise looks familiar: a variety of straight razors, the Star hoe razor (at the same price offered by Ward’s two years before), and assorted shaving paraphernalia.¹⁸

King Gillette thought that he had a better idea and applied for his patent on December 3, 1901. That application was later divided and, on November 15, 1904, Gillette was awarded US Patent

¹⁸ 1897 Sears Roebuck Catalogue 111 (Chelsea House 1968) (Fred L. Israel, ed).

Nos 775,134 and 775,135.¹⁹ Gillette made clear in the former patent the difficulties associated with reusable blades:

My invention is particularly applicable to razors of the safety type, the use of which as heretofore constructed involves a considerable amount of trouble, time, and expense on the part of the user in keeping the blades sharp, not only for the reason that the blades used in razors of this type require to be stropped and honed frequently, which cannot be done satisfactorily by the average individual user himself, but also for the reason that the blades are worn out by honing and have to be replaced at considerable expense.²⁰

Reusable blades had to be resharpened, and individuals did not do a particularly good job of it. They could turn that work over to professionals, but that might mean having two razors.

Gillette had a solution for this. The blade in the Star Safety Razor was a wedge blade, and the mass of the blade was critical for maintaining the stability of the blade. Gillette offered a new approach that would allow him to eliminate a substantial amount of the mass of the blade using a novel holder that would make it possible for a thin blade to remain rigid notwithstanding its loss of mass. Gillette understood precisely what he was accomplishing:

[T]he blades require but a small amount of material and can be ground very quickly and easily, and hence I am able to produce and sell my blades so cheaply that the user may buy them in quantities and throw them away when dull without making the expense thus incurred as great as that of keeping the prior blades sharp, and, moreover, will always have the cutting edge of his razor-blade in the same perfect condition as that of a new blade.²¹

Note the tight relationship between the technical invention and the business-model invention. Before Gillette, blades required a certain bulk to maintain their stability so as to make possible a reliable straight edge for shaving. That bulk necessarily resulted in a high cost for the blade, as more materials went into its construction. A high-cost blade meant that the blade was to be treated as a durable good: it had to be taken care of, perhaps daily through stropping at home to maintain the blade edge for shaving and then periodic rehoning or sharpening by a professional.

¹⁹ US Patent No 775,134 (cited in note 4) (depicting Gillette's first model); US Patent No 775,135 (cited in note 4) (reflecting Gillette's design improvements).

²⁰ US Patent No 775,134 at 1 (cited in note 4).

²¹ *Id.*

Gillette was able to move blade stability out of the blade and into the razor itself. Gillette also moved away from forged-steel production to sheet-steel production. Together, these changes created the possibility of a disposable blade.²² Of course, making it cheaply and selling it cheaply are not the same thing. The patent seemed to contemplate selling cheaply, as would be necessary to induce self-shavers to change their habits. High prices to consumers for new blades would still create a strong incentive for consumers to resharpen the “disposable” blades. Consumers would trade off the price (and quality) of a new blade against the costs—in time and money—of resharpening. The latter costs would impose an upper limit on how much could be charged for replacement blades, even by a monopoly manufacturer such as Gillette. And self-shavers already lived in a world in which blade resharpening was familiar.

Indeed, Gillette almost certainly made that easier for them, for there is little doubt that Gillette dramatically reduced the price of a *second* blade. For most straight razors, the only way to get the blade resharpened was to give up temporary possession of the razor to a resharpening, though there were a few straight razors with swappable blades.²³ That might be done locally or at a distance if, for example, the razor was mailed back to Montgomery Ward. For most straight razors, to have a second blade meant simply to have a second straight razor. For other razors, including both the Star and some straight razors, you could buy a separate second blade, but the cost of that blade was substantial.

II. A NEW BUSINESS MODEL

Pricing the razors and the blades presented a standard platform-pricing problem,²⁴ with a few wrinkles. Try a slightly simplified version of the facts to understand the possibilities. Suppose that the Gillette Razor lasts for six years, and one pack of twelve blades is good for a year of shaves. Gillette contemplates selling the razor with a pack of blades for \$5 and packs of blades for \$1 each. Those were the actual list prices throughout the life of the 1904 patents, though eventually

²² See William E. Nickerson, *The Development of the Gillette Safety Razor: Part I—Mr. Gillette's Invention*, *Gillette Blade* 3, 4 (May 1918) (describing how sheet steel, unlike forged steel, can be “punched out of a plate, or cut off from a strip, and the expense of forging and hollow grinding [is thus] avoided”).

²³ See Kurt Moe, *Interchangeable Blades*, in *The Razor Anthology* 23, 23 (Knife World 1995) (describing different types of straight razors that had blades that could be switched out).

²⁴ For a discussion of the pricing aspect of platform battles, see Annabelle Gawer and Michael A. Cusumano, *How Companies Become Platform Leaders*, 49 *MIT Sloan Mgmt Rev* 28, 33 (Winter 2008).

sellers could discount from those prices and did so. But start with list, and at list, a prospective Gillette customer understood that he would pay \$10 for shaving equipment for six years (\$5 for the razor and the bundled pack of blades and five additional packs of blades for \$1 each). Now consider two alternatives: a free razor with blades selling for \$1.67 a pack or a \$10 razor bundled with a lifetime supply of free blades.

In each case, a customer would pay Gillette \$10 and would use six packs of blades, if—a big if, to be sure—actual blade usage was not influenced by the price of the blades. But, under more realistic assumptions, the strategies are actually quite different. A hefty price for the razor itself makes experimentation by customers expensive. A free razor, with perhaps one blade, lets customers test out the razor at no risk. As to the blades, if blade purchases were sensitive to prices, the three strategies would be quite different. Presumably customers would use a very large number of blades if they were free, so the \$10 razor strategy seems particularly unattractive. But the free razor strategy suffers from a problem as well, or perhaps two of them. Entrants would naturally target the blades market, if they could do so consistent with Gillette's patents. And, even without entry, shavers might choose to resharpen expensive blades.

Gillette offered its new razor to the public in the October 1903 edition of *System* magazine.²⁵ The razor and twenty blades sold for \$5. That was, according to the ad, a supply of two years' worth. Each blade offered two edges, and each edge was promised to be good for twenty to thirty shaves. After that, Gillette offered to sharpen used blades for 2.5 cents each or to sell new blades for 5 cents each. Of course, this suggests an implicit price for the razor handle of \$4.

New businesses are constantly experimenting with different business models, and, at least as measured against the modern conception of Gillette's invention, the 1903 version of the business model was quite different. A potential Gillette customer who took the ad at face value had to see three possibilities. After plunking down his \$5, he would not see Gillette for two years. At that point, he could resharpen the blades on his own as he had been doing for years, outsource resharpening to Gillette for 2.5 cents per blade, or buy new blades—real disposability—at 5 cents a pop.

But Gillette was feeling its way through the business model. One month later, in its November 1903 ad in *System* magazine, pictured in Figure 2, Gillette embraced the strategy that would be the centerpiece

²⁵ Gillette Co, *We Offer a New Razor*, *System* 299 (Oct 1903) (advertisement) ("Do not confuse this razor with any other you have ever seen or heard of. Its every detail is brand new.").

of its business in the coming years: “No Stropping No Honing.”²⁶ Product feature or command? “[T]he user *never sharpens*” the Gillette Safety Razor.²⁷ Gillette had revised the terms of its offer from one month before: one razor, twelve double-edged blades, and “a year of shaving pleasure,” all for \$5.²⁸ Gillette continued to offer to re-sharpen blades—ten blades for 50 cents—but for the customer, it was “no stropping, no honing.”²⁹

²⁶ Gillette Co, *No Stropping No Honing*, System 359 (Nov 1903) (advertisement).

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

FIGURE 2

**No Stopping
No Honing**

Always Keen



Cut full size

Triple Silver

A dainty toilet article for gentlemen of exclusive and refined taste

The Gillette Safety Razor

The most perfect razor in the world

THE wonderful feature of this razor is that the user *never sharpens it. No stopping, no honing.* Just lather the face, then shave. Result is a beautifully smooth skin without a trace of scratch, cut or irritation, no matter how wiry your beard or how tender the skin—and all done in three minutes.

Twelve double-edge, oil tempered, diamond ground, Damascus blades (equal to twenty-four ordinary blades) with each set.

Price complete in case, triple silver, \$5.00
" " " gold plate, 12.00

Each blade will give twenty to thirty delightfully easy shaves. A year of shaving pleasure. When you have used ten blades send them to us with fifty cents; we will resharpen and return the same day. You save over \$15 per year in shaving expenses.

Illustrated booklet to any address free for the asking.

Write a letter or send this coupon, inclosing Express or P. O. Money Order. Write name and address plainly.

Cut out and mail to-day.

GILLETTE SALES COMPANY,
1602-3 Manhattan Building, Chicago.

Please send me one Triple Silver Gillette Safety Razor, for which I enclose \$5.00 (Express or P. O. Order). If, at the end of fifteen days, however, I am not satisfied, I will return the razor at your expense, and upon my mere statement of dissatisfaction, you are to return my \$5.00.

Name.....

Address

Sy. 2.

Source: Gillette Co, No Stopping No Honing, System 359 (Nov 1903) (advertisement).

Gillette sold fifty-one razors and fourteen dozen razor blades in 1903.³⁰ By mid-1904, it had settled on the business model and prices that it would use over the life of the 1904 patents: \$5 for a razor with a pack of 12 blades and additional packs of 12 blades for \$1. Viewed from the distance of today, the \$5 price is breathtaking. Take one comparison, namely, the prices of other goods. John Wanamaker, the Philadelphia department store entrepreneur, had taken over New York's A.T. Stewart department store and then expanded it in 1902. Wanamaker took out a large ad in the August 18, 1904 *New York Times*, part of which is pictured in Figure 3. The men's serge-suit season was coming to an end, and the remaining suits were priced to move: \$15 to \$20 suits were offered for \$12. The women's "Autumn Costumes" season³¹ was ready to kick off, and new tailored suits started at \$12.50.

FIGURE 3



Source: John Wanamaker, *A Stropless Safety Razor*, *NY Times* 4 (Aug 18, 1904) (advertisement).

In the lower lefthand space, Wanamaker advertised the new stropless Gillette Safety Razor. The pitch was simple: self-shaving meant stropping, and most men were not very good at it. The solution was the disposable blade to be "laid aside and a new one substituted" once the original blade was no longer sharp.³² A new razor, a dozen blades, and the right to return that dozen for six new blades, all for \$5. Additional blades were then \$1 per dozen.

Five dollars was a big price, a big number compared to other self-shaving tools and quite large compared to other consumer items, such

³⁰ See McKibben, *Cutting Edge* at 26 (cited in note 7).

³¹ John Wanamaker, *Here Are Five New Tailored Suits for Women*, *NY Times* 4 (Aug 18, 1904) (advertisement).

³² John Wanamaker, *A Stropless Safety Razor*, *NY Times* 4 (Aug 18, 1904) (advertisement).

as men's and women's clothing. The Star hoe-style safety razor sold for \$1.45, and if you knew how to resharpen the blade, you did not need to pay another dime.³³ Five dollars also amounted to roughly one-third of the average weekly industrial wage in 1900.³⁴

III. COMPETITION

Gillette sold 51 razors and 14 packs of blades in 1903. In 1904, it sold 91,000 razors and 10,000 packs of blades. And in 1905, 277,000 razors and 99,000 packs of blades.³⁵ The two key Gillette patents were issued in November 1904 and would for run seventeen years. Before Gillette, razors had been, almost exclusively, single-blade affairs, and honing, stropping, and resharpening had been required. Gillette suggested a new, multi-blade approach.

For modern eyes, the 1904 Gillette patents are curiously narrow, as they are patents on razors and blades but not patents on business methods. Gillette clearly conceived of the patents as making possible a new business model, namely substituting disposable blades for time-consuming stropping, honing, and resharpening. Without the yet-to-be-invented business-method patent, Gillette could block firms from entering into the market for Gillette-compatible razors and blades, but it could not stop firms from adopting Gillette's strategy, and other firms quickly followed that path.

Focus on the precise mechanics of this competition. Gillette certainly had a first-mover advantage in the multi-blade market. Gillette and the new entrants might compete head-to-head to get straight-razor shavers to switch to the new technology, but Gillette customers, at least, presumably were not at risk of switching to one of Gillette's multi-blade competitors.

Or were they? The pricing strategy for the razors and blades matters for that competition. Take an extreme example: suppose that razors were given away for free, and producers planned to make money on the blades. This, of course, is the classic characterization of the razors-and-blades strategy. In this hypothetical, a Gillette customer would receive a free razor and would buy an initial pack of blades. Once all of those blades had been used, the Gillette man could re-up by buying another pack of blades. Or he could instead grab a free razor from a Gillette competitor and buy the corresponding blades from that producer.

³³ See *Montgomery Ward & Co Catalogue & Buyers' Guide No 73* 615 (Fall 1904).

³⁴ George B. Baldwin, *The Invention of the Modern Safety Razor: A Case Study of Industrial Innovation*, 4 *Explorations Entrepreneurial Hist* 73, 90 n 34 (1951).

³⁵ *Id.* at 96.

Free or low-cost razors do not create real switching costs for customers and do not lock in customers. The strategic problem with genuinely disposable products is that they are disposable. Once the blades were gone, they were gone. The razor handle itself was not disposable but could be made disposable at the right price, such as if the razor handle were free. Razor blades are quite different from many of their modern platform counterparts. Video games are durables. An Xbox customer cannot easily switch over to a new game system from Sony, even if Sony offered the game console for free. Switching means forfeiting the installed base of Xbox games. This is not a sunk-cost fallacy: the games are genuine, usable assets that bring a functionality to the Xbox customer and that would not be available on the competing platform, at least not without spending money to buy new games for the new platform.³⁶ And, of course, while game platforms are often sold below cost, they are not free, and the need to purchase a new platform discourages switching as well.

Gillette routinely advertised its razor handle plus twelve double-edged blades for \$5. Additional blades were offered twelve for \$1, though Gillette briefly—and profitlessly—flirted with blades at ten for 50 cents.³⁷ Indeed, to jump forward in time, a 1913 Sears catalogue makes crystal clear how serious Gillette was about its pricing. That catalogue offered five pages on razors and assorted products “for barbers and private use,” though it is clear that some of the offerings were directed primarily to the professional barbers market. Every item came with a textual description and a detailed drawing, save one. There was no drawing of the Gillette Safety Razor. Instead the catalogue offered up an explanation and an apology:

Gillette Safety Razors are quoted for the accommodation of some of our customers who want this particular razor. We don't claim that this razor will give better satisfaction than the lower priced safety razors quoted on this page. This razor is manufactured and sold under a licensed price of \$5.00; and we are therefore prevented from offering it at a price consistent with the prices and values we quote on other makes and styles of safety razors.³⁸

³⁶ For a discussion of the sunk-cost fallacy, see N. Gregory Mankiw, *Principles of Economics* 297 (Thomson 3d ed 2004).

³⁷ Russell Adams describes this in his wonderful Gillette biography. See Adams, *King C. Gillette* at 90 (cited in note 5) (calling the price change a “disastrous experiment”). Adams also quotes a 1906 company memorandum on the role of the blades in Gillette's business: “The greatest feature of the business is the almost endless chain of blade consumption, each razor sold paying tribute to the company as long as the user lives.” Id.

³⁸ *Sears, Roebuck and Co Catalog No 126 960* (Spring 1913).

The razor, a dozen blades, and a leather case sold for \$5, and six additional blades could be purchased for the price of 45 cents. The catalogue made clear that Sears did “not exchange old blades.”³⁹

But if what Gillette really hoped to invent was disposability, he certainly did not patent it, and his company quickly faced entrants in the multi-blade market. The American Safety Razor Company sold the Ever-Ready brand and in a 1906 ad offered the razor and seven single-edge blades for \$1. Ever-Ready suggested that the blades could be stropped like ordinary blades and would last for years. But a new set of blades could be purchased for 75 cents and old blades could be swapped for new blades for 25 cents. It is hard to know, of course, whether the blades received back were actually new blades or just resharpened old blades, but even if the latter were the case, it would mean that shavers were able to outsource blade sharpening conveniently and at a modest price. Sears was offering the Ever-Ready set—razor handle, seven blades, and holder for stropping—for 94 cents, a 6 percent discount from the price listed in the Ever-Ready ads. Sears made clear that customers could maintain the Ever-Ready blades, but if that were too complex an undertaking, Sears stood ready to sell a dozen new replacement blades for 75 cents.⁴⁰

FIGURE 4



Source: American Safety Razor Co, *Ever-Ready Safety Razor*, McClure's 156 (Nov 1905–Apr 1906) (advertisement).

³⁹ Adams describes the efforts Gillette took to use the legal system to maintain the \$5 price. See note 5.

⁴⁰ See *Sears, Roebuck and Co Catalog No 116 402* (Fall 1906) (“Those who cannot hone blades themselves will find it cheaper and better to buy new blades when the blades which they buy with the razor become dull.”).

The Gem Cutlery Company had long produced the Gem Razor, a wedge-blade hoe safety razor similar to the Kampfe Star Safety Razor. But in 1906, Gem offered the Gem Junior as a direct competitor to the Gillette approach. The Gem Junior came with a razor, seven blades—one for each day of the week—and a separate stropping handle, all for \$1.⁴¹ Gem also offered to exchange old blades for new ones for 25 cents: “Shaving will therefore cost you next to nothing.”⁴² The exchange program—“new blades for old”—figured prominently in Gem Junior ads.⁴³

There were other competitors as well, but as the preceding discussion suggests briefly, Gillette’s business model—both its actual business model and its supposed razors-and-blades model—faced real competition and strong limits. The Ever-Ready and Gem Junior razor handles were implicitly priced very low. Straight-blade shavers could try the new multi-blade approach with a minimal upfront investment, and Gillette shavers could switch easily if Gillette blade prices were too high. If disposability were really valuable, then shavers could get it from Gillette, but they could also get it elsewhere and at a far lower price. And Gillette’s ability to exploit its installed base of razor handles turned in part on the switching costs its customers faced. Ever-Ready, Gem, and the other multi-blade competitors made those switching costs very low. Indeed, from 1908 onward, Sears offered one or more multi-blade sets—a handle with an initial stock of blades—for less than \$1 and did so over the life of the original Gillette patents.⁴⁴ Of

⁴¹ Gem Cutlery Co, *Gem Junior Safety Razors*, *Am Druggist & Pharmaceutical Rec* 36 (Jan–June 1906) (advertisement) (“Just hand them out: they sell themselves.”).

⁴² Gem Cutlery Co, *Value of Appearance*, *Appleton’s* (Jan–June 1907) (advertisement).

⁴³ See, for example, Gem Cutlery Co, *Gem Junior Safety Razor*, *McClure’s* 115 (Oct 1907) (advertisement).

⁴⁴ See *Sears, Roebuck and Co Catalog No 117* 772–76 (Spring 1908); *Sears, Roebuck and Co Catalog No 118* 665–69 (Fall 1908); *Sears, Roebuck and Co Catalog No 118* 377–80 (Spring 1909); *Sears, Roebuck and Co Catalog No 119* 853–56 (Fall 1909); *Sears, Roebuck and Co Catalog No 120* 880–82 (Spring 1910); *Sears, Roebuck and Co Catalog No 121* 1038–40 (Fall 1910); *Sears, Roebuck and Co Catalog No 122* 978 (Spring 1911); *Sears, Roebuck and Co Catalog No 123* 1147–52 (Fall 1911); *Sears, Roebuck and Co Catalog No 124* 870–71 (Spring 1912); *Sears, Roebuck and Co Catalog No 125* 1129–32 (Fall 1912); *Sears, Roebuck and Co Catalog No 126* 959–61 (Spring 1913); *Sears, Roebuck and Co Catalog No 127* 733–35 (Fall 1913); *Sears, Roebuck and Co Catalog No 128* 954–56 (Spring 1914); *Sears, Roebuck and Co Catalog No 129* 1258–60 (Fall 1914); *Sears, Roebuck and Co Catalog No 130* 842–44 (Spring 1915); *Sears, Roebuck and Co Catalog No 131* 1300–05 (Fall 1915); *Sears, Roebuck and Co Catalog No 132* 818–20 (Spring 1916); *Sears, Roebuck and Co Catalog No 133* 992–93 (Fall 1916); *Sears, Roebuck and Co Catalog No 134* 868–70 (Spring 1917); *Sears, Roebuck and Co Catalog No 135* 1268–70 (Fall 1917); *Sears, Roebuck and Co Catalog No 136* 887–89 (Spring 1918); *Sears, Roebuck and Co Catalog No 137* 1321–23 (Fall 1918); *Sears, Roebuck and Co Catalog No 138* 982–83 (Spring 1919); *Sears, Roebuck and Co Catalog No 139* 1304–05 (Fall 1919); *Sears, Roebuck and Co Catalog No 140* 984–85 (Spring 1920); *Sears, Roebuck and Co Catalog No 141* 1244–45 (Fall 1920); *Sears, Roebuck*

course, it is impossible to assess quality from the pages of the Sears catalogues, but disposability was available at prices substantially below Gillette's handle price.

The supposed razors-and-blades strategy faced another important limit: blades that worked in many different handles. In 1913, Sears offered Superior Safety Razor blades for 49 cents a dozen and those blades fit Superior, Ever-Ready, Star, Gem Junior, and other safety razors. A freestanding wedge blade was also offered—the Comfort—for a price of 60 cents each. The Comfort blade was designed for razors such as the Star and the Gem that used a forged concave blade.⁴⁵ Ever-Ready and Gem would be hard pressed to play razors-and-blades with their razor handle customers if customers could easily buy compatible blades. That in turn would put more pressure on Gillette so long as Ever-Ready, Gem, and others sold low-priced handles. Gillette was competing with low-priced handles coupled with a competitive blades market.⁴⁶

Gillette maintained an advertised list price of \$5 for its standard set—razor handle, packet of blades, and case—during the life of the 1904 patents. Gillette's price point started high and continued high during the life of the patents. Of course, list prices are just that, but the Sears catalogues offer a sense of actual selling prices. Sears produced two catalogues per year and started selling the Gillette razor in 1908. Sears sold at the list price through the first half of 1913, when, as you may recall, Sears was apologizing for being forced to charge list.⁴⁷ That changed in the second half of 1913, when the standard \$5 price was discounted to \$3.79 and the apology had vanished.⁴⁸ Whether this was *Dr. Miles Medical Co v John D. Park & Sons Co*⁴⁹ finally working its way through the system is not clear, but even at the discount, the

and Co Catalog No 142 918–19 (Spring 1921); *Sears, Roebuck and Co Catalog No 143* 1064–68 (Fall 1921).

⁴⁵ *Sears Catalog No 126* at 961 (cited in note 38).

⁴⁶ Gillette had even faced direct competition in the Gillette blades market proper but had successfully asserted its patent against the entrant. See *Clark Blade & Razor Co v Gillette Safety Razor Co*, 194 F 421, 423 (3d Cir 1912) (“There is . . . no real difference between the two [parties’ razor] devices, and any apparent differences are . . . possibly designed to circumvent the claims of the patent in suit.”).

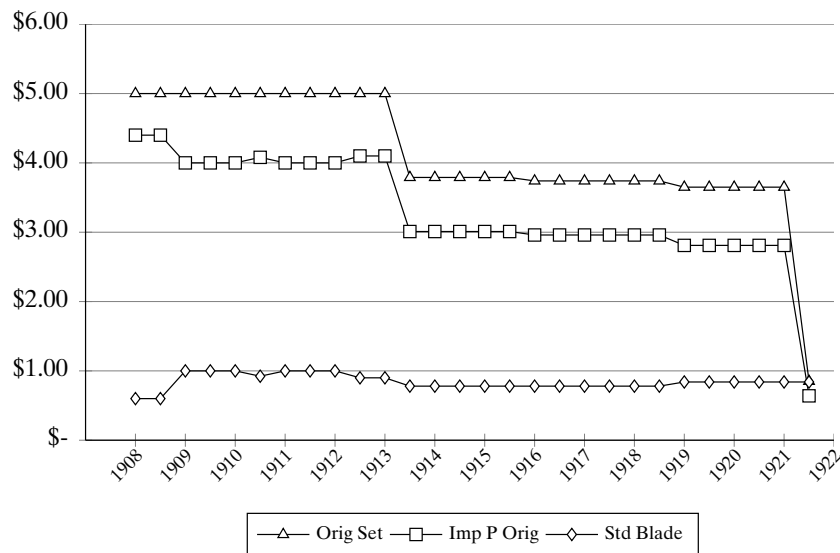
⁴⁷ See text accompanying note 38.

⁴⁸ Compare *Sears Catalog No 117* at 776 (cited in note 44); *Sears Catalog No 118* at 669 (cited in note 44); *Sears Catalog No 118* at 380 (cited in note 44); *Sears Catalog No 119* at 856 (cited in note 44); *Sears Catalog No 120* at 882 (cited in note 44); *Sears Catalog No 121* at 1040 (cited in note 44); *Sears Catalog No 122* at 978 (cited in note 44); *Sears Catalog No 123* at 1150 (cited in note 44); *Sears Catalog No 124* at 872 (cited in note 44); *Sears Catalog No 125* at 1131 (cited in note 44); *Sears Catalog No 126* at 960 (cited in note 38), with *Sears Catalog No 127* at 735 (cited in note 44).

⁴⁹ 220 US 373, 404–09 (1911) (holding that vertical price-fixing arrangements violate the Sherman Antitrust Act). Mark Lemley suggested this possibility at a workshop on this paper, and I confess that I had had the same question.

Gillette was still a premium-priced razor, and Gillette maintained that position until it reached the end of the 1904 patents.

FIGURE 5. GILLETTE PRICES DURING THE 1904 PATENTS



Note: Data derived from author's analysis of sources cited in note 44.

IV. THE END OF THE 1904 PATENTS: NEW PATENT, NEW BUSINESS MODEL

Gillette received his original patents on November 15, 1904, which meant that, with a seventeen-year patent term, the patents were due to expire in November 1921. Gillette's decisive advantage conferred by the patents would then come to an end. Gillette faced two potential problems: entry into the market for the old Gillette razor handle and entry into the market for Gillette-style blades. Entrants, at least those with the technical wherewithal, could choose to invade the razor market, the blade market, or both. Pricing strategies that rely on low prices for one good tied to high prices for a second, related good are particularly at risk for piecemeal entrance. Do not enter the market with low prices; just enter the market with high prices.

Gillette obviously understood all of this and had an aggressive plan to deal with it. Patents had been very, very good for Gillette, and the obvious solution to the expiration of the foundational 1904 patents was new patents. Six months before the expiration of the 1904 patents, Gillette started running ads announcing a new technology, a new patent, and a new razor. In a large ad in the *Wall Street Journal* on May 17, 1921, Gillette announced "Another Triumph of American Invention, The New Improved Gillette Safety Razor, Patented January

13th, 1920.”⁵⁰ The old Gillette razor was modestly described as the “first great advance in the art of shaving in 5000 years,” but it was “now superseded.”⁵¹ The new razor promised an increase in shaving efficiency—left unspecified exactly—of more than 75 percent. The razor was offered in silver and gold shaving sets starting at a standard price of \$5.⁵² Gillette had not sold the old razor for a low price and would continue to sell the new razor at a high price.

There was also a brief note at the bottom of the ad addressing the use of Gillette blades: “The Gillette Company assumes full responsibility for the service of Gillette Blades when used in any *genuine* Gillette Razor—either old-type or New Improved Gillette. But with *imitations* of the genuine Gillette it cannot take responsibility for service of Blades.”⁵³ This is interesting and, again, as measured against the standard razors-and-blades story, a little surprising. The note suggests that Gillette was concerned about entry into the razor market with the fear that customers would use genuine Gillette blades in non-Gillette razors. If you are losing money on razors to sell high-priced blades, this is good news. The razor entrants would expand the installed base of customers for Gillette blades and would do so on someone else’s dime. Gillette should have been delighted with virtually any use of the blades, including in competing razors. Now mixed use—one firm’s razors, a second firm’s blades—is always a little tricky for assigning quality. Perhaps Gillette feared that its blades would be blamed for bad shaves using inferior razors and therefore saw the limitation as an attempt to protect the reputation of its blades.

But the 1920 patent was just a patent on the razor, and, unlike the 1904 patents, it was not a patent on the underlying blades. While Gillette was offering a new razor technology, it did not have new blades. But Gillette did more—much more—than invent a new razor. Gillette understood that with the expiration of patents, competitors could offer the old Gillette razor and presumably would do so at lower prices. If customers still wanted to buy the old Gillette, Gillette would sell it to them as well—and now at a much lower price. Gillette repackaged its old razor as the Brownie and sold it at an advertised list price of \$1. In its fall 1921 catalogue—just before the expiration of the 1904 patents—Sears offered the Brownie set (the old-style Gillette razor handle, three blades, and a case) for 85 cents. Comparable sets

⁵⁰ Gillette Co, *Another Triumph of American Invention*, Wall St J 11 (May 17, 1921) (advertisement).

⁵¹ Id (calling the Gillette “the most efficient shaving device known to men”).

⁵² Id.

⁵³ Id.

from Ever-Ready and Gem sold for 88 cents.⁵⁴ Gillette's old razor faced the possibility of entry but Gillette made it much less attractive by dropping the price of the old razor to the price of the preexisting multi-blade competition.

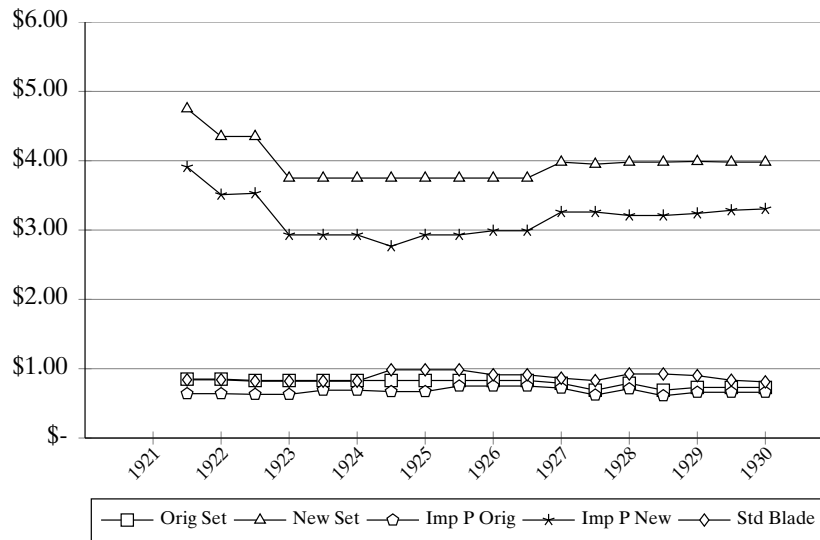
Take stock of how razors-and-blades is doing so far: Gillette maintained a high price for the original Gillette razor throughout the life of the patents. Once the 1904 patents expired, Gillette finally dropped the price of the handle but also offered a new handle at a very high price. Gillette was seemingly still a long way from embracing a free-razors strategy. Gillette smartly did not just hand over the market in the old Gillette model to companies that could enter with the expiration of the 1904 patents, and instead beat them to the punch by offering the old Gillette itself at a competitive price.

Gillette was now pricing a product line in razors. I suspect that Gillette assumed that most of the customers for the new Gillette razor would be preexisting Gillette customers—that is, existing customers who would be upgrading. If that is right, then Gillette was already selling them razor blades and would not make any more money from additional blade sales. Instead, for those customers, Gillette would maximize its returns by setting a high price for the new razor. As to the old razor at the new price, Gillette now looks like it was playing something more like a “freemium” strategy rather than a classic razors-and-blades play.⁵⁵ As Gillette gained new customers at its now much lower price point, Gillette had to hope that some of those customers would eventually upgrade to the new Gillette razor.

⁵⁴ *Sears Catalog No 143* at 1064 (cited in note 44).

⁵⁵ For a discussion of the “freemium” business tactic, see Anderson, *Free* at 26–27 (cited in note 2) (explaining the “5 Percent Rule,” an example of a “freemium” strategy employed in online commerce in which 5 percent of customers pay for the premium version of a site, in effect supporting the rest of the customers, who get the basic free version).

FIGURE 6. GILLETTE PRICES POST-1904 PATENTS



Note: Data derived from the 1921 through 1930 volumes of the Sears and Montgomery Ward catalogues.

Gillette launched this program six months prior to the expiration of the 1904 patents—that is, six months before entrants could compete. On November 15, 1921—the day of the expiration of the 1904 patents—Gillette took out a large ad in the *New York Times* to announce “The Commercial Romance of 1921.”⁵⁶ As the ad put it, “You may often hear it said that ‘The way this New Gillette is going over reads like a romance.’”⁵⁷ Really? Really? But Gillette said that it sold 1,000,000 of the new, improved razors, 600,000 in the United States and 400,000 elsewhere. Gillette had a second shift of production at its factory. Again at the bottom of the ad, Gillette said a word about the blades:

Gillette deems it proper to ask the public to use Gillette Blades *only* in *genuine* Gillette Razors.

The Gillette Blade and Gillette Razor are developed to *work together*. No Gillette Blade can deliver its full shaving quality unless used in a *genuine* Gillette Razor—built by Gillette, in the Gillette way and up to Gillette standards.⁵⁸

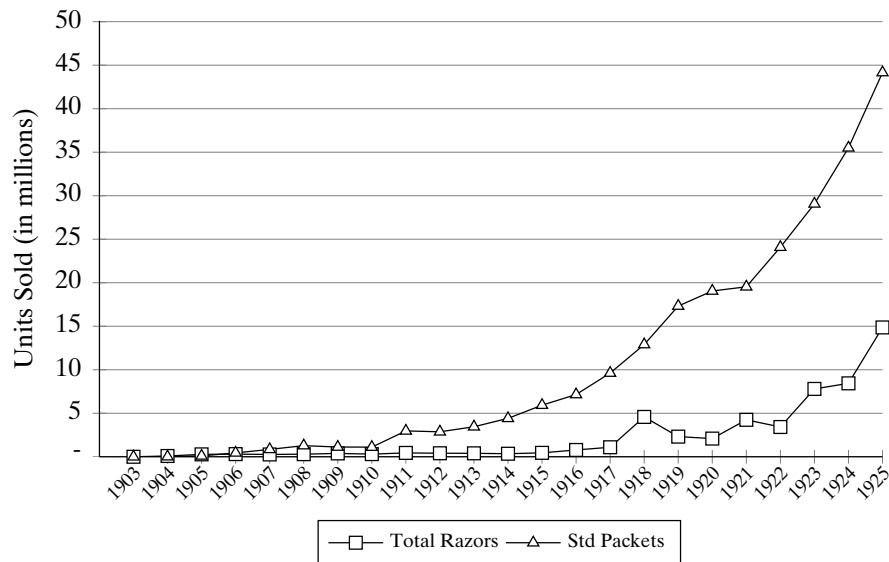
⁵⁶ Gillette Co, *The Commercial Romance of 1921*, NY Times 13 (Nov 15, 1921) (advertisement).

⁵⁷ *Id.* (discussing the pioneering spirit of the new razor and its mass appeal, with one million new customers).

⁵⁸ *Id.*

Gillette's 1921 annual report laid out the numbers very simply.⁵⁹ In 1920, Gillette sold 2,090,616 razor sets and 19,051,268 extra blade sets. The 1920 figures were the first recent annual sales figures not to include extra sales to the government, as Gillette sold large numbers of razors and blades to the United States military during World War I. Compared to 1920, the 1921 figures were dazzling: 4,248,069 razor sets and 19,531,861 extra blade sets. Roughly the same number of extra blades, but more than double the number of razor sets. The reduced prices on the old Gillette reached "a class of purchasers who were not potential possibilities for the NEW IMPROVED."⁶⁰ Those were understood to be new Gillette customers and future blade purchasers. And the new Gillette razor sold remarkably well and had done so at the standard \$5 price for a razor and set of blades.

FIGURE 7. GILLETTE RAZOR AND BLADE YEARLY SALES



Source: George B. Baldwin, *The Invention of the Modern Safety Razor: A Case Study of Industrial Innovation*, 4 *Explorations Entrepreneurial Hist* 73, 96 (1951). Gillette appears to have stopped reporting direct handle and blades sales after 1925.

The Brownie sales suggest that Gillette's prior price for the original Gillette razors had excluded large numbers of potential Gillette customers. Far from giving away razors to sell blades at high prices, Gillette had sacrificed potential razor-blade sales by selling razors at a premium price. Gillette preferred selling high-priced razors and fewer

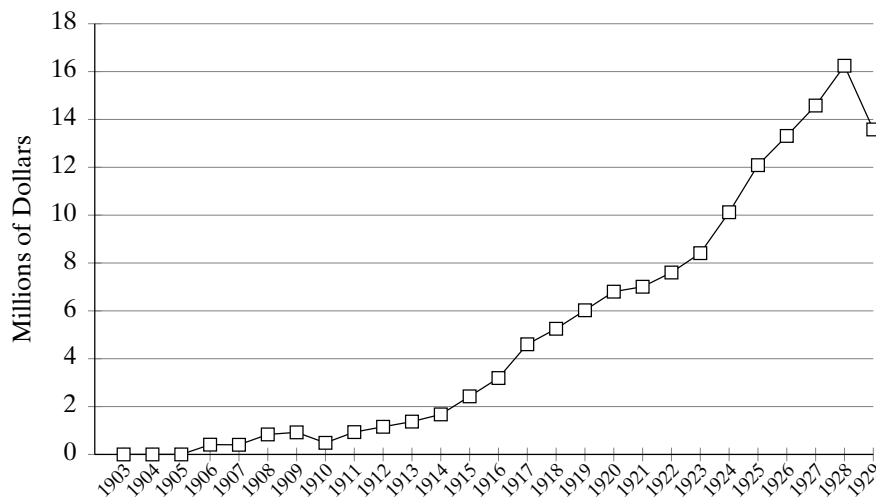
⁵⁹ Gillette Safety Razor Co, *Annual Report* 8 (1921).

⁶⁰ *Id.* at 9 (explaining the board of directors' decision "to market the Old Type Gillette, with fewer Blades and in a different case, at greatly reduced prices" in 1921).

blades to selling cheaper razors and more blades. Gillette did not try to segment the razor-handle market until it was forced to do so by the threat of entry at the expiration of the patents.

Ultimately, Gillette's razor-blade sales were tied directly to the size of its installed base of Gillette-compatible handles and the rate of use of Gillette blades. Gillette's installed base jumped dramatically with sales to the government during World War I and then again with the introduction of the two-tier product strategy with the expiration of the 1904 patents. Razor blades sales, in turn, presumably were driven by customer maintenance choices, Gillette prices, and the emergence of competition in Gillette-compatible blades. Sears started selling compatible blades in 1925 and by 1929 was offering four brands of compatible blades (Fax, Radium, Rubie, and Sta-Sharp).⁶¹ Yet even if those blades took away some customers, Gillette's own sales jumped dramatically, as did Gillette's earnings.

FIGURE 8. GILLETTE NET EARNINGS



Source: For 1906 to 1925, see George B. Baldwin, *The Invention of the Modern Safety Razor: A Case Study of Industrial Innovation*, 4 *Explorations Entrepreneurial Hist* 73, 96 (1951). For 1926 to 1929, see Gillette Safety Razor Co, *Annual Report* 9 (1929).

We have reached the end of the second stage of Gillette's life. The first stage is defined by the life of the 1904 patents. The second starts six months before the expiration of those patents when Gillette launched its new "freemium" razor-handle approach, selling the low-priced

⁶¹ For more information about these blades, see Phillip L. Krumholz, *Collector's Guide to American Razor Blades* 92, 195, 204, 225 (Krumholz 1995); Dale Justus, *The Illustrated Compendium of "Made in U.S.A." Razor Blades* (CD-ROM 2010).

Brownie in competition with the other multi-blade sellers and continuing to sell a high-end handle at its traditional \$5 list price backed by its new patents.

Gillette did not play razors-and-blades under the 1904 patents. It set a high price for the handle and largely stuck to it, though it was forced to allow some discounting around 1914. That lowered the implicit price of the handle from roughly \$4 to roughly \$3, a substantial drop, but still a relatively high price. Gillette sales—both of handles and of blades—jumped dramatically with its new two-product approach in 1921, and profits jumped as well. Gillette kept blade prices firm during this transition, though it did effectively raise prices in 1924 when it kept its list price of \$1 per packet but reduced the number of blades from twelve to ten. All of this pushed Gillette toward something closer to a razors-and-blades strategy, though one that reflected Gillette's two razors. Gillette may have concluded that it would sell roughly the same number of blades to Brownie users and new Gillette users, so it may as well maintain a high price for the new model to extract as much from them as possible at that point.

What is just as interesting is the way in which being forced into something closer to razors-and-blades seemingly benefited Gillette, and did so notwithstanding the—at least on paper—problems with that strategy. Gillette's ability to exploit its growing installed base of Gillette handles should have been limited by the emergence of a market for Gillette-compatible blades. After the expiration of the 1904 patents, other firms could make Gillette-style blades, and while that seemed to happen slowly, it did indeed happen. Again, without a way to lock in customers, Gillette should not have expected to charge high prices for blades and get away with it. Yet there seems to be little doubt that after the expiration of the 1904 patents, Gillette offered a much lower-priced handle; sales soared, and blade sales followed, even in the face of compatible blade competition, and profits rose. This is the second of the razors-and-blades myths, namely, that a producer will find it almost impossible to play razors-and-blades without a way to lock the consumable goods to the platform. Gillette no longer had that lock after the 1904 patents expired in 1921, and yet the strategy toward which it was unwillingly pulled worked. Whether that was consumer habit, or the superior quality of the Gillette blades, or something else is something that we cannot divine from the catalogues.

V. FORMAT WARS AND THE END OF GILLETTE'S PRICING STRATEGY (AND THE END OF GILLETTE?)

Almost against its will, with the expiration of the 1904 patents, Gillette had been dragged into a different business strategy—and one that turned out to be quite profitable. That was the case notwithstanding the

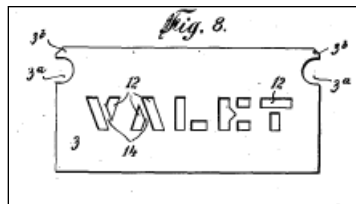
readily predictable emergence of Gillette-compatible blades. Life seemingly was good.

Yet by the end of 1930, Gillette was dramatically different. Yes, this was the midst of the Depression, but the changes to Gillette were much more specific to the company. Its longstanding practice of charging \$5 for its newest razor-and-blade set was gone, and Gillette itself had undergone a shotgun merger with a much smaller rival, Auto Strop. When the winds of change finally stopped, King Gillette was gone and Henry Gaisman of Auto Strop had taken over the joined entity.

Though it was much smaller, Auto Strop was a longtime competitor of Gillette, and one with a distinctive business strategy. As sold in the Sears catalogue, “[t]he Auto Strop razor is the only razor that sharpens its own blades. It is a safety razor and stropping machine combined in one.”⁶² Razor-blade sharpeners were relatively expensive—the well-known Twinplex for Gillette sold for \$2.09 in 1927—and Auto Strop was unusual in selling a bundled product (hence the “auto” in the name, short for automatic stropping).⁶³

But it was not the bundle that overturned Gillette; rather, it was a new patented approach to razor blades. In a series of patents, Gaisman of Auto Strop focused on how the razor blades were locked to the safety razor itself. One of the patents clearly attempted to interweave patent and trademark law in the way in which it turned the trademark name Valet into the locking mechanism for the blade.⁶⁴

FIGURE 9



Source: Henry J. Gaisman, *Blade Holder*, US Patent No 1,639,335, 1 (filed June 24, 1924).

A second blade, the Probak, took a different approach. The new Probak blades fit the Gillette razors—they were backward compatible—and fit Auto Strop’s new razor handles, but—clearly by design—Gillette blades were incompatible with the new Auto Strop handles.

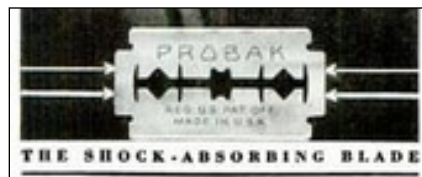
⁶² 1927 Edition of the Sears, Roebuck Catalogue 528 (Crown 1970) (Alan Mirken, ed).

⁶³ Id.

⁶⁴ See Henry J. Gaisman, *Blade Holder*, US Patent No 1,639,335, 1 (filed June 24, 1924) (“A particular feature of my invention is that a word or symbol, such as a trade-mark, may be outlined in the blade by means of apertures therein.”).

From a distance, it is a little hard to see why this was seen as such a great innovation in the blade business. Gaisman had offered to sell the invention to Gillette in 1926 but had been turned down.⁶⁵ But Auto Strop moved forward on its own to launch the new Probak blades in 1929, and the new “butterfly channel” blades must have had a strong appeal. Gillette felt compelled to respond, and in early 1930, Gillette launched a new razor and a new blade.⁶⁶

FIGURE 10



Source: Probak Corp, *Make Probak's Two-Blade Test*, NY Times 11 (June 27, 1930) (advertisement).

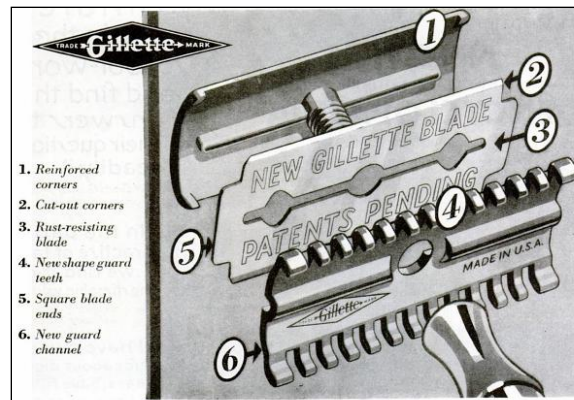
Every aspect of that launch seems shocking. While Gillette offered expensive deluxe models, the new razor, case, and a new blade were offered for \$1. Gillette's high-price strategy began in 1904, and continued through the life of the 1904 patents and the introduction of the new Gillette razor in 1921, but in early 1930, it vanished. Moreover, Gillette introduced new blades without having received a patent on them. As the blades themselves made clear, Gillette's patents were—to be optimistic—pending.⁶⁷ Gillette's blades preserved the three-hole design of prior Gillette razors and blades, then added a new wrinkle to attempt to make the blades compatible only with the new Gillette razors. The format wars were upon us.

⁶⁵ See Adams, *King C. Gillette* at 147 (cited in note 5).

⁶⁶ Gillette Co, *The New Gillette Shave: Square Blade-Ends*, Scientific Am 418 (June 1930) (advertisement).

⁶⁷ Gillette Co, *The New Gillette Shave: Six Vital Improvements*, Boys' Life 33 (May 1930) (advertisement).

FIGURE 11



Source: Gillette Safety Razor Co, *The New Gillette Shave: Six Vital Improvements*, *Boys' Life* 33 (May 1930) (advertisement).

Yet, in six months, the war was basically over and Auto Strop had won. Auto Strop brought a patent lawsuit in federal court in Delaware on April 2, 1930, seeking an injunction against Gillette's sale of the new razors and blades.⁶⁸ By mid-October, Gillette had announced that it was purchasing Auto Strop to bring an end to the patent litigation.⁶⁹ But notwithstanding Gillette's size, contemporary observers understood that Auto Strop had the upper hand.⁷⁰ And they were right: In short order, King Gillette was no longer president of Gillette. A new president had been brought in, and Henry Gaisman stood at the top of Gillette as chair of its executive committee.

CONCLUSION

The razors-and-blades story offers a foundational understanding of a key area of economics and strategy: invest in an installed base by selling the razor handles at low prices or even giving them away, then sell the razor blades at high prices to justify the prior investment. Large chunks of modern technological life—from VCRs and DVD players to video game systems like the Xbox and now e-book readers—seem to operate subject to the same dynamics of razors-and-blades.

At least on paper, the competitive dynamics of this situation are straightforward and well understood. If you actually give away the handle to create the installed base, you need to recapture those losses

⁶⁸ See Adams, *King C. Gillette* at 154–55 (cited in note 5).

⁶⁹ See *Gillette to Obtain Auto Strop Razor*, *NY Times* at 37 (cited in note 10).

⁷⁰ See, for example, *Gillette and Auto-Strop*, *Economist* 677 (Oct 11, 1930) (“Auto-Strop’s chances of winning the suit were considered good. . . . A merger offered a convenient solution of the difficulty.”).

in blade sales. And if you are selling blades above cost, you need to be able to tie the blades to your handle, or you should expect entry into the blades business to compete on the base that you have installed.

That is at least the theory. The actual facts of the dawn of the disposable-razor-blades market are quite confounding. Gillette's 1904 patents gave it the power to block entry into the installed base of handles that it would create. While other firms could and did enter the multi-blade market with their own handles and blades, no one could produce Gillette handles or blades during the life of the patents.

From 1904 to 1921, Gillette could have played razors-and-blades—low-price or free handles and expensive blades—but it did not do so. Gillette set a high price for its handle—high as measured by the price of competing razors and the prices of other contemporaneous goods—and fought to maintain those high prices during the life of the patents. For whatever it is worth, the firm understood to have invented razors-and-blades as a business strategy did not play that strategy at the point that it was best situated to do so.

It was at the point of the expiration of the 1904 patents that Gillette started to play something like razors-and-blades, though the actual facts are much more interesting than that. Before the expiration of the 1904 patents, the multi-blade market was segmented, with Gillette occupying the high end with razor sets listing at \$5 and other brands such as Ever-Ready and Gem Junior occupying the low end with sets listing at \$1.

Given Gillette's high handle prices, it had to fear entry in handles, but it had a solution to that entry: it dropped its handle prices to match those of its multi-blade competitors. And Gillette simultaneously introduced a new patented razor handle sold at its traditional high price point. Gillette was now selling a product line, with the old-style Gillette priced to compete at the low end and the new Gillette occupying the high end. Gillette foreclosed low-end entry by doing it itself, and yet it also offered an upgrade path with the new handle.

But what of the blades? Gillette's pricing strategy for blades showed a remarkable stickiness; indeed, sticky does not begin to capture it. By 1909, the Gillette list price for a dozen blades was \$1, and Gillette maintained that price until 1924, though there clearly was discounting off of list as Sears sold for around 80 cents during most of that time. In 1924, Gillette reduced the number of blades from twelve to ten and maintained the \$1 list price—a real price jump if not a nominal one. That was Gillette's blade-pricing strategy.

It is hard to know what to say about that strategy. Had Gillette finally understood razors-and-blades, it might have coupled its new low-end razor with higher blade prices, and in fact the two changes coincide roughly. But the other event, of course, was the expiration of the 1904

blade patents and eventual entry of Gillette-blade competitors. That should have pushed blade prices down and made it difficult for Gillette to play razors-and-blades. Indeed, even with the drop from twelve to ten blades, by 1930, Sears was selling genuine Gillette blades for the price it had been selling them prior to the packet reduction.

And all of that gets us to the final irony. No razors-and-blades during the years of the 1904 patents. With the expiration of the patents, Gillette no longer had a way to tie the blades to the handles and thus, at least on paper, seemed to have no good way to play razors-and-blades. Yet with sale of razor sets to the US government during World War I and the jump in handle sales with the introduction of the low-priced, old-style handle, Gillette's installed base jumped rapidly and the profits followed.

And that leaves a hole in the analysis. Gillette had not played razors-and-blades when it could have during the life of the 1904 patents and did not seem well situated to do so after their expiration, but it was exactly at that point that Gillette played something like razors-and-blades, and that was when it made the most money. Razors-and-blades seems to have worked at the point where the theory suggests that it should not have. Why is that? Did Gillette succeed because of quality, or were there powerful, even if hard-to-discern-now locks—psychological or otherwise—between the razors and the blades?