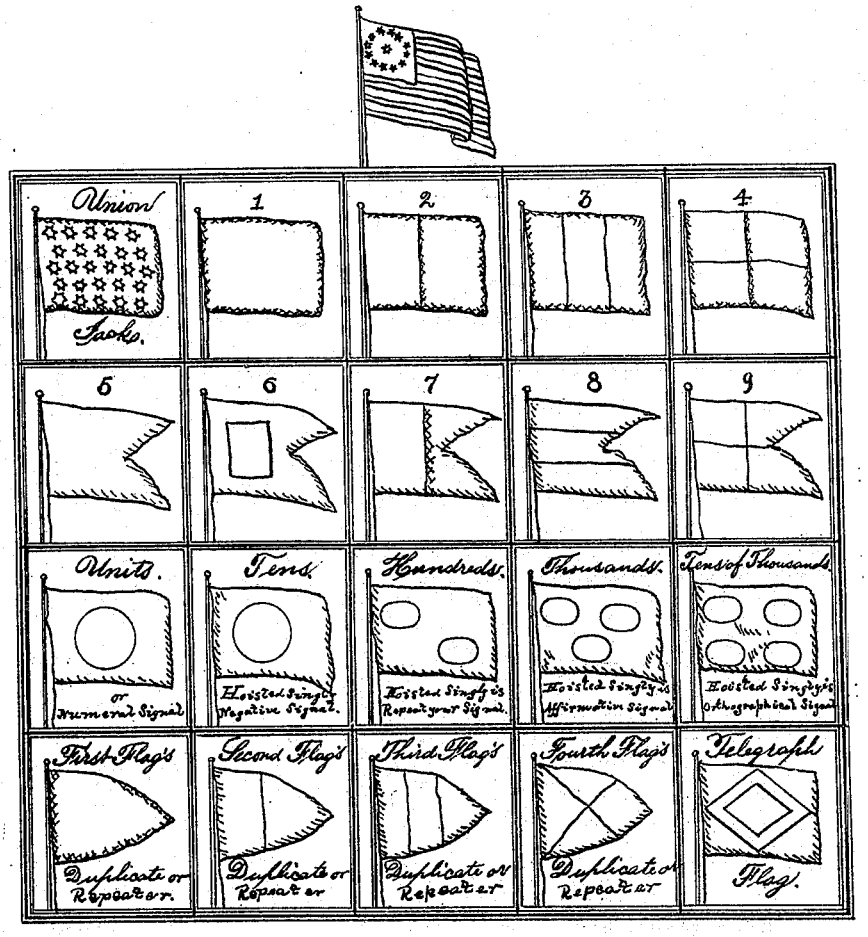
2 Sheets—Sheet 1.

H. I. ROGERS.

Telegraphic Signal.

No. 3,765. Patented Sept. 27, 1844.



2 Sheets—Sheet 2.

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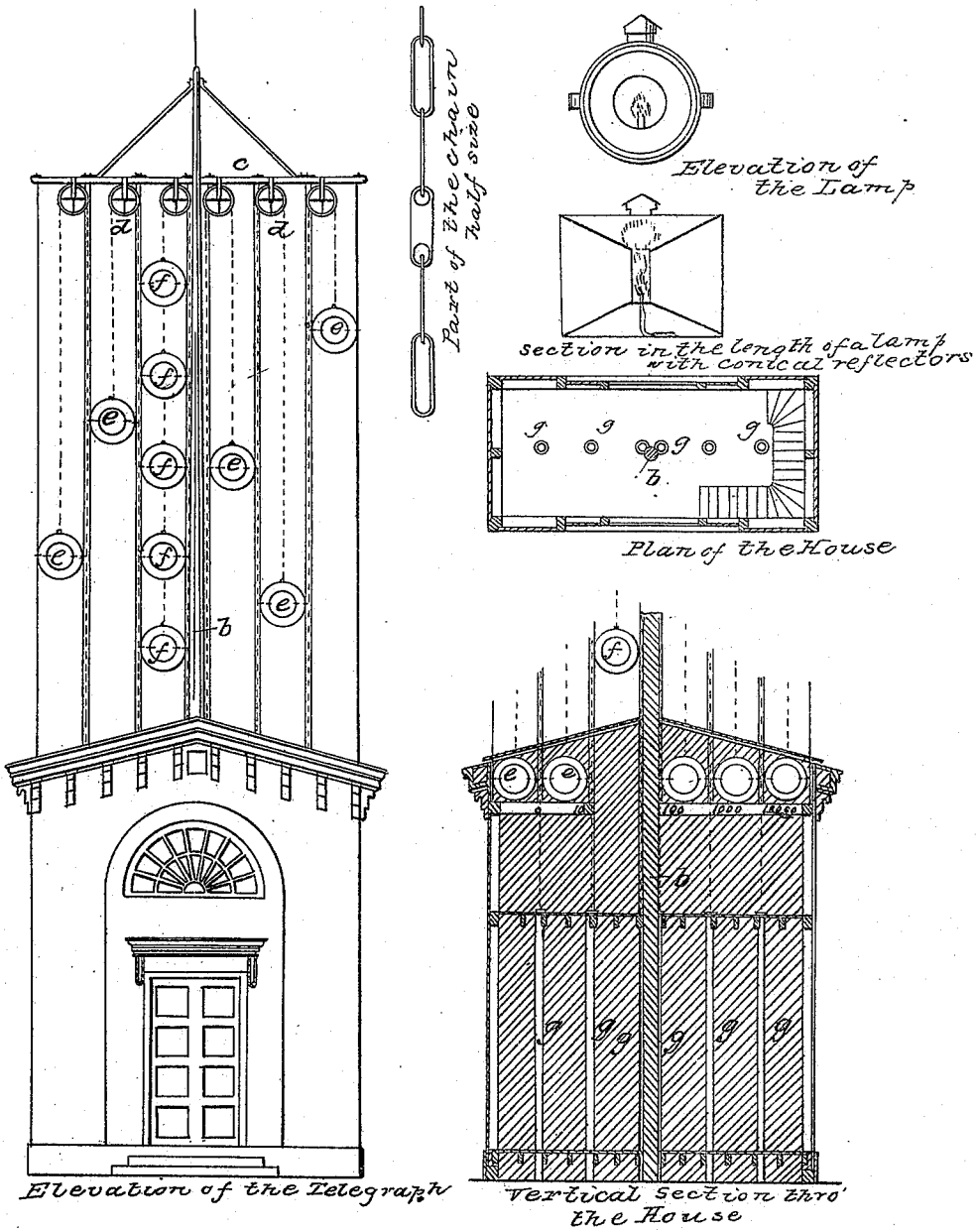

UNITED STATES PATENT OFFICE.

HENRY I. ROGERS, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SIGNAL-TELEGRAPHS.

Specification forming part of Letters Patent No. 3,765, dated September 27, 1844.

To all whom it may concern:

Be it known that I, HENRY I. ROGERS, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Telegraphic Communications to be Used on Land or Afloat, which I denominate the "American Semaphore;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of said description, in which—

Figure 1, Plate 1, is a vertical elevation. Fig. 2 is a vertical section; Fig. 3, a plan of house; Figs. 4 and 5, lamp for telegraphic purposes, and Plate 2 signal-flags.

The nature of my invention consists in the combination of series of balls, a row of which are placed in a line which I prefer should be vertical, as numerators, and moving other balls in parallel lines therewith that are decimally arranged for denominators by means of chains or other analogous contrivances, as hereinafter described. This is for land service or sea service; or for sea service the signal-flags are used. The system for denoting the letters of the alphabet by one sign for each is new, and may be applied to other systems of telegraph.

The construction for land service is as follows: A suitable telegraph-house *a*, Figs. 1 and 2, is erected, in the center of which there is a mast *b*, that projects up through the roof about sixty feet in height, more or less. To this is attached a horizontal yard *c*, near the top, suspended to which on each side are three pulleys *d*. There are rods *c'*, extending down from the yard-arm to the house, one on each side of each of the pulleys, on which slide up and down disks or lamps for day or night signals. The pulley next the mast on one side, or any other pulley most convenient, has a chain passing up over it, to which are attached a series of disks above named—five in number and marked *f* in the drawings—which I call "numerators." By means of short chains these numerators are kept a distance apart equal to their diameter, which on the scale of the drawings would be about three feet when in operation; but they can all be lowered down inside the house, where they can rest on each other to pack closer. When hoisted into the position as shown in the drawings, the first disk I count as one, the first space between the first and second disk I count two, the second disk three, the second space four, the third disk five, &c., forming signs for the numerals from 1 to 10. There are chains passing over the other five pulleys *d*, to each of which one disk *e* is attached, termed the "denominator." The other end of the chain has a counter-weight affixed to it to balance it. These weights descend in the tubes *g*, and are not shown in the drawings. The chains to operate the denominators are about eighty-three feet in length and are made of links of wire. A portion of one of these chains is shown in Fig. 6, in which there is shown a solid link with B^2 on it. Links of this kind are placed along the chain at intervals equal to the distance from center to center of the disks, and are so adjusted as when brought to a pin or hook on the cross-beam inside the house to indicate the position of the disk, the solid links being numbered according to the numerals indicated by the disks *f* and spaces above named. The first disk *e* on the left denotes units, the second tens, the fourth hundreds, the fifth thousands, the sixth or right-hand one tens of thousands.

It will be obvious that there can be added to this an indefinite number, but for all ordinary purposes I deem these sufficient, as with them one hundred thousand signals can be made, or the same number of different words or sentences communicated. An example of this mode is given in the drawings for illustration, in which the number 82,563 is displayed, the denominator to the right, or 10,000, is opposite the space between the fourth and fifth disk. In the numerator, which counts eight, the next or thousand denominator is opposite two. Of the numerator the disk hundred is at five, the ten at six, and the unit at three. Besides this certain arbitrary signals may be used, as shown in explanation accompanying the drawings.

If this system is used at sea, I prefer to substitute balls made of light iron frame-work covered with canvas, and at night I use lights instead of the black disks.

My system of signal-flags is shown in Plate 2. Those from one to nine are termed "numerators," those indicating units, tens, &c., are denominators. When these are hoisted alone, they are of no numerical valve; when hoisted with a numerator they count according to the

value multiplied by that of the denominator. The first numerator is square and of one color, blue; the second, blue and white in equal portions; the third, two vertical stripes of blue separated by one of white; the fourth, quartered blue and white; the fifth, blue and formed swallow-tailed, or having a triangular notch cut out of its end, which is the form of all the rest; the sixth is blue with a square white spot in the center; the seventh is half white, half blue; the eighth is a horizontal white stripe between two of blue; the ninth, quartered blue and white. The units-flag is white with a round blue spot in its center; the tens is a blue flag with a white spot; the hundreds, blue with two white spots; the thousands, blue with three white spots; the tens of thousands, blue with four white spots. The form of these is square. There are also a set of duplicate or repeating flags, which are of triangular form. They are for the purpose of denoting a repetition of the numerator—as, for example, if the number 9,999 is wanted, the numerator 9 should be hoisted, and with it the first, second, third, and fourth duplicate flags. The first of these flags is all red; the second, half white and half red, divided vertically; the third has a white stripe vertically between the two red; the fourth is quartered diamond fashion red and white. The system of use of these flags is on precisely the same principle as the disks before named, being divided into numerators and denominators with the addition of the duplicates, which are not required with the disks.

A very important point in my system is using only one signal or sign for each letter. All the methods heretofore adopted require two or more signs for all the letters above the ninth. I commence with the denominator tens and run it up from ten to ninety for the first nine letters. I then, instead of making a compound number by a combination of two denominators, use the denominator hundreds and carry it to nine hundred for the next nine, and then take the denominator thousands to finish the alphabet. This is illustrated by the explanation on drawings.

Having thus fully described the construction of my apparatus and the system of telegraphing thereby, what I claim therein as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of signal disks or lanterns in the manner and for the purpose substantially as herein set forth.

2. The method of signaling the alphabet, as herein set forth, so as only to use one sign for each letter of the alphabet by means of a decimal progression.

3. The system of flags above specified—that is to say, the combination of numeral and decimal or denominator flags, combined and applied in the manner set forth.

HENRY I. ROGERS.

Witnesses:
ANTHY. MILTENBERGER,
E. F. KREBS.