

No. 665,402.

Patented Jan. 8, 1901.

J. BURRY.

CRYPTOGRAPHIC TYPE.

(Application filed May 19, 1899.)

(No Model.)

Fig. 1.

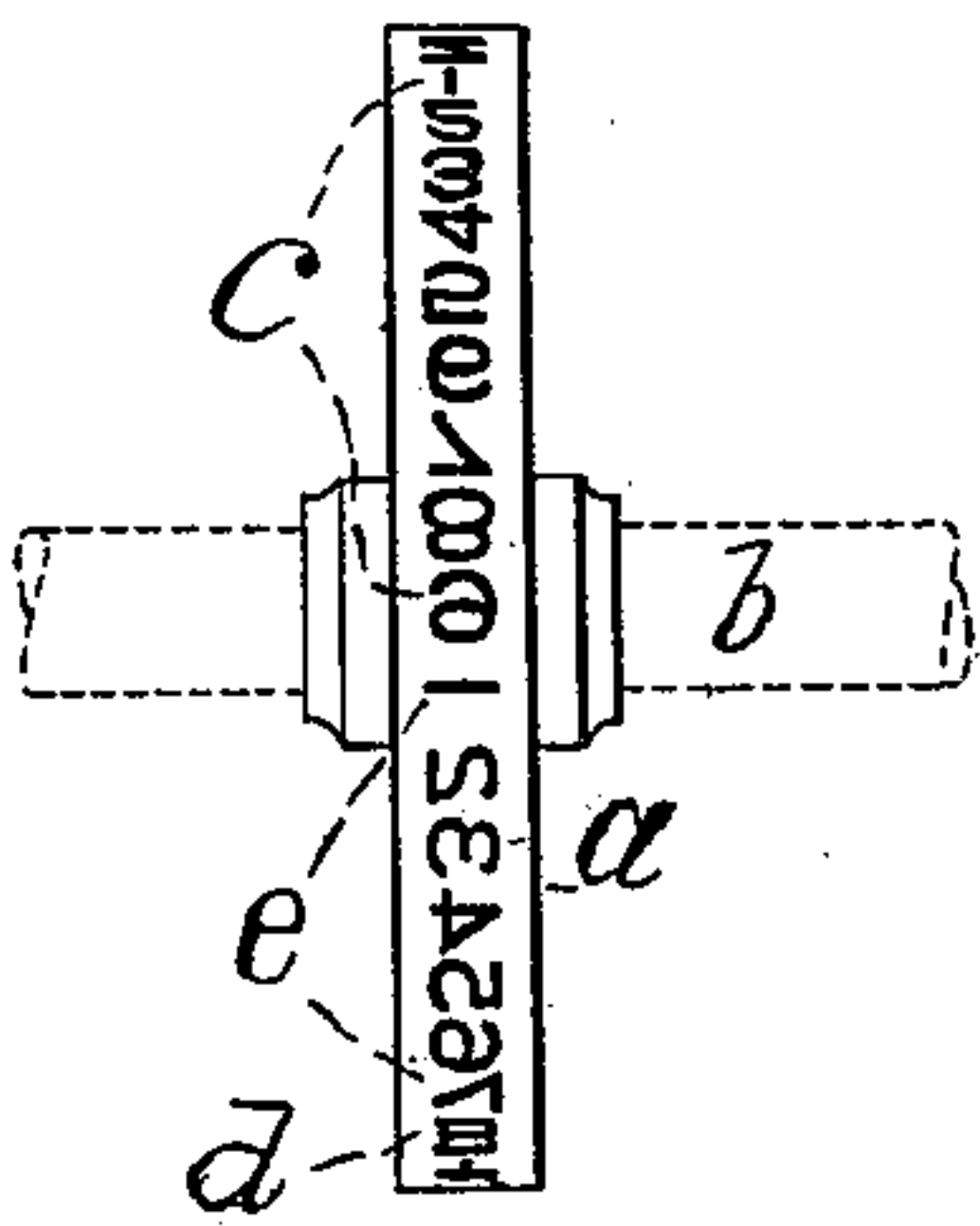


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CRYPTOGRAPHIC TYPE.

SPECIFICATION forming part of Letters Patent No. 665,402, dated January 8, 1901.

Application filed May 19, 1899. Serial No. 717,421. (No model.)

To all whom it may concern:

Be it known that I, JOHN BURRY, a citizen of the United States, and a resident of Fort Lee, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Cryptographic Type, of which the following is a specification.

The present invention relates to cryptographic writing and to type therefor, the primary object being to avoid or overcome certain objectionable features of existing methods of reporting stock and other quotations.

In all methods of reporting stock and other values by means of "page" printing-telegraph instruments with which I am acquainted the same amount of space on the paper is given to a fraction as to a letter or digit—that is, the fraction " $\frac{1}{2}$," say, is crowded into the same amount of space as the digit "3," for example, or substantially so. Of course the fraction cannot be read so easily or at as great a distance as the larger letters and digits printed by the same instrument, as these letters and digits are larger than the digits composing the fractions. In the rush and hurry of business considerable time and care on the part of those using such reports are necessary, relatively speaking, to prevent errors and mistakes, and the chances of mistakes increase as the type become worn or gives faint impressions. Again, the type used in printing fractions are necessarily formed with finer lines on their faces than those employed for letter-press and digit work, and so wear away faster for equal amounts of work, and so lead to the replacing of a wheel that is worn out only in relatively few places.

The primary object of the present invention is to provide a means whereby the impressions or characters representing common fractions may be as legible as the letters and digits imprinted by the same instrument.

Another object is to increase the life of the type-wheel, together with other objects, as will hereinafter more fully appear.

To these ends the invention includes features of construction or arrangement of devices hereinafter described, and more particularly pointed out in the appended claims.

The preferred form of the invention is illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is an edge view of a type-wheel, showing certain type arranged in one position and duplicates thereof arranged in position at right angles thereto as respects the individual type or characters. Fig. 2 is a development of part of the type-bearing surface of the type-wheels shown in Fig. 1.

The same reference character will be used to designate the same part in the views of the drawings.

The reference-letter *a* indicates a type-wheel mounted on a shaft or axis *b* and having one peripheral row of type thereon; *c*, a group of type for imprinting the nine digits, these type being arranged with the bottoms of the type-faces parallel with the axis *b*; *d*, the usual alphabet type arranged with the bottoms of their faces parallel with the axis *b*, and *e* a number of digit-type, shown as including the digits "1" to "7" and arranged with the bottoms of their faces extending peripherally of the wheel and being of a height such that their imprints on the paper will take no more room in the direction of the line of print than the type of the groups *c* and *d*. The type of group *e* may be spread out more laterally, (vertically in the printed line,) so as to obtain a larger face thereof and so reduce the wear thereon. The effect of this arrangement of the type on the wheel is that impressions from the type of groups *c* and *d* stand as ordinarily (upright or inclined, according to the style of type used) or in their normal positions, while the impressions from the type of group *e* lie on their sides or abnormally. In each case, however, the lateral space given the individual impressions from the individual type of all the groups is equal and the abnormal type may have as great face area as the normal type.

In many stock and other transactions the quotations vary by an eighth of a cent as a minimum, and the number of the type of group *e* corresponds to such minimum. Thus the abnormal "1" represents one-eighth, ($\frac{1}{8}$), the "2" one-fourth, ($\frac{2}{8}$), the "3" three-eighths, ($\frac{3}{8}$), the "4" one-half, ($\frac{4}{8}$), and so on, while the normal type of group *c* represent whole numbers, (and decimals.) In other words, where existing methods of reporting a value of one hundred and nine and three-fourths would crowd the " $\frac{3}{4}$ " (equal to six-eighths)

into a space equal to that given to the "9," my new system enlarges the "6," turns it to an abnormal position, gives or may give to it all the space accorded to the " $\frac{3}{4}$," and suppresses the denominator and the line, so that the one hundred and nine and three-fourths becomes "109 ∞ ," (or "109 ∞ ." Obviously the abnormally-placed digit draws the attention sharply to it. With one-eighth differences but seven abnormal digits ("1" to "7") are required. With one-tenth differences nine abnormally-placed digits ("1" to "9") are required.

It is remarked that the significance to be attached to the abnormally-placed digits is hidden in that one must know the unexpressed or unprinted denominator before the real meaning can be ascertained.

It is remarked that while the digit-type of group *c* are arranged with their feet or bottoms of their faces parallel to the axis *b* the digit-type of the group *e* have their feet in a line forming an angle with said axis—that is to say, the type of one group stand in one way or direction and the type of the other group stand in another way or direction, forming an angle with the first-named way—in the case shown a right angle; but the angle may be other than a right angle without departing from the spirit of this invention. Moreover, each digit-type which represents a common fraction is the numerator thereof and has its usual value as a digit. Furthermore, there are printing-telegraph systems (proposed, at least) in which the type are carried by inde-

pendently-movable carriers, as pivoted type-bars. It is obvious that my invention may be employed in such cases also, as well as in those systems using type-wheels having one or more rows of type thereon.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In printing-telegraph and like machines, a set of digit-type arranged to give impressions standing in one way or direction and a set of digit-type arranged to give impressions standing in another way or direction, the type of each set being of substantially equal size and each type having its usual signification and the type of one set representing the numerators of common fractions whose denominators are unexpressed, substantially as described.

2. A type-wheel provided with two groups of digit-type arranged one group to stand in one way or direction and the type of the other group to stand in a different way or direction, the type of each group being of substantially equal size and each type having its usual significance and the type of one group representing the numerators of common fractions whose denominators are unexpressed, substantially as described.

Signed at New York, in the county of New York and State of New York, this 17th day of May, A. D. 1899.

JOHN BURRY.

Witnesses:

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