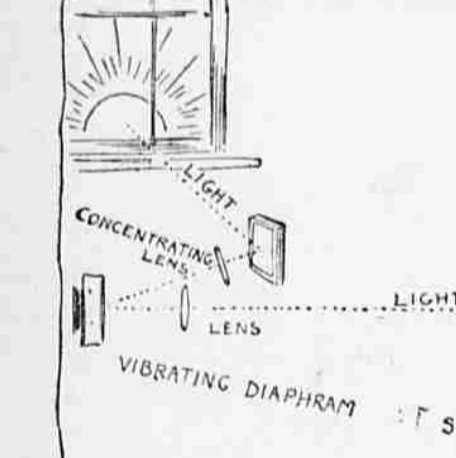


TELEPHONING WITH SUNBEAM Prof. Bell's Novel Invention Promises Another Revolution. IMPROVEMENTS IN TRANSMITTING SOUND The Radiophone a Marvellous Instrument of Great Commercial Importance—Full of a Shadow Made Audible.

Prof. Graham Bell is devoting his attention this summer to the commercial development of a wonderful invention of his which involves nothing less than telephoning by means of a ray of light. A few weeks ago I had an extended interview with the inventor regarding this marvelous instrument, the substance of which is here given.

TALKING OVER A SUNBEAM.

It was out of these researches that the wonderful instrument upon which Prof.



MECHANISM OF THE RADIOPHONE.

Bell is now again at work upon it. He gave it originally the name of the photophone. Put in the broadest way, it is aimed to substitute for the ordinary telegraph or telephone wire a ray of light. Doubtless there is many a man who would question the sanity of any one who would claim to be able to talk for a distance over a sunbeam. And yet this is exactly what Prof. Bell has succeeded in doing. The mechanism which he devised does not differ widely from that of the telephone. It is aimed to be, in fact, indicated that it substitutes a ray of light for the usual copper wire. The illustration which accompanies this article gives a very fair idea of its mechanical features.

There is first of all a transmitter, which is made up of a thin diaphragm of mica or of some other substance, silvered at its back so as to make of it a reflecting mirror. The diaphragm is connected with an ordinary speaking tube, into which the operator talks just as exactly as he would talk into the transmitter of a telephone. Against this thin disc or diaphragm is projected a ray of light, preferably sunlight. The light is caused to reflect and directed through a concentrating lens whose focus is the transmitting diaphragm. The latter in turn reflects the ray through a second lens which again makes the components of the ray of light parallel, so that it may travel any distance without dispersion. At the other end of the line is a receiving operator located, there is a parabolic reflector, at the end of which is fixed a selenium cell. The latter in turn is connected telephonically with the receiver. When the ray of light is reflected from the transmitting diaphragm and the operator speaks into the tube joined with the latter, which again makes the components of the ray of light parallel, so that it may travel any distance without dispersion.

HOW IT WORKS.

The theory upon which this instrument is built is that a ray of light may be impressed with the sound vibrations in exactly the same way that an electrically charged wire is impressed with the sound vibrations from the telephone when you talk into the latter, what takes place is simply this: The electrical circuit being brought into connection with the carbon diaphragm, against which your voice strikes, the wire or current is set in vibration, or rather the sound vibrations or waves are impressed upon the electrical circuit, and waves, just as if you were to start a series of ripples in a pond and then add to these a second series of a different character, which would follow in the same manner, but not the same line of vibration or wave motion. This of course is putting the matter crudely, but it represents the notion of the scientific idea which has got into my own mind, and which I hope is sufficiently clear to the reader.

COOLING OF A RED HOT TOWN Cripple Creek as it Appears Rising from Its Ashes.

THE EARLY FLAVOR GONE FOREVER Glimpses of Active and Industrious Life in the Famous Camp—The Men Who Work and the Floating Population.

CRIPPLE CREEK, Sept. 3.—The new Cripple Creek is a swarming, shapely, increasing mass of brick and mortar. Last April the old town was swept away and the principal street is just now being rebuilt in brick. The residence portion of the new town has moved toward the west, and like the old town, is made up of the same big-bloody mixture of small wooden shanties, slab huts, tents, cabins of pappletrees and firs and wagon covers.

The new buildings of the business streets are of brick and very solid and substantial, but the great mass consists of shacks, in temporary, tent-like structures scattered over the gray-green slopes of the hills without form or grace. Seen from its divide the town seems like a hamful of toy blocks flung on the smooth grass.

The whole camp seems to me to have lost flavor some way. It is rapidly becoming commonplace. It is filled just now with ordinary workmen from the states, and men and boys, and carpenters, and the gambler and the cowboy are hardly in evidence.

On the hills cowbells tinkle, mules bray, dogs bark. The sound of hammers is incessant down on the main street, and men swarm among the stacks of brick and lumber thick as flies around sugar lumps. Notwithstanding the crazy prices for real estate and the charges for rooms and houses, it appears to me that most of the people in Cripple Creek are only tourists or adventurers who will be here only a few days.

Each day brings swarms of wild-eyed and innocent-eyed young farmers and workmen from the east, who first of all they turn face to the east again and others take their places. The gambling dens and saloons were characterized by the first, and they are to get finished, and they have been running full time for some weeks. The betting is not very exciting, being mainly in small sums. Here, also, the young men from the states who want to go to the mines in Cripple Creek has had a strong influence.

It is possible to gamble in nickels now. Everything is being scaled down in pure sport. The town is a little better than the workmen say. "The talk about 'rebuildin' has brought men swarmin' in here, but they're only tourists, and they'll be gone in a week." "The men to keep away. There's no work here."

One of the first places I revisited was the placer up above town to the north. If I were ever tempted to dig for gold, it would be in placer mining. For there you are able to "clean up" and find out just where you stand at any moment, and suspense is short-lived. The town is a little better than the workmen say. "The talk about 'rebuildin' has brought men swarmin' in here, but they're only tourists, and they'll be gone in a week." "The men to keep away. There's no work here."

DOES NOT PAY. They were a little less hopeful than last year. "The pay-strikes are all worked out—some times a fortnight, some times a month, but they don't. It's good luck to make \$1 a day, and we pay 25 cents out of every dollar as royalty to the cuss that says he owns the ground, and he takes better than doing nothing and 'bummin' your way."

PLACERS PLAYED OUT The city is building out over the placer and the washing for gold will soon be done.

The city is building out over the placer and the washing for gold will soon be done. The men dig for gold in the mountains, and the placer is played out. The city is building out over the placer and the washing for gold will soon be done.

UNLOADING MINE STOCK. "Why," said one promoter, "I tell you, you can sell your mine stock for \$100,000 now, why I sold \$25,000 worth in three days—you stoppped me on the street to buy."

WOMEN AND WOMEN ONLY are most content to fully appreciate the purity, sweetness, and delicacy of CUTICURA Soap, and to use it daily. To cleanse, purify, and beautify the skin, to keep the complexion clear, to heal chafes, excoriations, and ulcerative weaknesses, nothing so good as CUTICURA Soap, followed when necessary, by mild applications of CUTICURA (ointment), the great skin cure.

THE HIGHEST QUALITY AND THE LOWEST PRICE Better goods for less money than anywhere else—this is the secret of our wondrous growth.

GREATER OMAHA'S GREATEST MERCHANDISE EMPORIUM

Beautiful Combination Book Case—Oval glass door, solid oak, worth \$21.00. \$10.45

Just Received—Two Car Loads of Iron Beds—This week a \$7.00 Bed for \$3.15

Parlor Chair—This is the best of a 5-piece over-stuffed suit worth \$40.—This week \$20.45

5,500 Woven Wire Springs—This week for \$1.18

5,500 Kitchen Tables—worth \$1.25. This week \$94c

85c Brass Onyx Top Tables—worth \$1.00. for \$4.30

This Solid Oak Extension Table—Quarter sawed, worth \$1.00. for \$4.85

We have a Great Variety of Screens—This one in Solid Oak, worth \$3.00. for \$1.25

Have you ever seen our stock of Child's Crises?—This week a \$6.50 \$10.00 for \$2.45

This Carving Set—Genuine Stag handle, worth \$3.00. for \$1.20

800 of These \$0.50 Kitchen Safes—This week for \$3.65

Wash-board for 9c

5,000 Copper Bottom Tea Kettles for 27c

A Set of these Triple Plate Teaspoons—without engraving, worth \$1.50. 69c

This Water Set, in Use, 70c

Four section Copper Boilers, 65c

THE PEOPLE'S DRAPERIES. Tapestry Curtains—\$2.25 per pair. Lace Curtains—85c per pair. Lace Curtains—\$1.25 per pair. Lace Irish Points—\$2.10 per pair. Window shades—16c

OUR EASY TERMS. \$10.00 worth—\$1.00 week. \$20.00 worth—\$1.25 week. \$30.00 worth—\$1.50 week. \$40.00 worth—\$2.00 week. \$50.00 worth—\$2.25 week. \$60.00 worth—\$2.50 week. \$70.00 worth—\$3.00 week. \$80.00 worth—\$3.50 week. \$90.00 worth—\$4.00 week. \$100.00 worth—\$4.50 week.

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