Feb. 7, 1939. M. V. MORRISSEY 2,145,946

ARRANGEMENT FOR THE COMPOSITION OF CHARACTERS

Filed May 23, 1935 2 Sheets-Sheet 1

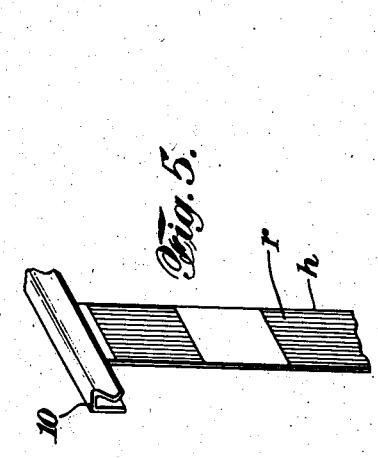


Fig. 5.

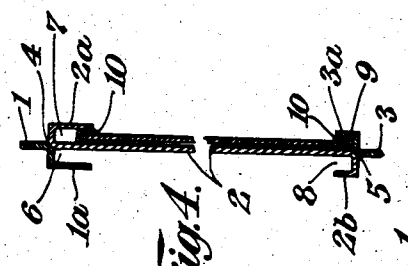


Fig. 4.

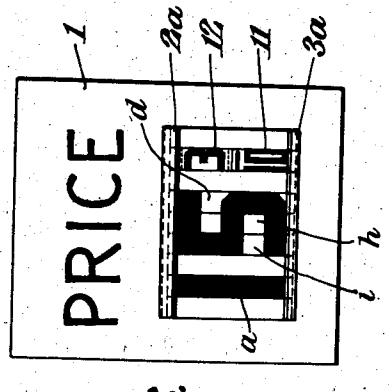


Fig. 3.

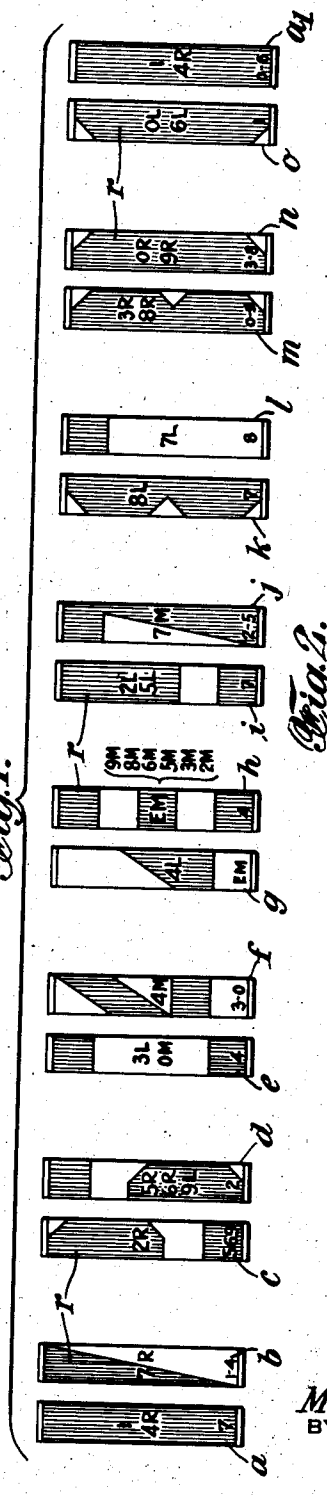


Fig. 1.

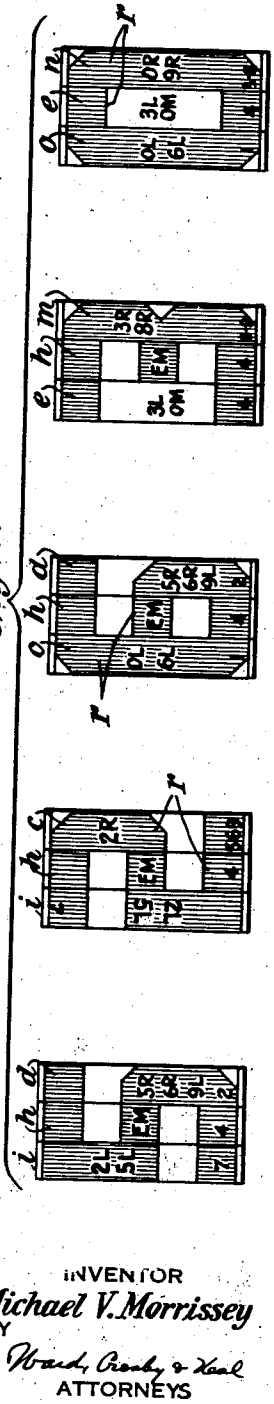


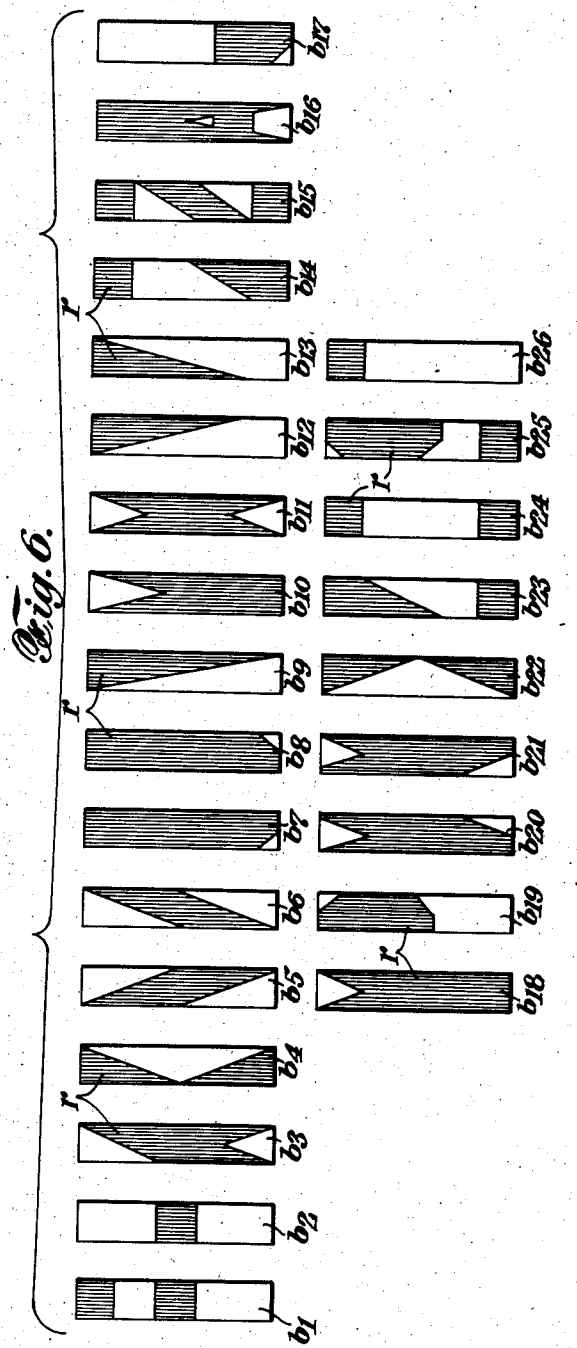
Fig. 2.

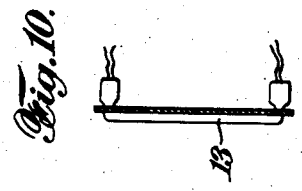
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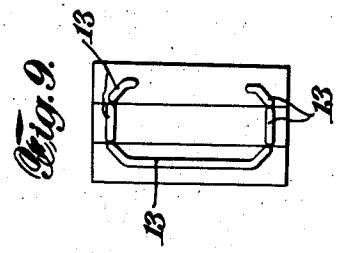
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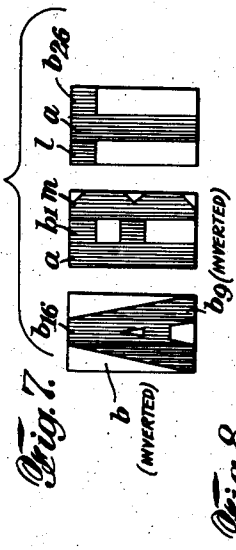
ARRANGEMENT FOR THE COMPOSITION OF CHARACTERS

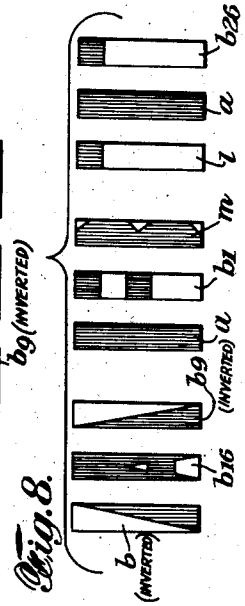
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Patented Feb. 7, 1939 2,145,946

UNITED STATES PATENT OFFICE

2,145,946

ARRANGEMENT FOR THE COMPOSITION OF CHARACTERS

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Application May 23, 1935, Serial No. 23,045

5 Claims. (Cl. 40—125)

My invention relates to arrangements for composing or forming one or more selected numerals, or letters of the alphabet, these being hereinafter in the appended claims referred to generically as "characters" and said characters being adapted for visible display or being otherwise utilizable as hereinafter described, such arrangements involving the use of a plurality of members which are grouped in a predetermined manner whereby the respective representations thereon are matched to thereby form the desired character or characters.

My invention has further reference to information-imparting arrangements, signs, groups of characters or the like which may be composed or assembled from representation-bearing members in the general manner described above.

Various other objects, advantages and characteristics of my invention will become apparent from the following description.

My invention resides in the representation-bearing members, arrangements, signs, combinations and features of the character hereinafter described and claimed.

For an understanding of my invention and for an illustration of some of the many forms thereof, reference is to be had to the accompanying drawings, in which:

Figure 1 is a composite view illustrating various representation-bearing members as constructed in accordance with my invention;

Fig. 2 is a composite view illustrating certain numerals as formed from associated representation-bearing members in accordance with my invention;

Fig. 3 is a front elevational view of a sign arrangement as constructed in accordance with my invention;

Fig. 4 is a vertical sectional view of the sign arrangement shown in Fig. 3;

Fig. 5 is a perspective view illustrating a supporting clip for a representation-bearing member;

Fig. 6 is a composite view illustrating various other representation-bearing members as constructed in accordance with the invention;

Fig. 7 is a view showing various representation-bearing members associated to form the word ART;

Fig. 8 is a composite view showing the representation-bearing members of Fig. 7 in separated relation;

Fig. 9 is a front elevational view of a character having an illuminating arrangement associated therewith; and

Fig. 10 is a side elevational view of the character shown in Fig. 9.

A merchant, such as one dispensing gasoline at retail, requires a readily changeable sign arrangement for informing the public concerning the price of the principal product which he sells, i. e., gasoline. Obviously, such an arrangement may comprise a group of individual signs each bearing a different price designation. An arrangement of this character because formed from a large number of signs is expensive, somewhat bulky, difficult to handle, costly to ship and otherwise objectionable in various respects.

In accordance with my invention, I avoid the above noted objections by providing the merchant, in a preferred form of the invention, with an arrangement enabling him to readily form for display any number from 1, 2, . . . 20, 21, such arrangement comprising a relatively small number of strip-like members and each member being but ⅓ the size of any numeral exclusive of the numeral "1".

Thus, Fig. 1, is an illustration of what may be considered sixteen strip-like plates each having a representation thereon as indicated. These representations are utilizable, in the manner hereinafter described, to form the numbers 1, 2, . . . 8, 9, 0, 10, 11, . . . 19, 20, 21. In accordance with a preferred form of the invention, the numeral 1 is representated on a single plate, for example, either of the plates a or al while each of the remaining numerals, i. e., 2, 3, . . . 8, 9, 0 are represented by a suitable combination of three of the sixteen plates, b, c, . . . n, o.

Thus, as clearly appears from a detailed consideration of the drawings, the various numbers above noted are formed or composed when the various plates are grouped from left to right in the following manner:

1____a (or al)
2____ihc
3____ehm
4____gfa (or al)
5____ihd
6____ohd
7____ljb
8____khm
9____d (inverted) hn
0____oen
10____a (or al)—oen
11____a (or al) al (or a)
12____a (or al)—ihc
13____a (or al)—ehm
14____a (or al)—gfal (or a)
15____a (or al)—ihd
16____a (or al)—ohd
17____a (or al)—ljb
18____a (or al)—khm
19____a (or al)—d (inverted) hn
20____ihc —oen
21____ihc —a (or al)

As clearly appears from a consideration of Fig. 2, the accuracy of the foregoing table is exemplified by an inspection of the numerals "5", "2",

"6", "3" and "0" which are each shown as formed from three of the strip-like plates disposed in close side-by side relation.

As stated above, in order to form any of the numbers 1, 2 . . . 20, 21, sixteen of the strip-like plates may be provided so that the numerals 2, 3 . . . 8, 9, 0 may each be formed from three associated plates while providing two single-plate representations of the numeral 1. In view of the limited number of plates which are thus provided, it necessarily follows that some of said plates serve in the formation of more than one numeral.

In accordance with this important phase of the invention, it will be observed that the plates a and a1 individually serve to form the numeral 1 and also the right hand plate of the numeral 4; the plate d forms the right hand plate of each of the numerals 5 and 6 and, when inverted or turned end for end, the left hand plate of the numeral 9; the plate e forms the left hand plate of the numeral 3 and the middle plate of the numeral 0; the plate h serves as the middle plate of each of the numerals 2, 3, 5, 6, 8 and 9; the plate i serves as the left hand plate of the numeral 5 and, when inverted, the left hand plate of the numeral 2; the plate m serves as the right hand plate of the respective numerals 3 and 8; the plate n serves as the right hand plate of the respective numerals 0 and 9; and the plate o serves as the respective left hand plates of the numerals 0 and 6.

As hereinbefore stated, there may be provided sixteen of the strip-like plates a, b, c, etc. If so, one face of each plate bears a representation while the opposite face of each plate is blank. Although an arrangement of this character is susceptible of operation which is entirely satisfactory, it is to be understood that such an arrangement is not preferred by me at the present time. In lieu thereof, I prefer to simplify the arrangement by having each face of each plate bear a representation. Thus, preferably, I provide but eight plates instead of sixteen. For example, as indicated in Fig. 1, a single plate, on its opposite faces, may bear the respective representations shown at a and b; another plate, on its opposite faces bears the respective representations shown at c and d; in the same manner, the third, fourth, fifth, sixth, seventh and eighth plates, on their respective opposite faces, exhibit the representations shown, respectively, at e and f, g and h, i and j, k and l, m and n, o and a1.

With an arrangement of the character last described, it will be understood that the letters a, b, c, etc. may be applied to the respective plate faces in the proper manner as indicated in Fig. 1. If this is done, the numbers may be formed by employing the code hereinbefore set forth in detail. Alternatively, as shown on the drawings, each face of each plate may have two sets of numbers marked thereon, these numbers forming a key concerning the use of said plate. Thus, as regards the plate e, it is to be noted that there are two sets of numbers thereon, i. e., "3L" "0M" and "4". The numbers "3L" and "0M" indicate that the face of the plate e which is visible forms either the left side of the numeral "3" or the center of the numeral "0". The number "4" indicates that the rear face of the plate e (as shown by the plate f) constitutes a part of the numeral "4"—by reference to said rear face of the plate e, it is shown that the representation is the center of the numeral "4". In view of the description thus given, the use of the key numbers on the other plates will be obvious to those skilled in the art.

It will be understood that the key characters, no matter of what type, should be of small dimensions if applied to visible portions of the plates. Alternatively, these key numbers may be applied to non-visible plate portions. If desired, keys of other suitable type may be employed. Still further, it will be understood, when the invention is utilized by children as a puzzle, for example, that all keys may be omitted in which case the person assembling the plates, by observation, becomes familiar with the significance of the various representations.

In view of the foregoing description, it will be understood by those skilled in the art that my invention contemplates the plural use of individual plate-like members, or equivalent, for composing or forming two or more different numerals. However, it is to be understood that my invention is not to be thus limited because, if desired, the letters of the alphabet may be formed by following the principles of the invention as hereinbefore set forth.

Thus, Fig. 6 is illustrative of a number of plate-like members dimensionally corresponding with those shown in Fig. 1, the plate-like members of Fig. 6 being designated as b1, b2 . . . b25, b26. As will be noted, there are a total of forty-two plate-like members shown in Figs. 1 and 6. By properly associating groups of three or four of these plate-like members, any letter of the alphabet from A to Z may be formed.

In accordance with this phase of the invention, to form the letter A, the plate-like member b (inverted) of Fig. 1 is placed at the left, the plate-like member b16 of Fig. 6 is placed at the center, and the plate-like member b9 (inverted) of Fig. 6 is placed at the right. In this manner, the letter A is formed as is clearly shown by Fig. 7.

More particularly, all of the letters of the alphabet are formed in accordance with the following table:

Left	*Middle*	*Right*
A =b*	b16	b9*
B =a	h	m
C =o	e	b24
D =a	e	n
E =a	h	e
F =a	b1	1
G =o	e	d
H=a	b2	a1
I =	a	
J =b17	1*	b8
K=a	b3	b4
L =a	1*	b26*
M=a	b5, b6	a1
N =a	b5	a1
O =o	e	n
P =a	b1	b19
Q =o	e, n	1*
R =a	b1	m
S =b25	h	d
T =1	a	b26
U =b7	1*	b8
V =b9	b10	b
W=b9	b20, b21	b
X =b22	b11	b4
Y =b12	b18	b13
Z =b14	b15	b23
& =k	h	b17

* Inverted.

In Fig. 7, I have illustrated the word ART as it appears when formed from the plate-like members b (inverted), b16, b9 (inverted)—a, b1, m—1, a, b26.

In Fig. 8, the various plate-like members of the word ART are shown as spaced apart. From a consideration of said members as spaced in the manner stated, it clearly appears that the members b and b9, when inverted, become, respectively, the right and left of the letter V. The member b16 serves only as the center of the letter A. The members a of the letters R and T serve as the numeral 1, as the left of the letters B, D, E, F, H, K, L, as the right of the letter H, etc. The member b1 serves as the middle of the letters F, P and R. The member m serves as the right of the letters B and R; as the right of the numeral 8; and as the right of the numeral 3. The members 1 and b26 (duplicates) serve as the left of the numeral 7; as the right of the letter F; as the left and right of the letter T; when inverted, as the middle of the letter U; etc.

As regards the form of my invention last described, it has been shown that a set of plate-like members designed to produce the numerals 1, 2, . . . 9, 0 are also utilizable as regards the formation of some of the letters of the alphabet, or parts of such letters. Vice versa, a set of plate-like members designed to produce the letters of the alphabet may also be used to produce some of the aforesaid numerals, or parts thereof. While my invention has distinct advantages in connection with the production of both numerals and letters, it shall be distinctly understood that I contemplate practicing the invention in connection with numerals alone or letters alone and particularly the former as hereinbefore described.

In connection with the formation of numerals as hereinbefore discussed in connection with Fig. 1, I have referred to the fact that both sides of the plate-like members may have numeral representations thereon, or that one side of each member may be blank with a representation appearing on the other side thereof. With respect to the formation of letters of the alphabet as described above, it has been assumed that each of the plate-like members of Figs. 1 and 6 is blank on one face thereof so that a single representation only appears on each member. It shall be understood, however, that my invention is not to be thus limited because the arrangement may be such, when utilized for formation of letters of the alphabet, that both sides of each plate-like member has a representation thereon.

In accordance with the invention, it is preferable that the representation-bearing members be of strip-like and sheet-like configuration as shown. However, the invention in some of its broader phases, is not to be thus limited. These representation-bearing members, in accordance with the invention, may be formed of any suitable material, as wood, composition material, rubber, paper, cardboard, metal, etc. etc. Likewise the representations r on said members may be applied in any suitable manner preferably, however, by the application of paint, lacquer, ink or the like. In accordance with present preferred practice, the representation-bearing members are formed from thin sheet metal and are painted a suitable base color, the representations r being formed thereon with paint of a suitable contrasting color.

With respect to those forms of the invention wherein representations appear on both sides of each plate-like member, it will be understood that my invention is not to be limited to the exact arrangement indicated in Fig. 1. That arrangement has been carefully designed so that a minimum number of duplicate plate-like members is necessary if the number system is to be extended so that numbers between 1 and 99 may be formed. However, the invention is not to be limited to Fig. 1. For example, the representation on the back of the members e and i, respectively, might be transposed to the respective backs of the members i and e. On the other hand, it is obvious that the right hand side of a numeral could not be on the rear of the plate-like member, the front face of which forms the left hand side of that particular numeral.

A present preferred application of the invention relates to the display of gasoline prices at service stations. This phase of the invention is illustrated in Figs. 3, 4 and 5. Thus, as shown, the sign arrangement may comprise a sheet member **1** having the word PRICE printed thereon, this member **1** terminating in a lower angular section *1a*. Associated with the member **1** is a sheet member **2** having an upper angular section *2a* and a lower angular section *2b*. Associated with the member **2** is a member **3** having an upper angular section *3a*. The members **1** and **2** may be secured together along a seam as indicated at **4**, Fig. 4, and the members **2** and **3** may be similarly secured together along a seam as indicated at **5**, these seams being formed by welding, soldering or the like. An arrangement of the character thus described provides a pair of upper channels **6**, **7** and a pair of lower channels **8**, **9**.

As shown in Figs. 4 and 5, resilient holding members or clips **10** of general U-configuration are provided, these members being adapted to resiliently engage blank spaces formed at the upper and lower ends of the representation-bearing members. It will be understood that one or more groups of the members last named may be secured together by the upper and lower clips **10** whereupon the assembly may be disposed either in the channels **6**, **8** or the channels **7**, **9** of Fig. 4, the channel arrangement being such that the above noted assembly may first be moved upwardly so as to clear the lower channel arrangement, then moved toward the member **2**, and then permitted to descend into the position shown in said Fig. 4.

By reference to Fig. 3, the member "**15**" is shown as associated with the sign arrangement. Preferably, on the outer surface of the member **2**, the number "10" is permanently printed in approximately half-size characters as indicated at **11**. Then, by providing a series of detachable numerals of corresponding size from 1, 2, . . . 8, 9, as indicated at **12**, the operator of the gasoline station is able to display the price of gasoline to the last tenth of a cent.

It will be understood that the sign arrangement of Figs. 3, 4 and 5 is illustrative of but one of the equivalent arrangements which may be utilized. It will also be understood that numeral or letter displaying features of my invention may be employed in numerous ways other than as illustrated in Figs. 3, 4 and 5. This, for example, the numerals or letters of my invention may be large and used for advertising purposes; they may be small and used as toys or games; they may serve as type for printing purposes; the representation parts may be cut out or apertured so that the base members serve as stencils or molds; said last members may be supported so that a light beam

passes through the apertures for display purposes at night, etc.

Particularly as regards formation of letters in accordance with my invention, it will be understood that a large supply of individual members may be stored at a central point and distributed for use as desired in the surrounding territory.

As illustrated in Figs. 9 and 10, each representation-bearing member, whether numeral or letter, may have a neon tube 13, or equivalent, associated therewith, these tubes preferably having their ends extend through their associated supporting members so that they may be connected in suitable circuit relation. As clearly appears from Fig. 9, these separate tubes, when energized, function in an effective manner to display the intended character during a period of darkness.

While the invention has been described with respect to certain particular preferred examples which give satisfactory results, it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended therefore in the appended claims to cover all such changes and modifications.

What is claimed as new and desired to be secured by Letters Patent is:

1. Character displaying means comprising a plurality of members adapted to be associated in side-by-side relation with respect to each other to form a group displaying one character, one of said members being adapted to be associated in side-by-side relation with respect to other members to thereby form a group displaying another character, said one member occupying one position in the first group and a different relative position in the second group.

2. Character displaying means comprising a plurality of members adapted to be associated in side-by-side relation with respect to each other to form a group displaying one character, one of said members being adapted to be associated in side-by-side relation with respect to other members to thereby form a group displaying another character, said one member occupying one position in the first group and being turned end for end in the second group.

3. Character displaying means comprising a plurality of sheet-like members adapted to be associated in side-by-side relation with respect to each other to form a group displaying one character, opposite faces, respectively, of each of a plurality of said sheet-like members exhibiting representations, each representation forming a part of a character.

4. Character displaying means comprising a plurality of sheet-like members adapted to be associated in side-by-side relation with respect to each other to form a group displaying one character, opposite faces, respectively, of each of a plurality of said sheet-like members exhibiting representations, each representation forming a part of a character, some of the representations being common to a plurality of characters.

5. Character displaying means comprising a plurality of members adapted to be associated in side-by-side relation with respect to each other to form a group displaying one character, the member forming the center of said group being the common center of a plurality of groups of members each group of which forms a different character.

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