

(No Model.)

2 Sheets—Sheet 1.

C. P. GIFFORD.
MECHANICAL TOY SPELLER.

No. 527,964.

Patented Oct. 23, 1894.

Fig. 1.

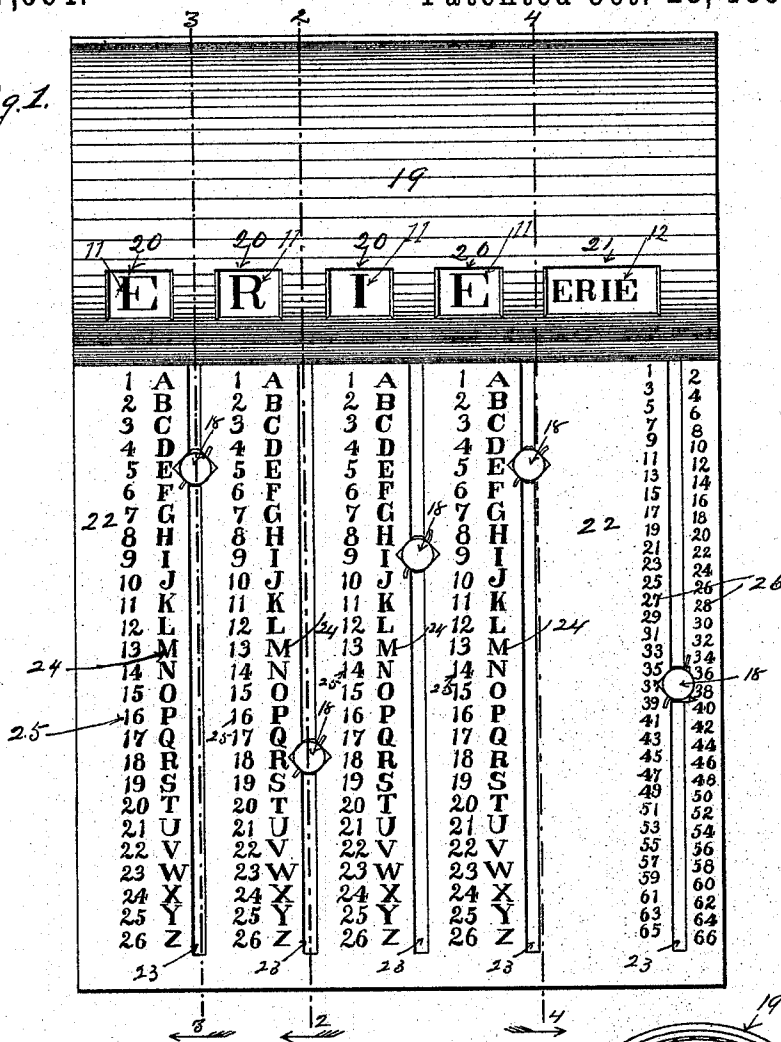
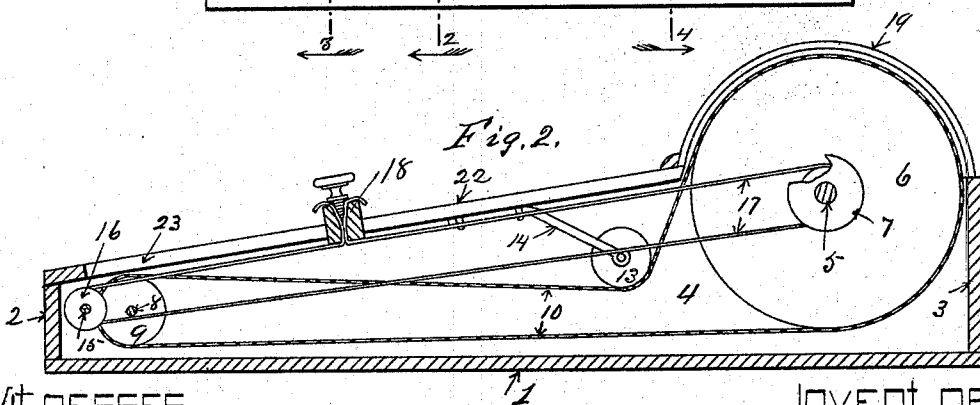


Fig. 2.



WITNESSES.

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INVENTOR

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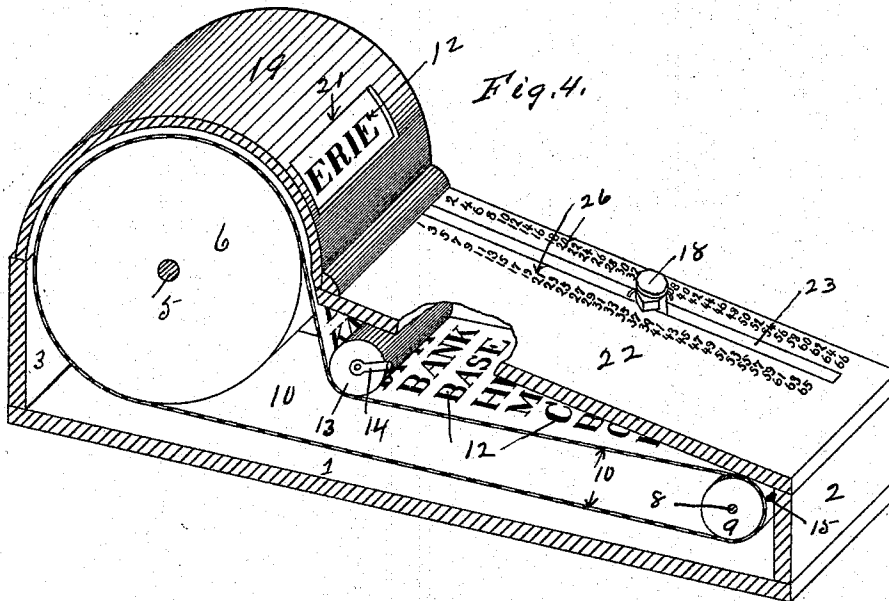
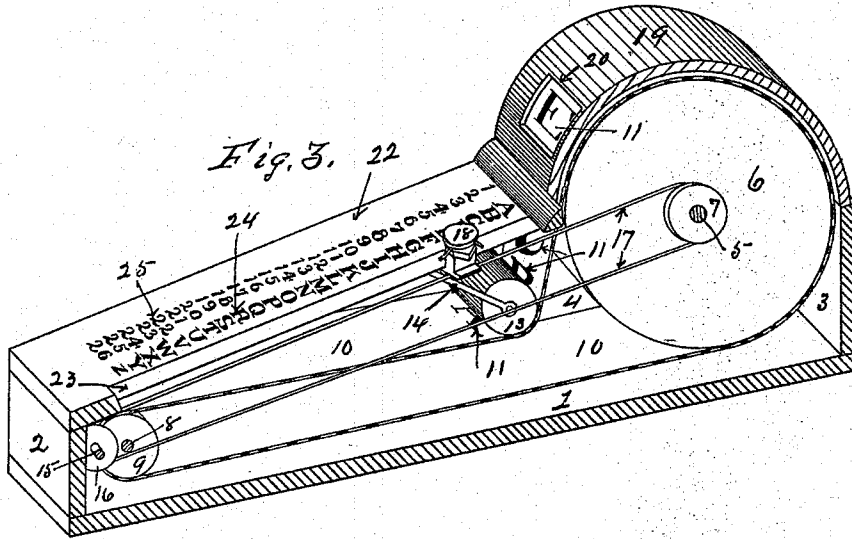
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2 Sheets—Sheet 2.

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WITNESSES.

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UNITED STATES PATENT OFFICE.

CYRUS P. GIFFORD, OF ERIE, PENNSYLVANIA.

MECHANICAL TOY SPELLER.

SPECIFICATION forming part of Letters Patent No. 527,964, dated October 23, 1894.

Application filed January 18, 1894. Serial No. 497,304. (No model.)

To all whom it may concern:

Be it known that I, CYRUS P. GIFFORD, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Mechanical Toy Spellers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, forming a part of this specification.

My invention consists in the improvements in mechanical toy spellers, hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1. is a top or plan view of my improved mechanical toy speller. Fig. 2. is a longitudinal section of the same on the line 2, 2, in Fig. 1, looking in the direction of the arrow. Fig. 3. is a perspective view of a section of the same on the line 3, 3, in Fig. 1, looking in the direction of the arrow. Fig. 4. is a perspective view of a section of the same on the line 4, 4, in Fig. 1, looking in the direction of the arrow.

In the construction of my improved mechanical toy speller, illustrated in the accompanying drawings, 1 is the bottom, 2 the front, 3 the rear, and 4 the ends of the case of the machine.

In the rear of the case in the ends 4 is secured a rod or shaft 5, upon which is loosely mounted a number of band wheels 6, each of which is provided, at one side, with a small grooved pulley 7 for the purpose hereinafter set forth. In the front of the case is secured another rod or shaft 8, upon which is loosely mounted the same number of small band wheels 9 as there are of the large band wheels 6, and around each of the large and small band wheels 6 and 9 is an endless band 10, upon the outer surfaces of the first four of which bands are printed the letters of the alphabet 11, (see Fig. 3,) and on the fifth on left hand band names 12. (See Fig. 4.) Over each of the bands 10 is an idler pulley 13 mounted between the ends of the spring arms 14, which operate to press the idler pulleys 13 down upon the bands 10 so as to

tighten them upon the band wheels 6 and 9 substantially as illustrated in Figs. 2, 3 and 4. In front of the band wheels 9 is another rod or shaft 15 upon which is loosely mounted grooved pulleys 16, one corresponding to each of the grooved pulleys 7, on the band wheels 6 and around the grooved pulleys 16 and 7 are passed bands, preferably of cord, 17, the ends of these bands being adjustably secured in sliding blocks 18, as illustrated in Fig. 2.

The top of the case of the machine is composed of a semi-circular portion 19, which covers the upper halves of the large band wheels 6 and is provided in the front part thereof with four openings 20, one corresponding to each of the four lettered bands, and through which the letters thereon can be seen, and one opening 21 which corresponds to the band containing names, and through which they can be seen.

The front part of the top of the case from the semi-circular part thereof 19, forward, consists of flat surface 22, inclined upward from the front 2 to the front edge of the semi-circular part 19. This portion 22 of the top of the case is provided with grooves or slots 23 within which the blocks 18 slide forward and back, as illustrated by their positions shown in Fig. 1, and at one side of each groove is marked on the top of the case 22 the letters of the alphabet 24, as illustrated in Fig. 1.

The bands 10 are adjusted on the band wheels 6 and 9, so that each of the letters on each of said bands 10 will show at the proper opening 20 in the circular portion of the top of the case at the time the sliding block 18 on the operating band 17 is moved opposite to the corresponding letter at the side of the groove in which said block operates. For example, as illustrated in Fig. 1, the block 18 in the first groove 23 at the left hand side of the case, stands at E, and the band 10 corresponding thereto, shows E at the first opening 20. The block 18 in the second groove 23 stands at R, and the band 10 corresponding thereto, shows R at the second opening 20. The sliding block 18 in the third groove 23 stands at I, and the band 10 corresponding thereto, shows I at the third opening 20, and the fourth sliding block 18 in the fourth groove 23 stands at E, and the band 10 corresponding thereto, shows E at the

fourth opening 20. Thus, it will be seen that by the movement of the sliding blocks 18 in the grooves 23, any word can be spelled out at the openings 20, which does not have more letters therein than there are grooves 23 and sliding blocks 18 operating therein. It will also be seen that there is a row of figures 25 alongside of each of the rows of letters, one figure for each letter running from 1 to 26 inclusive, as and for the purpose set forth, and on each side of the fifth or last groove 23 is a row of figures 26 commencing at 1 and ending at 66; these figures alternating from one side of the groove to the other. Now, by adding together the figures opposite the letters E, R, I and E, in the four left hand columns, the amount will be found to aggregate 37. Then by moving the sliding block 18 in the last or fifth groove to the figure 37, the word "Erie" will appear on the band 10 at the left hand or fifth opening 21 in the case. Of course, it is impossible to place all of the words which may be spelled with four letters upon the last or fifth band, but it is intended to place a convenient number of familiar names thereon in groups corresponding to the numbers, so that it can be instructively used.

Sometimes the aggregate of four numbers will produce more than one word, for instance the letters C A N S pertain to the numerals 3, 1, 14 and 19 which also aggregate 37 as well as the numerals adjacent to the letters E R I E. When this occurs both words "Erie" and "Cans" may be allowed to appear on the band at the opening 21 if desired; or the toy may be limited to a certain class of words, such as geographical names; or the amusement in playing with the toy may be permitted to consist in finding out what additional words can be spelled out besides those displayed by the toy. When only four letters are used a large number of words can be formed whose numerals sum up the same.

In the accompanying drawings, I show five grooves, and mechanism as hereinbefore described, corresponding thereto, but it is obvious that I can use any number of such grooves and wheels and bands desired, so as to not only spell out words, but also form sentences, if desired; therefore

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

1. In a mechanical toy speller, the combination, with a case having a series of slots, the openings 20 and 21, a series of aggregate numbers adjacent to the slot pertaining to the opening 21, and numbered letters arranged alphabetically adjacent to the slots pertaining to the openings 20; of a series of

bands provided with letters adapted to be displayed through the openings 20, a series of blocks sliding in the said slots and pointing to the numbered letters corresponding to the letters displayed through the openings 20; a band provided with names adapted to be displayed through the opening 21, a block sliding in the slot and pointing to the aggregate numbers aforesaid, each sliding block being connected with the band to which it pertains; and means for sliding each block and band, substantially as and for the purpose set forth.

2. The combination in a mechanical toy speller, of a case having openings 20 for letters and an opening 21 for names, bands operating on wheels within the case adapted to present letters at the letter openings 20, and a band adapted to present names at the name opening 21, and letters and figures on the top of the case, and sliding blocks communicating with the wheels supporting said lettered-bands and the band having names thereon, substantially as and for the purpose set forth.

3. The combination in a mechanical toy speller, of a case having openings 20 and 21, and slots 23 in the cover thereof, and the letters of the alphabet and figures at one side of each of said slots, wheels 6 and 9, and bands 10 having letters thereon on said wheels, tightener pulleys 13 operating on said bands 10, pulleys 7 on said wheels 6 and loose pulleys 16 at the front of the case, belts 17 operating on said pulleys, sliding blocks 18 secured to said belts, and operating in the grooves 23, substantially as and for the purpose set forth.

4. The combination, in a mechanical toy speller, with an inclosing case having an opening 20, a slot 23, and numbered letters adjacent to the said slot; of the shaft 5, the wheel 6 and the pulley 7 secured together and journaled thereon; the shaft 8 and the pulley 9 journaled on it; the shaft 15 and the pulley 16 journaled on it; a band passing around the wheels 6 and 9 and provided with letters visible through the opening 20; the band tightener; the cord 10 passing around the pulleys 7 and 16, and the pointer block 18 sliding in the slot 23 and having the ends of the cord 10 adjustably secured to it, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CYRUS P. GIFFORD.

Witnesses:

RALPH A. STURGEON,
H. J. CURTZE.