

# Murray's First Telephone Company

... Stubblefield  
had encountered  
a technology that  
he felt would  
allow him  
to recoup  
his losses.

*In the mid-1880s, Nathan Stubblefield patented and marketed an acoustic "vibrating" telephone system in Murray, Ky., and elsewhere. Although technologically inferior to the electric Bell telephone, this design had better sound quality, was inexpensive to install and simple to use, and did not infringe on any Bell patents. Stubblefield may have planned to install an electric system in 1893, when the initial Bell patents expired, but competitors acquired Bell system franchise and beat him to the market by four years. Nevertheless, Stubblefield established a reputation as a successful inventor and turned his interests to wireless telephony.*

Although Nathan Stubblefield is best known as a melon farmer who experimented with wireless telephony, he initially became famous around Murray, Ky., when he established its first wired telephone service. An examination of the records of that business provides an interesting case study in entrepreneurial behavior within an industry based on emerging telecommunications technology.

By the mid-1880s, telephone service was diffusing rapidly throughout the cities of the United States. As many urban franchises were already granted, entrepreneurs were beginning to focus attention on smaller communities. A common challenge to all telephone ventures was the near monopoly the Bell system had on important patents for the electrical telephone. Setting up a local telephone system meant either paying a franchise fee to American Bell Telephone or inventing proprietary equipment that didn't conflict with any of its numerous patents. Otherwise, the venture had to wait until 1893 when the initial Bell patents would become public property.

Telephony always fascinated Nathan Stubblefield more than telegraphy. While the telegraph business was mature, the telephone industry still had room for innovation and profits derived therefrom. He could readily learn about the technical aspects from periodicals. Stubblefield found that he not only understood the descriptions and diagrams but could replicate the equipment and make it work. He also had time for experiments, especially in the winter when his garden didn't demand his attention. Here was a growth industry into which he could channel both his inventive energy and his desire to earn his own fortune.

One easy way to circumvent the Bell patents was to build a non-electric, acoustic telephone system. Similar to the tin cans and string devices kids use at play, these telephones were actually quite prevalent in the era. The U.S. patent office issued dozens of patents for variations of the technology in the 1880s. One of those went to Nathan B. Stubblefield and Samuel C. Holcomb (Mechanical Telephone, 1888).

Stubblefield called it a vibrating telephone (see page 28). It consisted of a metal can mounted securely on a wooden backboard with a small round hole aligned with the center of the can's open back. A cloth diaphragm stretched across the open face of the can. In the center of this diaphragm was a button attached to a wire that led through the hole in the back of the device. The wire connected each phone to its mate. A coat of varnish on both sides gave the diaphragm structural integrity so the installer could tighten the wire and stretch the surface, like tuning a drum. Finally, a small hammer hung from the device. The caller hit the button with the hammer to signal the other phone, then stood close to the diaphragm and spoke.

Because wire was expensive, Stubblefield tested an early mechanical telephone connecting the instruments with waxed string. When he told Duncan Holt in 1885, "I've been able to talk without wires ... all of 200 yards ... and it'll work everywhere," (Hortin, 1972). Stubblefield was talking about his vibrating telephone, which technically was "wireless." Subsequently, writers picked up that anecdotal comment and interpreted it to mean Stubblefield was already at work on electrical wireless telephone systems, but it is unlikely that he had access to key components or an

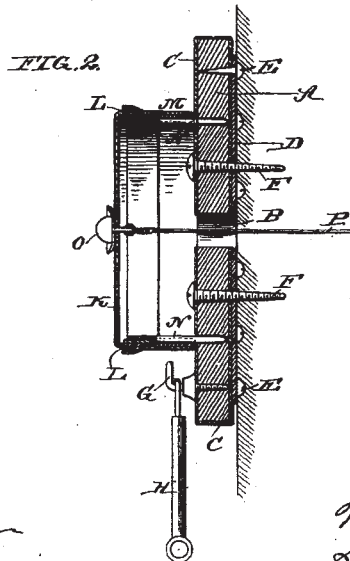
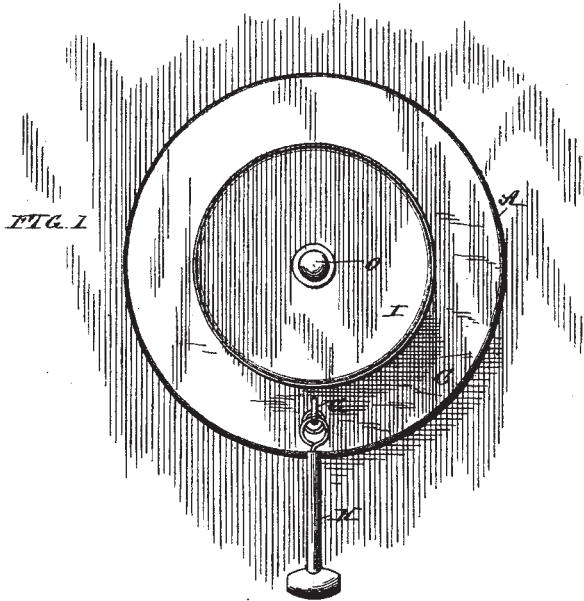
**FIGURE 1**  
**Patent Illustration for Stubblefield's Vibrating Telephone, 1888**

(No Model.)

**N. B. STUBBLEFIELD & S. C. HOLCOMB.**  
**MECHANICAL TELEPHONE.**

No. 378,183.

Patented Feb. 21, 1888.



*Witnesses.*  
*Jos. A. Ryan*  
*J. W. Garner*

*Inventors*  
*N. B. Stubblefield*  
*S. C. Holcomb.*  
*by C. A. ... their Attorneys.*

H. PETERS, Photo-Lithographer, Washington, D. C.

interest in wireless telephony by 1885. In fact, he stated that his wireless efforts began around 1890 (Stubblefield, 1902).

Soon he abandoned the string connections in favor of wire that was more resistant to weather damage. Wind created particular problems for this type of phone system. It stimulated resonant vibrations in the wires. Because the system was acoustic, these vibrations were audible, sometimes loud and piercing. Using more expensive copper wire reduced but did not eliminate the noise entirely. Moreover, the distance between telephones was limited to short lines, not over a mile, because the connecting wire had to be stretched taut. But within those limits, Stubblefield claimed that the system was "capable of transmitting a whisper" and voice or music would have "such clarity as to be heard 100 feet away from the phone" (Stubblefield's Mechanical Phone, 1888). He offered a five-year warranty on both equipment and installation.

Despite its low-tech design, this was the first telephone system in Murray, and Stubblefield experienced enough prosperity from its novelty value to establish an office on the town square. He and his partner Samuel Holcomb sold the first pair to Calloway County Court Clerk George W. Craig in late 1886. Craig wrote: *This is to certify that I have had in use some months one of the Stubblefield & Holcomb telephones which is giving satisfaction. Therefore I do not hesitate to recommend it* (Craig, 1887).

His affidavit is one of several that Stubblefield collected for promotional use. Early customers attested that it was the best telephone that they had ever heard, perhaps because it was the only one they had ever used. A declaration from A.H. Wear, druggist and publisher of the local newspaper, stated: *This is to certify that Messrs Stubblefield and Holcomb have put up for us one of their telephones (the distance being about 3/4 of a mile) which works splendidly. When there is no wind blowing, a whisper can be heard perfectly distinct. This is to our knowledge the best vibrating telephone we have seen* (Wear, 1887).

Murray druggists Martin and Dale were also satisfied customers: *We take the pleasure in recommending the Stubblefield and Holcomb telephone. We have two of them in our store, one leading from our store to office above with four angles, and the other a residence some 450 yards distant. Both work satisfactorily* (Martin, Dale, 1887).

Samuel Holcomb's role in this enterprise remains obscure. Apparently he was not related to a Holcomb who was in the acoustic business in Cincinnati at

the same time. He may have put up the money for the patent application.

Stubblefield sold and installed the telephones himself around Murray and nearby West Tennessee. He also ventured farther south in 1887. One customer was John Gage, a merchant in Louisville, Miss. Stubblefield described him: *This man had a hereditary trait of urbanity in him ... a fat belly man, jolly and clever. When his phone was put in, it carried such an interest with it up in his end of town that in order to hear the wonderful thing talk the people came in by the score and they came into his parlor with mud on their feet until they liked to have ruined a nice carpet* (Stubblefield, 1910a).

On the same trip, he installed a system for the Illinois Central Railroad at McCool, Miss., where the railroad agent wrote: *Mr. Nathan Stubblefield of Stubblefield and Holcomb Murray, Ky., has just completed me a telephone line which works admirably. Have tested the line by playing harp or whispering at one office which can be distinctively heard and understood at other office. Anyone needing a line can be accommodated by Mr. Stubblefield who guarantees satisfaction and has given it here* (McKinnon, 1887).

By January 1888, Stubblefield and his vibrating telephone were well known in and around Murray. Calloway County Judge W.B. Keys, along with other county officials, signed a testimonial that stated: *This is to certify that Nathan Stubblefield of this town has from time to time during the last 14 months put up quite a number of the Stubblefield telephones in this town and county which are giving general satisfaction. ... We cheerfully recommend them to the public* (Keys et al., 1888).

For three months in that spring, Stubblefield returned to Mississippi and set up shop in Vaiden "at the best hotel in town" (Stubblefield, 1910b). Numerous affidavits attest to the success of this trip.

Stubblefield had a territorial deed for any representative who wanted to establish a local franchise elsewhere using his system. One agent from Tennessee, G.G. Westerbrook, was successful at selling the "Vibrating Telephones" as far away as Oklahoma. J.T. Stubblefield had a franchise in the Pacific Northwest. The most successful representative was Ira Prichard of Murray, who wrote colorful accounts for the *Murray Ledger* of his sales trips throughout Southern Illinois in early 1889 (Prichard, 1889).

Installation cost varied, depending on the length of the line and the number of poles involved. But money was not common in the rural United States of the late 19th century. One customer, a Post

**FIGURE 2**  
Advertisement and price list for Stubblefield's Vibrating Telephones, probably 1888

# 46 3,500 Telephones! Telephones!

—AND—

## LARYNGOPHONES.

Price List

—OF THE—


### Stubblefield Telephone & Laryngophone

The Cheapest and the Best

#### Telephonic Apparatus in the World

For Short Private Lines not over 1 mile in length.

A TELEPHONE that will Transmit a Whisper One Mile.



**MUSIC is Transmitted and Reproduced with such Clearness as to be Heard One Hundred Feet away from the Phone.**

This TELEPHONE is not a mere Experiment or Toy, but is a demonstrated Success, and is certainly destined to supercede all others for short angling lines not over one mile in length.

The following prices are for the lines put up in working order where parties furnish the poles:

300 feet of line,	\$7.00	900 feet of line	\$20.00
400 " "	7.50	1000 " "	20.50
500 " "	8.00	2000 " "	15.50
600 " "	8.50	3000 " "	20.50
700 " "	9.00	4000 " "	25.50
800 " "	9.50	5000 " "	30.50

The above prices include with each set of phones (not shown in the cut of phone) a nice set of Laryngophones which render communication over the phones much more accurate, and for mills and noisy places are indispensable, as with them all outside noise can be shut out. These phones are made of the best material, have a fine plush finish and are warranted for five years. The line wire is copper, which is of great tensile strength and durability.

**LARYNGOPHONE.**

This instrument is a Brand New Invention, of new, novel and valuable departure in telephonic science, bringing as it does, telephoning over short, straight lines, down to the wants and needs of many who need only short line phones.

This instrument is simply a small, solid, flexible metal cord (covered in nice style) which is fastened to the end of line wire where it enters building. The other end of cord is provided with a solid zinc knob which is placed to the ear when receiving a message, while in transmitting a message the center or middle part of cord is pressed directly against the throat or larynx, where it takes up the vibrations from the body produced in speaking, and reproduces them in words clear and in perfectly audible tones at the other end of line.

This instrument is guaranteed to work perfectly on straight lines not over 500 feet in length, and is much better adapted for use in Hotels, Colleges and all large buildings and noisy places than the old time costly speaking tubes.

These we furnish at \$4.00 per set of two, and 50c per 100 feet for the wire. These prices are for the work put up.

*Note:* This phone cord will be furnished in any length at 5c per foot.

**Who Need Telephones.**

Merchants, physicians and men of all professions and trades. While to the farmer for working with tenant houses, mills, factories and gins it is of inestimable value, as it saves much time and many steps. For connecting neighboring houses in the country in cases of sickness or accident it is a silent, lightning messenger that is worth ten times its cost, which facts are testified to by numbers of people in the country who have their residences connected, and who invariably say they would not be without them at all at any price.

This telephone was patented February 1888, and as a matter of showing up the wonderful sale of this phone, we append a short list of towns which have from one to twenty of our lines in use, most of which were put up by the patentee.

West Tennessee—Memphis, Dresdenburg, Newbern, Trenton, Girard, Huntsville, Toot, Trimble, Paris, Covington, Bishop, Mason, Lewisburg, Ashcroft, Brant, Kossuth, Gilman, Falout, Bethel Springs, Pittsburg Landing, McHenry Henderson, Tiptonville, Clinton, Gibson, Melrose.

Mississippi—Grenada, Holly Springs, Tupelo, Oklawaha, Verona, Keweenaw, Collierville, Valden, Canton, Pickens, Goodman, Lovelock, Arden, Carthage, Durant, Cobwater, Shiloh, Post Oak, Ackerman and Greenwood.

West Kentucky—Murray, Benton, Paducah, Katiava, Trenton, Fulton, Clinton, Wy-High, Allamore, Barwell, Hickman, Moore, Wagon, Water Valley, Froyston, Leno, Walsburn, Hamlin, New Providence, Sligh, Mayfield.

Certificates, Testimonials, etc., given by parties using these phones in the above named towns, may be seen on application.

We have a great number of phones in other towns in Tennessee sold by parties who purchased the State. Also have phones in quite a number of towns in the States of Illinois, Missouri, Arkansas, Texas, Oregon, Washington and Alabama which were put up by local agents.

Work in town and country solicited, which will be done on a guarantee that it will be satisfactory and as claimed.

For further particulars, see or address

## NATHAN STUBBLEFIELD,

Patentee and Manufacturer.

MURRAY, | | | KENTUCKY.

WALK PRINTING CO., MURRAY, KY.

Office in Coffeerville, Miss., came up short on a seventeen-dollar installation. Stubblefield had to make special arrangements: *These people liked [sic] about four dollars paying for this but it was paid for by public subscription, Mr. Brown taking responsibility of collection. So I let him beg off a little* (Stubblefield, 1910c).

No accurate count of the total number of telephones sold exists, but the income was adequate for Stubblefield to earn a living from the enterprise for at least four years.

After Stubblefield received his 1888

patent, he devised an improved version called the Laryngaphone. With it, the caller could communicate without the phone box by stretching a string tightly around his throat or clinching it in his teeth while talking (A New Invention, 1889). It used a hearing tube attached to the side of the metal can for better audibility and included an electric bell for better signaling. Although this electrical circuit would increase installation and maintenance cost, the new network would put Stubblefield in better position to enter the electric telephone business in

1893, when both his five-year warranty and the initial Bell patents expired. In preparation, he acquired copies of the relevant patents, contacted equipment manufacturers for price lists, and got legal opinions on the validity of claims made by the Bell Company and its subsidiary Western Electric (Stubblefield, 1894).

Providing telephone service to the Murray newspaper undoubtedly helped Stubblefield get favorable publicity. One article about his work read: *He is an inventive genius, and his inclinations are to experiment with electric appliances, etc. ... Mr. Stubblefield has about reached perfection in the manufacture of telephones and has his lines introduced throughout a large scope of territory. He says he intends building up a "telephone reputation" over the name of Nathan Stubblefield* (Murray Ledger, 1890).

The editorial support from the *Murray Ledger* was welcomed because Stubblefield now had competition in the telephone business. In 1889, a group of Murray doctors and businessmen, many of them Stubblefield's subscribers, formed a company to bring the Bell telephone system to town (Morgan, 1971, pp. 58-60). With the latest improvements in sound reproduction technology, it was now superior in every respect to Stubblefield's vibrating telephone. While Stubblefield was marketing a novelty, his competitors sold a versatile service that had better prospects for return on investment.

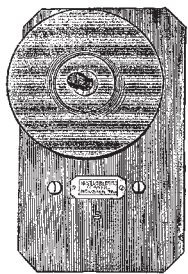
A severe technical limitation of acoustic telephones was that they were closed circuit systems — one phone connected to one other — without provision for central switching or networking. Customers needed a separate telephone and line for each location that they might want to call. Economically, this flaw limited Stubblefield's income to the initial sale of equipment and the low-margin business of maintaining existing installations. Because he could not establish local telephone exchanges, he had no opportunity to earn the substantial cash flow from monthly billing for connections to local and, eventually, long distance networks.

Within a year Stubblefield's telephone business was finished. Understandably upset at the prospect of failure just as he was beginning to show results, he also knew that he had expertise that was valuable to his competitors. So he entered into a contract with them to install Bell telephones, and a system including five miles of wire, a switchboard and central office. But this arrangement proved unpleasant, and by late 1890 Stubblefield found himself back on the

### FIGURE 3

#### Exclusive Franchise Agreement, 1888

Stubblefield had agents as far away as the west coast under contract to sell his vibrating, or mechanical, telephones.



## TERRITORIAL DEED.

### Stubblefield's Patent Vibrating Telephone,

N. B. STUBBLEFIELD, Prop'r, Murray, Ky.

WHEREAS, I, Nathan B. Stubblefield, and Samuel C. Holcomb, of Murray, county of Calloway, State of Kentucky, did obtain letters patent of the United States for Vibrating Telephone, which letters patent are numbered 378,183, and bear date the 21st, day of February, in the year One Thousand Eight Hundred and Eighty-eight, and, whereas, I am the sole owner of said patent and of all rights under the same in

the below recited territory; and, whereas, .....

of ....., county of ....., State of .....

is desirous of acquiring an interest same: Now, therefore, to all whom it may

concern, be it known that for and in consideration of the sum of \$..... to

me in hand paid, the receipt of which is hereby acknowledged, I, the said Nathan

B. Stubblefield, have sold, assigned, transferred, and set over, and by these presents

do sell, assign, transfer, and set over to the said .....

all the right, title, and interest whatsoever which I have in and to the said invention,

as secured to me by said letters patent for, and in the .....

and for, to or in no other place or places; the same to be held and enjoyed by the

said ....., within and throughout the above

specified territory, but not elsewhere, for his own use and behoof, and for the use and

behoof of his legal representatives, to the full end of the term for which said letters

patent are granted, as fully and entirely as the same would have been held and

enjoyed by me had this assignment and sale not been made.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my

seal, this ..... day of ....., A: D., 189....

In presence of

## FIGURE 4

Advertisement and business card for Ira Prichard, Stubblefield's sales representative in Southern Illinois, probably 1889

**TELEPHONES! TELEPHONES!**

**Stubblefield's Vibrating Telephones!**

I wish to inform the citizens that I will be here for a short time for the purpose of putting in these Telephones. I also put in

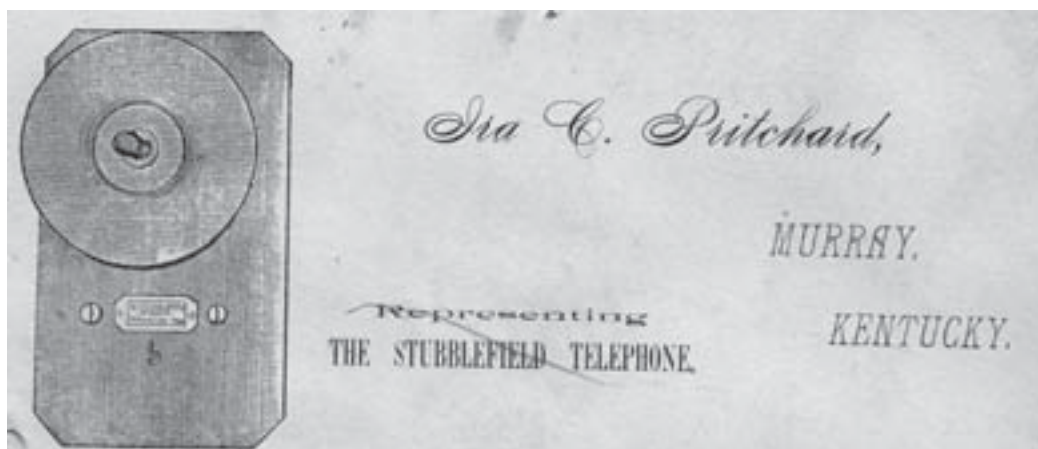
**ANNUNCIATORS, FIRE AND BURGLAR ALARMS,  
Door-openers, Bells, Etc.**

Lawyers, Merchants, Doctors, Butchers and all Business Men need goods in my line.

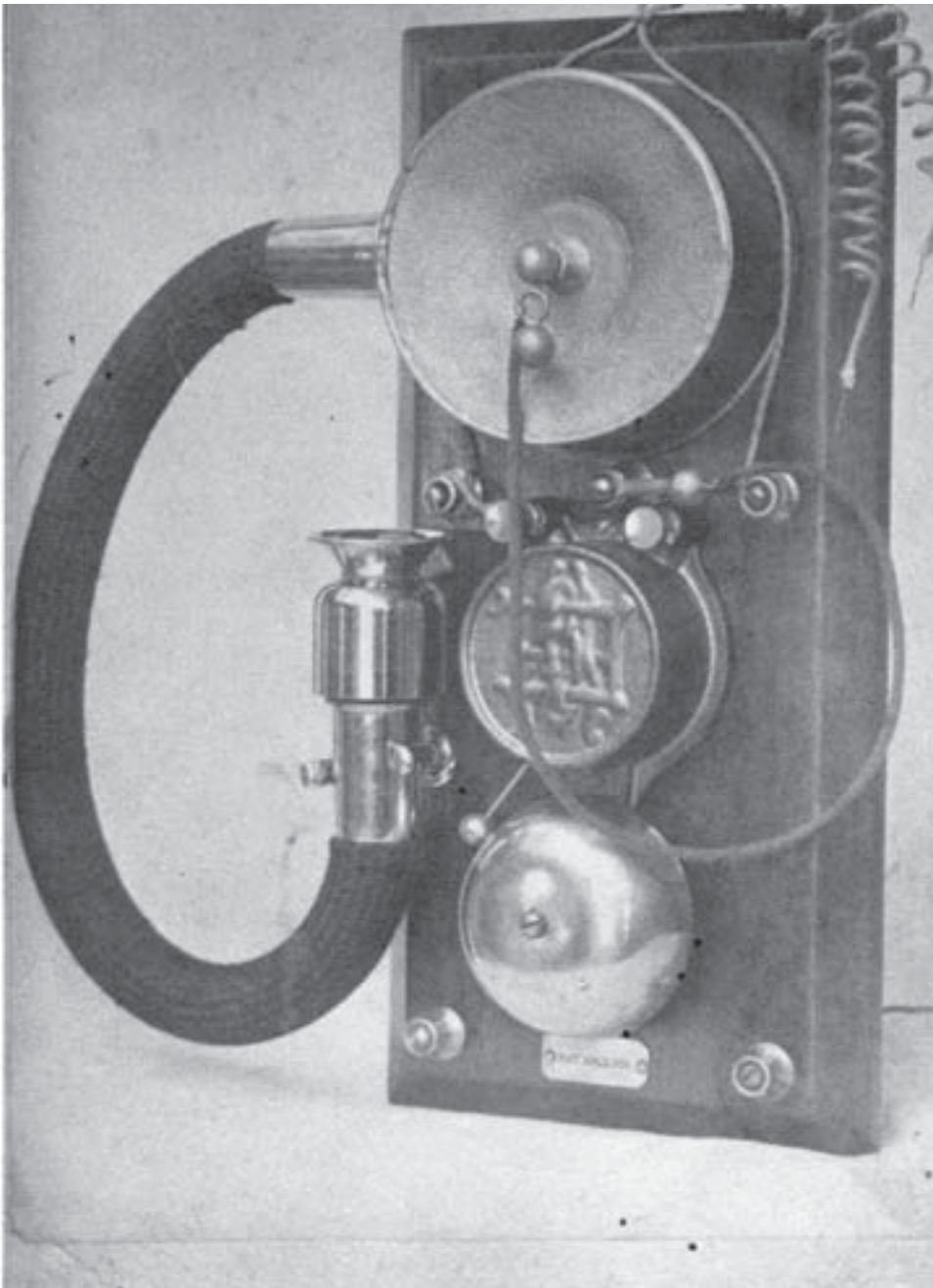
For prices, description and to make a practical test of the merits of this 'phone, call at the Logan House where I will take pleasure in showing you the best telephone made for private lines not over one mile in length; a rival for the costly Bell Telephone.

Respectfully,

**IRA C. PRICHARD.**



**FIGURE 5**  
**Stubblefield's Laryngophone, 1890**  
 Never patented, this was a variation  
 on the Stubblefield Vibrating Telephone.



farm, his independence but little else intact (Miller, 1971, pp. 34-35).

He made a few more attempts at wired telephony. The first was a novel telegraph device designed to work on telephone lines. It was unique in that users could dial up letters and numbers,

rather than using Morse code, to communicate with each other. Similar devices, some with printers, experienced modest success in Europe but never caught on in the United States. Like the Laryngophone, Stubblefield's Bell Telegraph didn't get beyond the design

stage. Then in 1894, he tried to bring the Viaduct electric telephone to the area in competition with the Bell system. For this he had grand plans, beginning with replacing the few mechanical phones that he still maintained in Murray with the new electric ones. Then he envisioned franchises in every state and territory for the Stubblefield Telephone, with prices ranging from \$200 in Arizona and Montana to \$5000 in New York (Stubblefield, 1894). But his competitors had already sucked up both capital and customers. A charter from the city of Murray was the extent of this enterprise, and he finally sold that for \$50 to pay off debts.

Nathan Stubblefield, the inventor, perceived a window of opportunity for a functional, but simplistic technology to compete with the rapidly emerging and well-publicized Bell telephone system. Utilizing this perception and his own ingenuity, he established a small business. Its success was restricted, however, because Stubblefield, the entrepreneur, failed to recognize the limitations of his telephone system. He was also plagued by inadequate capital and by a business plan that ignored the prospects that improved technology offered. Had he chosen to embrace the Bell telephone technology in 1888, he had the chance to retain his customer base and possibly convert some of them into investors.

From his experience in the telephone business, Stubblefield learned two lessons that would stay with him for the rest of his life. He began to think on a grand scale of inventions that would have a nationwide market. And he discovered that even people he had known and trusted all his life would sell him short in a minute to make a profit. So when he had any grand ideas, he'd best keep the details to himself until they were ripe, like the melons in his garden, and ready to sell.

In the meantime, Stubblefield had encountered a technology that he felt would allow him to recoup his losses. With it he believed that he could establish a telephone system at substantially lower cost than any Bell franchise and provide service to more customers, even those widely dispersed throughout rural America. It was a wireless telephone system, and it would make Nathan Stubblefield the most famous person ever to come from Murray, Ky.

## References

Many of the sources listed below are documents from the Nathan B. Stubblefield Papers (NBS Papers) in the

Special Collections at the Pogue Library, Murray State University, Murray, Ky. In particular, the records related to the vibrating telephone business are from a donation to the archive from the estate of Vernon Stubblefield Sr.

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(1910c). Marginal note to testimonial of W.W. Kelly, A.H. Wimberly and John W. Brown, November 10, 1888. NBS Papers.

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**FIGURE 6**  
**Stubblefield's Bell Telegraph, 1890**  
 Designed for home use, this device used letters of the alphabet rather than Morse Code. Nathan never applied for a patent on it.

