

## TELEGRAPHING BY CIPHERS.

Last Tuesday the countenance of the operator in charge of a branch office of the Western Union Telegraph Company, located on Broadway, above Canal street, indicated amazement tinged with disgust as he surveyed a message held at arm's length. The message was written on one of the company's ordinary blanks and read:

*To John Chalfant, Tuff's Elephant Corral, Salt Lake City, Utah:*

Xabggortza, lzbqoptxag, cxmrtzulyo, grmltpaait, lopxxzyabx, raegkpmolb, ooazkmraby, cqmtgdbalm, hiayrtolbc, golzqbagg.

In the corner was written, "Paid \$1." That was its unfortunate feature, for it was not the alphabetic jumble of the message that excited the operator's disgust, but a note from the main office pinned to the disguised despatch. The note stated that the operator had been charged \$7.30 for the message, and warned him to be careful in future about accepting cipher despatches at a lower rate than that of a full word for each letter.

"I thought ten letters constituted a word, no matter how they were placed; but I'll know better hereafter," sorrowfully remarked the operator, and then added: "The next man that comes in here with a lot of sausage-meat English will hear from me."

The rate to Salt Lake City is \$1 for the first ten words, and seven cents per word in excess of that number.

"No, we do not accept ten letters for a word, no matter how they are placed," said an official at the company's main office. We have had to stop that and charge for the letters in cipher despatches at word rates. This cipher business is troublesome to the operator and makes slow work. Besides that, mistakes are possible. We take cipher messages now at rates as stated, but we do not hold ourselves responsible for their correct transmission."

"How about 'code' words?"

"Any word to be found in Webster's goes at regular rates, whether in a message that reads so that it is understood or otherwise. We only discriminate against the cipher."

"Is much telegraphing done by secret methods?"

"Lots of it. Merchants do it to reduce expenses, and others, from school girls up to the big market manipulators, do a great amount of secret telegraphing."

The use of code systems is greatly on the increase. Some make up their own, but the majority of business men have systems specially printed for them, or make them up out of the cipher books, which are to be had of all commercial stationers.

Mr E. Parke Coby, the adjutant of the Veteran Corps of the Forty-seventh Regiment, when asked about cipher systems took the questioner to the fourth story of a printing establishment, where a thin, dark little man, with intensely black eyes, was found cutting three dictionaries to pieces with a huge pair of shears. The dictionaries were in English, Spanish, and German, and the little man cut long strip of words from them, which he pasted on paper, and then drew lead pencil lines from the words to written sentences.

"He is connected with a South American steamship company, and is preparing copy for a cipher system for his line," explained the printer. "We will not print more than half a dozen of the books, but the cost will be over \$200. After we strike off the required number of copies we destroy the forms, and do not even keep a sample for ourselves. You see the companies guard their secret ciphers as a man guards the apple of his eye. It would never do to let rivals or interested speculators get hold of their codes, or the company would often be forestalled in the market. We do considerable cipher work for exporters and importers, and men in the iron and foreign trade, as well as for steamship companies, but, we never allow the work, when off the press, to be seen by any one except its owners. Cipher systems are coming greatly into vogue with the business men of New York. There is a great saving of expense in the use of the wires and less chance written despatches. Some customers are very secretive about their systems, and others do not appear to care anything for concealment. We get up a cipher system on an interchangeable plan by which not even the printer of the book can know the meaning of the code words."

"What is the expense?"

"Cipher systems, or codes, as they are called, when they are made to order, cost from \$50 up. Some run as high as \$400, and even more when very extensive. We make a novelty in book form consisting of a system which becomes secretive by

the selection of a number. Such are sold at stores, and can be used by anybody."

At the office of Hatch & Foote, the bankers, a small cipher book was exhibited to the reporter. It contained names of stocks, with orders to buy or sell, quantities, advice, etc., all to be represented by a word or two.

"There is nothing secretive about it," said Mr. Emerson.

"We give the books to our customers. It is a saving of money in telegraphing, and an easier and more certain way of communication. We have no need of a secretive system in our general business, though the large operators use private codes."

This was on inquiry found to be the case; but any attempt to get a view of the private codes was regarded as the trick of a stock sharp.

Cashier Quinlan, of the Chemical bank, pointed to a pile of books on his desk, and remarked that they were the cipher systems of various corresponding banks, and that much of the business communication between banks is being done by cipher. Banks generally get up a separate system for each bank with which they deal extensively. The cipher books are carefully guarded in the bank's vault, and even then code orders are verified back and forth by other code words, systematized for the purpose, before a transaction involving much money is consummated.

Some houses having foreign connections and the steamship companies use very elaborate and extensive cipher systems. In such systems, over a cipher word column, it may read: "Can you secure—bundles of hides and find room for the same on the next steamer! If so, telegraph us rates and particulars." At one side of the column of cipher words will be found a column of figures running from one up into the thousands. The figures indicate the number of bundles or quantity, and the entire expression quoted above, together with the number of bundles referred to, may read simply "Bones." If the message "Bones" is sent from New York city to Melbourne, Australia, by the way of the eastern route, it will cost \$3, 40 cents being charged per word by the Atlantic cables, and \$2, 60 per word by the eastern or India lines. Written out in full the original twenty-four words would cost \$72.

The atlantic cables are more liberal in their treatment of ciphers than the land companies. The cables confine a word to ten letters generally, but accept of three cipher letters, whether they make sense or otherwise, for a word. Three figures also count as a word; but when figures and letters are mixed, as, for instance, 6 qk or g 5 m, each letter, and figure is charged for a distinct word. This is done to prevent too great a liberty being taken with cipher despatches. Nearly all civilized nations including China and Japan and the nations of South America, permit messages to be sent and received in cipher. Russia and her dependencies are the exceptions. Telegrams to and from Russia, Bosnia, Bulgaria, Servia, Roumania, Montenegro, Herzegovina, and Siberian points must be in open language, that the censors of the wires may read and investigate them at their leisure.

The most expensive all-wire message sent from New York city is one to some of the interior South American towns. They cost by direct cable and by the way of the Eastern \$8.20 per word. To go by the coast lines and cables saves considerable on this rate, but when these lines are out of order the message has to take a transatlantic trip. But a message can be sent to distant Bosnia or Servia for only 52 cents per word, 40 cents of which is claimed by the cable companies. To reach Japan costs about \$2.70 per word, and China the same amount. Khartoum can be reached at 95 cents, Turkey at \$1 via Malta, or 54 cents via France. Messages to the various South American countries run from \$1.40 to \$3. Siam can be reached for \$2.30 per word, and St. Petersburg for 58 cents.

In view of the figures given it will be easily understood why the commercial world takes kindly to cipher systems.—N. Y. Sun, Sept. 20.

A NATURAL bow that is on exhibition at the Brownsville (Oregon) post office is described by the San Francisco *Examiner*. It is a maple about eight feet in length, has the curves of an ordinary Indian bow, and, strange to say, is already strung with a slender limb that grows out of one end into the other so perfectly that at first sight it would be quite difficult for one to detect at which end the limb began. The bow is about three inches thick, and the string part is about one-fifth of that thickness, and is strong enough to shoot an arrow 200 yards.