# Fifteen Puzzle

**a.k.a.** ***Game of Fifteen*****,** ***Sliding Numbers*****,** ***Gem Puzzle*****,** ***Boss Puzzle*****,** ***Le Taquin*****, ...**
*Old idea dating back at least to circa 1880, this version copyright ThinkFun 2000.*
(metal with plastic case, 2.5 inches; keychain 1.75 inches)

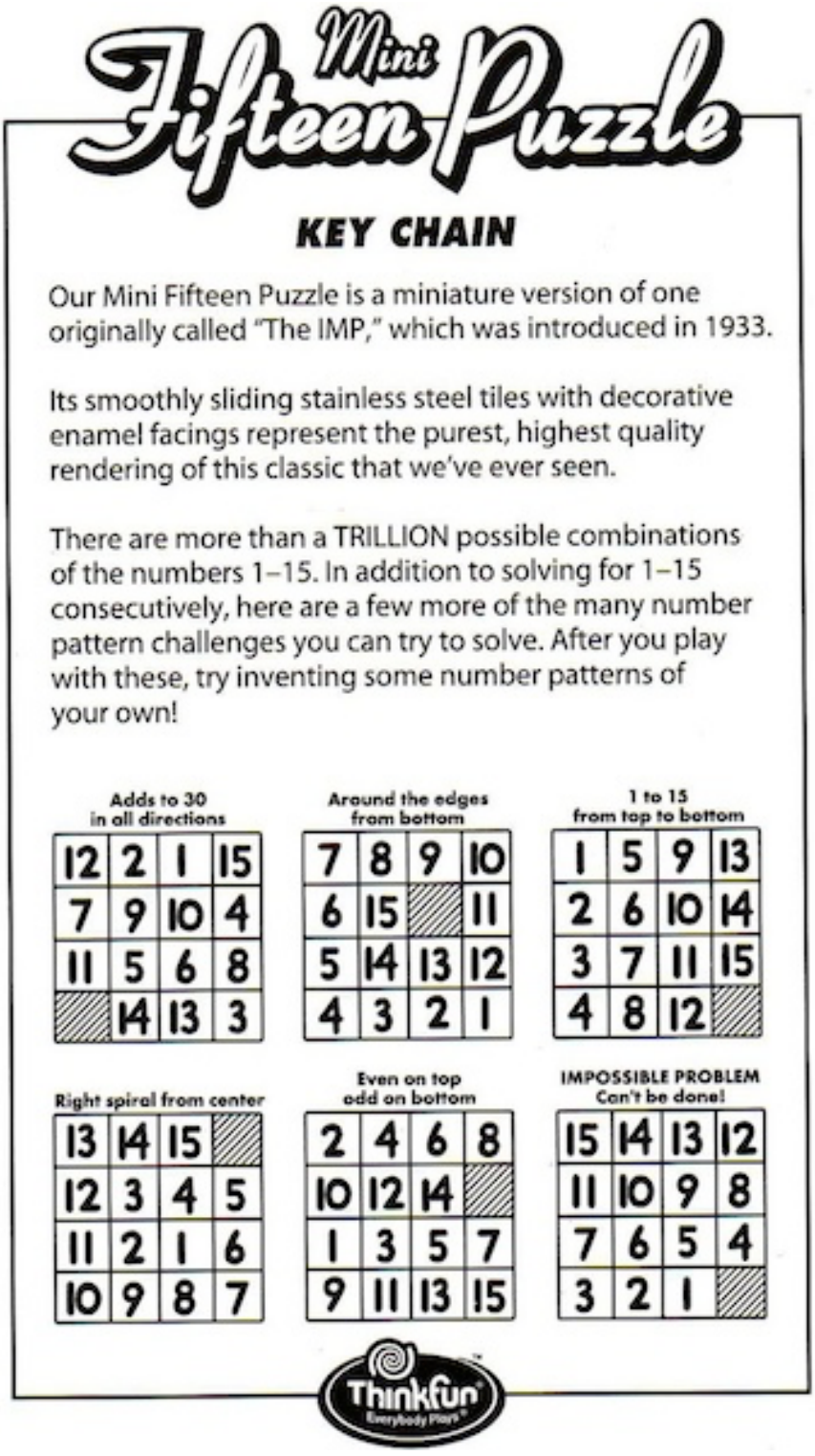
Packaged with 1 through 15 arranged by row (lower right empty). After sliding pieces to mix it up, one must return to the starting position. The back of the box says that this one reproduces a 1933 design called the *IMP*:



To solve, the top two rows are easy, then cycle the 7 pieces on the last two rows, taking "short cuts" as needed to rearrange the order of pieces in the cycle.

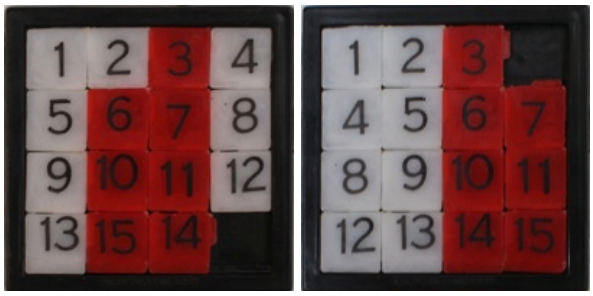
## Other Fifteen Problems

Here are some other problems from the back of the ThinkFun *Mini Fifteen* keychain. The first, to make a magic square with the empty square counting as 0, is the *Spanish Dungeon* of H.E. Dudeney 1917 (see *Baxter's Page*). The last, the reversing problem, is noted as impossible.

## The Fifteen-Fourteen Problem

A parity argument implies that half the puzzle configurations cannot be reached from any given configuration. For example, the starting position of the *Fifteen-Fourteen* puzzle shown on the left below has 14 and 15 exchanged, making the standard solution impossible (although as shown on the right below, solution is possible with the empty square in the upper right).

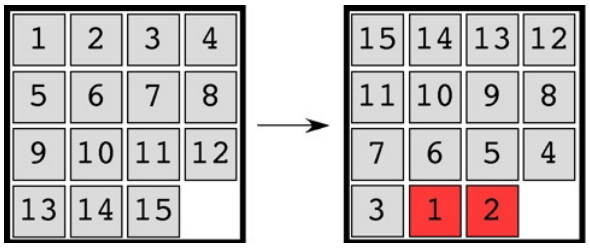



*Fifteen-Fourteen, used by J. A. Storer as a child circa 1965.*
(plastic, 2.5 inches)

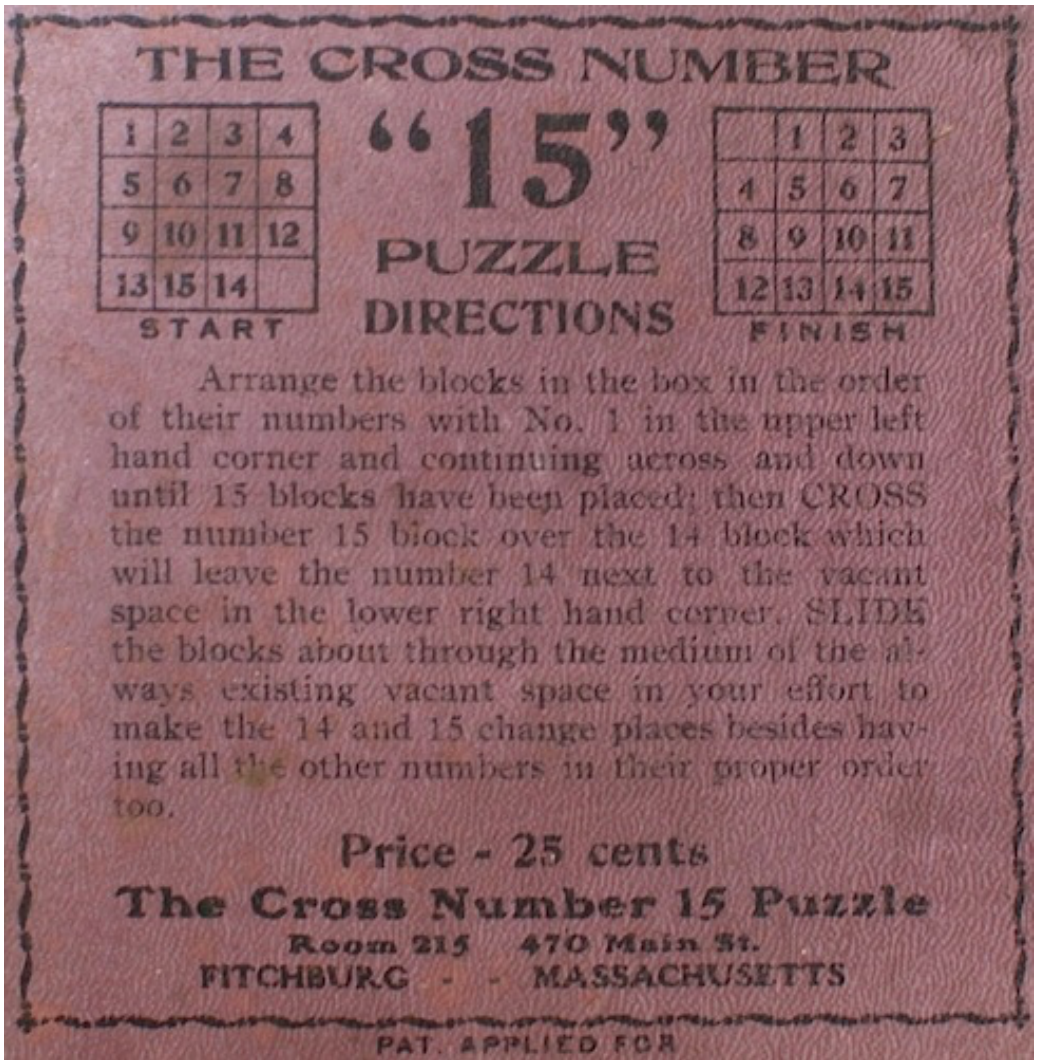
Here is a proof that the Fifteen-Fourteen problem cannot be solved, based on the presentation on the *Wikipedia Page*:

> Define the *count* of a position to be the number of pairs of pieces that are out of order plus the number of the row that contains the empty square (rows are numbered 1 to 4). The *parity* of a position is *even* if its count is an even number and *odd* otherwise. Moving a piece one left or right does not change the position count since this does not change the ordering of pieces or the row number of the empty square. Moving a piece vertically always changes the position count by 4 because it changes the order with respect to three other pieces and changes the row number of the empty square by 1. Hence, since both 0 and 4 are even numbers, each move preserves position parity, and all positions reachable from a given starting position must have the same parity. Thus, the 1-15 position cannot be reached from the 1-13-15-14 position because these positions have different parity.

In general, if you can get to where you have the position you want to reach except that in one place two adjacent squares are exchanged, then that position cannot be reached. For example, if someone gives you a what looks like a fifteen puzzle in a mixed up position, you can try to make the standard 1-15 position and either be successful or arrive at the 1-13-15-14 position (and be certain that this is a Fifteen-Fourteen puzzle for which a 1-15 solution is not possible). As another example, the *reversing problem* is not solvable, because it is possible to get to an almost reversed position except that the 1 and 2 are exchanged, as depicted below:



## Fifteen-Fourteen Problem Continued


*"The Cross Number", circa early 1900's?*
(wood box and 15 wood pieces, 4+3/8" x 4+3/8" x 1/2";
directions on top specify a solvable version of the Fifteen-Fourteen problem)

## The Fifteen Magic Square Problem (a.k.a. 34 Problem)

Old versions of the fifteen puzzle typically had pieces that could be removed, and sometimes a piece 16 was included that was not used to play the normal fifteen puzzle, or left in for making a *magic square* of the numbers 1 to 16, defined as an arrangement so that the four rows, the four columns, and the two diagonals all sum to 34. One example is the *Boss* puzzle shown on the next page, which refers to this as the "Thirty Four" problem. Here is another:


*"Le Taquin", manufactured by JJE Paris, circa 1880's.*
(wood box and 16 wood pieces, 3.9 by 3.9 by 3/4 inches;
shown on page 61 of the *Fifteen* book,
the French directions on the inside top cover describe both 15 and magic square)

The idea of magic squares dates to over a thousand years ago; here are two old designs shown on the *Wikipedia* page:

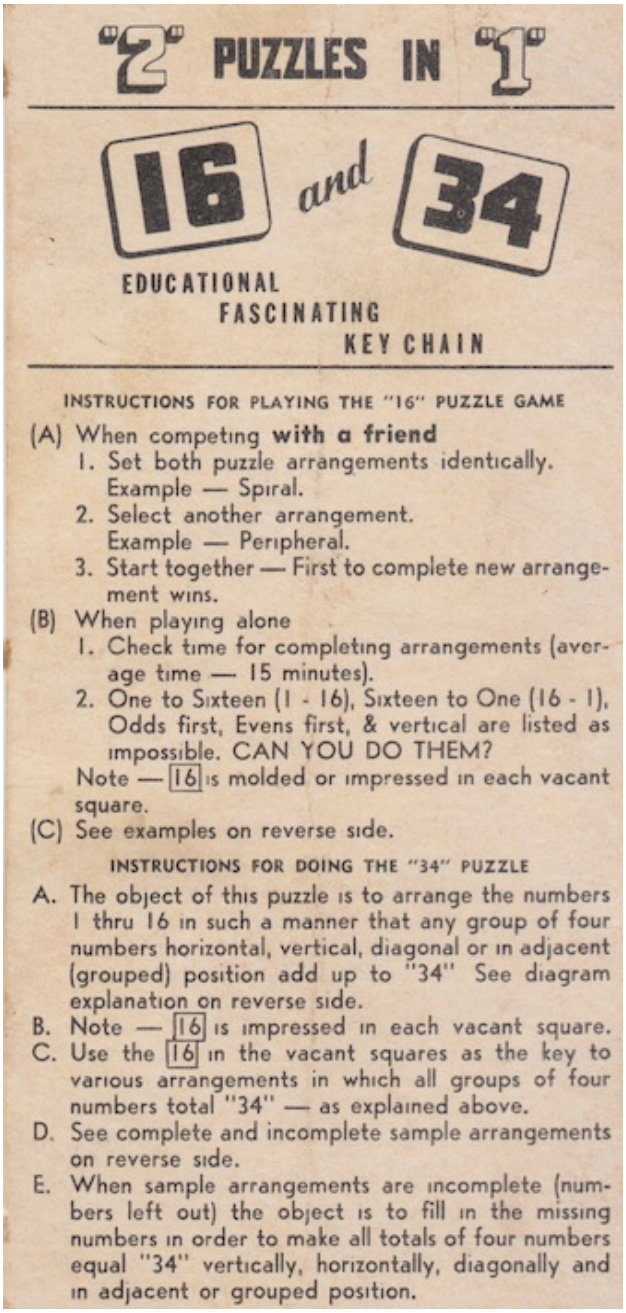
| | | | |
|---|---|---|---|
| **7** | **12** | **1** | **14** |
| **2** | **13** | **8** | **11** |
| **16** | **3** | **10** | **5** |
| **9** | **6** | **15** | **4** |

| | | | |
|---|---|---|---|
| **4** | **14** | **15** | **1** |
| **9** | **7** | **6** | **12** |
| **5** | **11** | **10** | **8** |
| **16** | **2** | **3** | **13** |

The *Winning Ways* book (page 778-783) discusses the design of 4x4 magic squares and notes that the 880 ways to do it for the numbers 1 to 16 (not counting reflections and rotations) was worked out in 1693 by Frenicle de Bessy; see also the *Wolfram Mathworld* page.

## Combined Puzzles

Many puzzles sold combined problems for fifteen and sixteen pieces; here are the front and back of directions that came with a "2 puzzles in 1" keychain puzzle:



"2" PUZZLES IN "1"

16 and 34

EDUCATIONAL
FASCINATING
KEY CHAIN

INSTRUCTIONS FOR PLAYING THE "16" PUZZLE GAME

(A) When competing **with a friend**
1. Set both puzzle arrangements identically. Example — Spiral.
2. Select another arrangement. Example — Peripheral.
3. Start together — First to complete new arrangement wins.

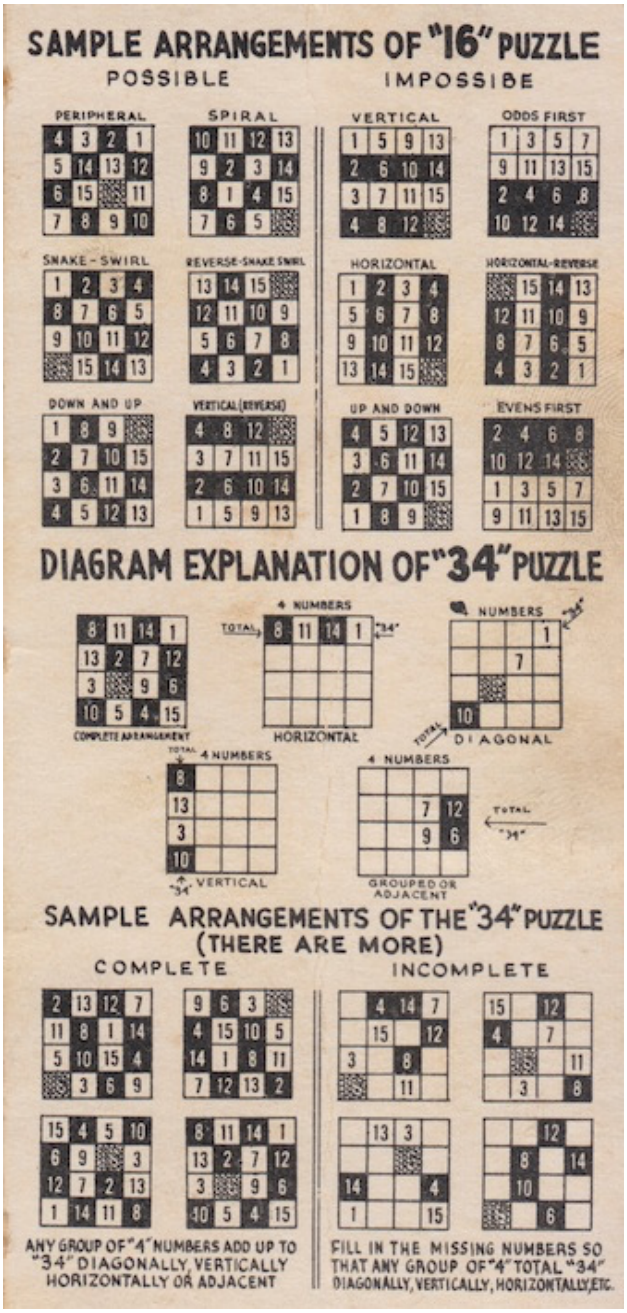
(B) When playing alone
1. Check time for completing arrangements (average time — 15 minutes).
2. One to Sixteen (1 - 16), Sixteen to One (16 - 1), Odds first, Evens first, & vertical are listed as impossible. CAN YOU DO THEM?

Note — [16] is molded or impressed in each vacant square.

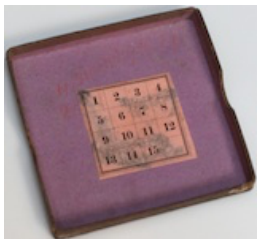
(C) See examples on reverse side.

INSTRUCTIONS FOR DOING THE "34" PUZZLE

A. The object of this puzzle is to arrange the numbers 1 thru 16 in such a manner that any group of four numbers horizontal, vertical, diagonal or in adjacent (grouped) position add up to "34" See diagram explanation on reverse side.
B. Note — [16] is impressed in each vacant square.
C. Use the [16] in the vacant squares as the key to various arrangements in which all groups of four numbers total "34" — as explained above.
D. See complete and incomplete sample arrangements on reverse side.
E. When sample arrangements are incomplete (numbers left out) the object is to fill in the missing numbers in order to make all totals of four numbers equal "34" vertically, horizontally, diagonally and in adjacent or grouped position.



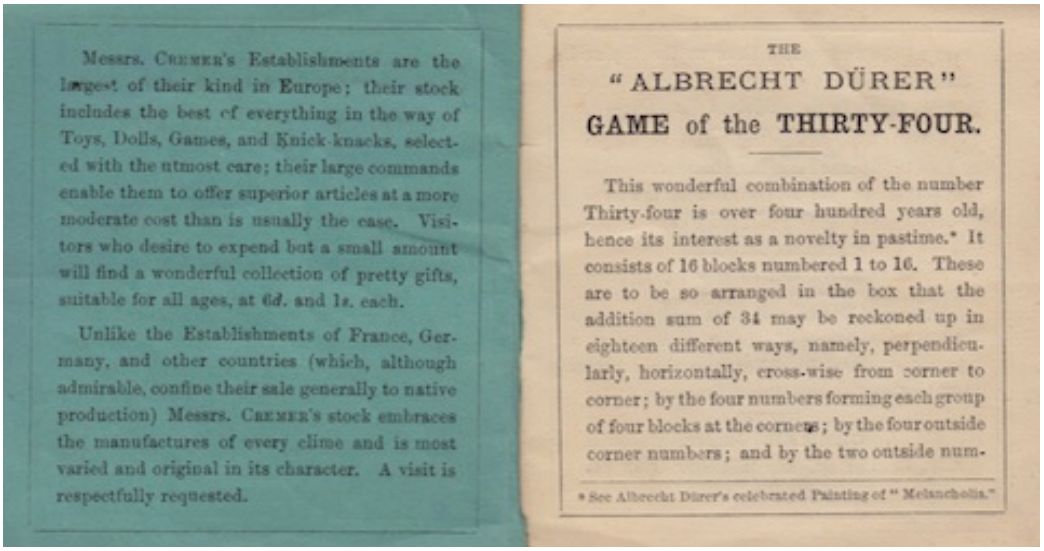
# The Boss 15 and 34 Puzzle




*"BOSS THE NEW GAME OF FIFTEEN", W. H. Cremer, London, 1880.*
(cardboard box and 16 wood pieces, 3.5 by 3.5 by 5/8 inches;
15 diagram on underside of the box top, and 17 page booklet about the 34 puzzle;
similar to the puzzle shown on page 73 of the *Fifteen* book)

# Boss Boolet Pages About The Game Of 34



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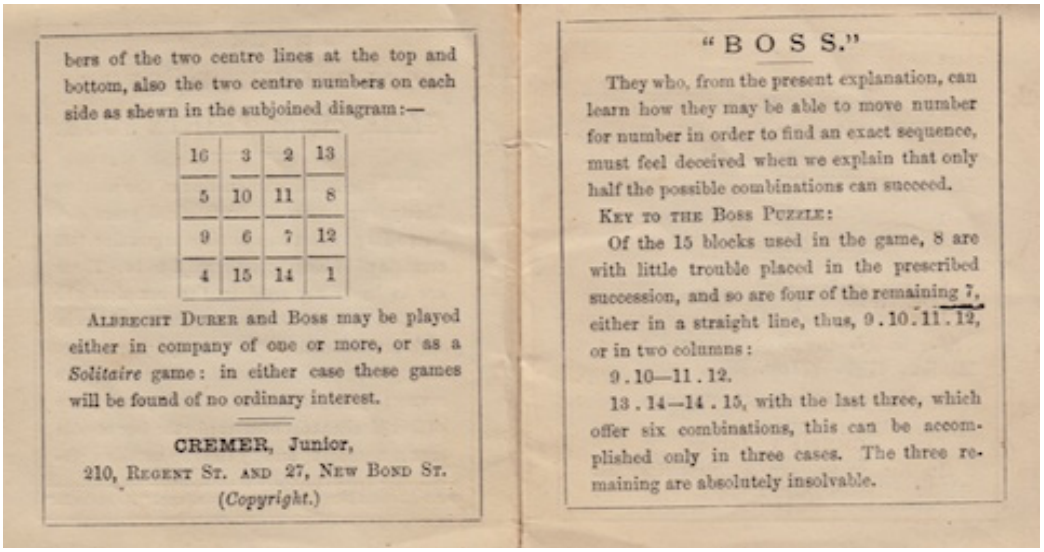
THE

## "ALBRECHT DÜRER"

## GAME of the THIRTY-FOUR.

This wonderful combination of the number Thirty-four is over four hundred years old, hence its interest as a novelty in pastime.* It consists of 16 blocks numbered 1 to 16. These are to be so arranged in the box that the addition sum of 34 may be reckoned up in eighteen different ways, namely, perpendicularly, horizontally, cross-wise from corner to corner; by the four numbers forming each group of four blocks at the corners; by the four outside corner numbers; and by the two outside num-

* See Albrecht Dürer's celebrated Painting of "Melancholia."



bers of the two centre lines at the top and bottom, also the two centre numbers on each side as shewn in the subjoined diagram:—

| | | | |
|---|---|---|---|
| 16 | 3 | 2 | 13 |
| 5 | 10 | 11 | 8 |
| 9 | 6 | 7 | 12 |
| 4 | 15 | 14 | 1 |

ALBRECHT DURER and Boss may be played either in company of one or more, or as a *Solitaire* game: in either case these games will be found of no ordinary interest.

**CREMER, Junior,**
210, REGENT ST. AND 27, NEW BOND ST.
*(Copyright.)*

## "B O S S."

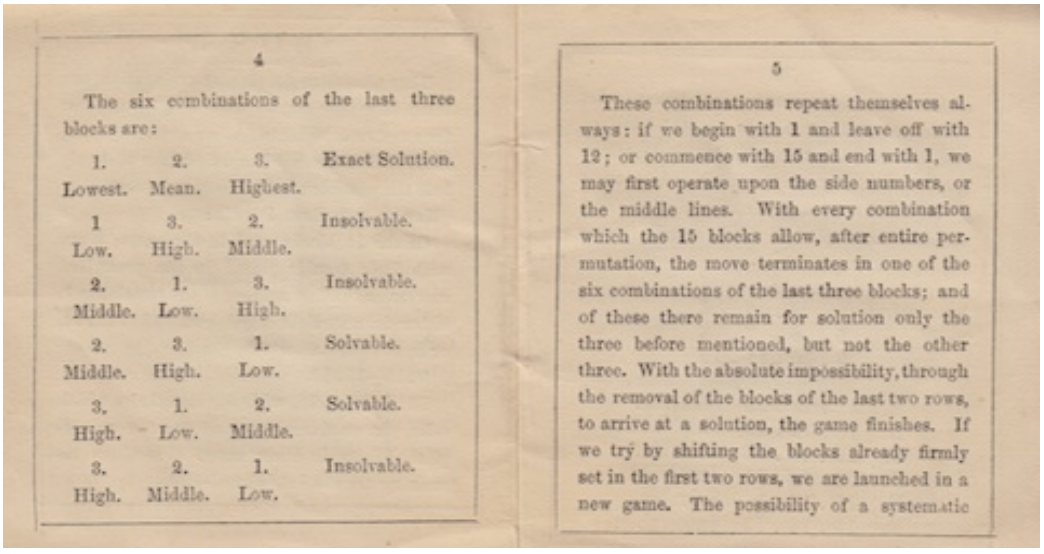
They who, from the present explanation, can learn how they may be able to move number for number in order to find an exact sequence, must feel deceived when we explain that only half the possible combinations can succeed.

KEY TO THE BOSS PUZZLE:

Of the 15 blocks used in the game, 8 are with little trouble placed in the prescribed succession, and so are four of the remaining 7, either in a straight line, thus, 9.10.11.12, or in two columns:

9.10—11.12.

13.14—14.15, with the last three, which offer six combinations, this can be accomplished only in three cases. The three remaining are absolutely insolvable.



4

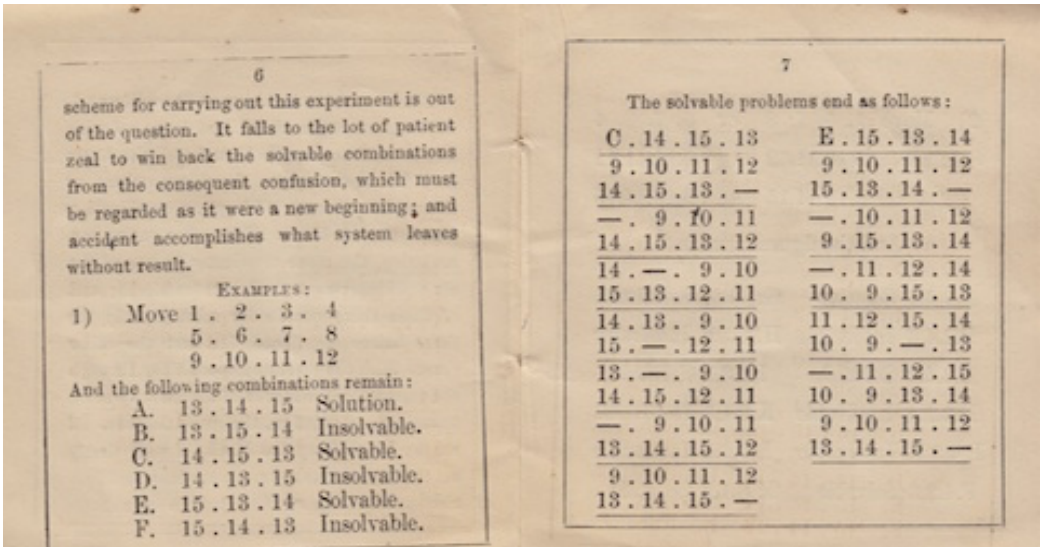
The six combinations of the last three blocks are:

| 1. Lowest. | 2. Mean. | 3. Highest. | Exact Solution. |
|---|---|---|---|
| 1 Low. | 3. High. | 2. Middle. | Insolvable. |
| 2. Middle. | 1. Low. | 3. High. | Insolvable. |
| 2. Middle. | 3. High. | 1. Low. | Solvable. |
| 3. High. | 1. Low. | 2. Middle. | Solvable. |
| 3. High. | 2. Middle. | 1. Low. | Insolvable. |

5

These combinations repeat themselves always: if we begin with 1 and leave off with 12; or commence with 15 and end with 1, we may first operate upon the side numbers, or the middle lines. With every combination which the 15 blocks allow, after entire permutation, the move terminates in one of the six combinations of the last three blocks; and of these there remain for solution only the three before mentioned, but not the other three. With the absolute impossibility, through the removal of the blocks of the last two rows, to arrive at a solution, the game finishes. If we try by shifting the blocks already firmly set in the first two rows, we are launched in a new game. The possibility of a systematic

# Boss Puzzle Booklet Pages About The Game Of 34, Continued



6

scheme for carrying out this experiment is out of the question. It falls to the lot of patient zeal to win back the solvable combinations from the consequent confusion, which must be regarded as it were a new beginning; and accident accomplishes what system leaves without result.

EXAMPLES:

1) Move 1 . 2 . 3 . 4
5 . 6 . 7 . 8
9 . 10 . 11 . 12

And the following combinations remain:

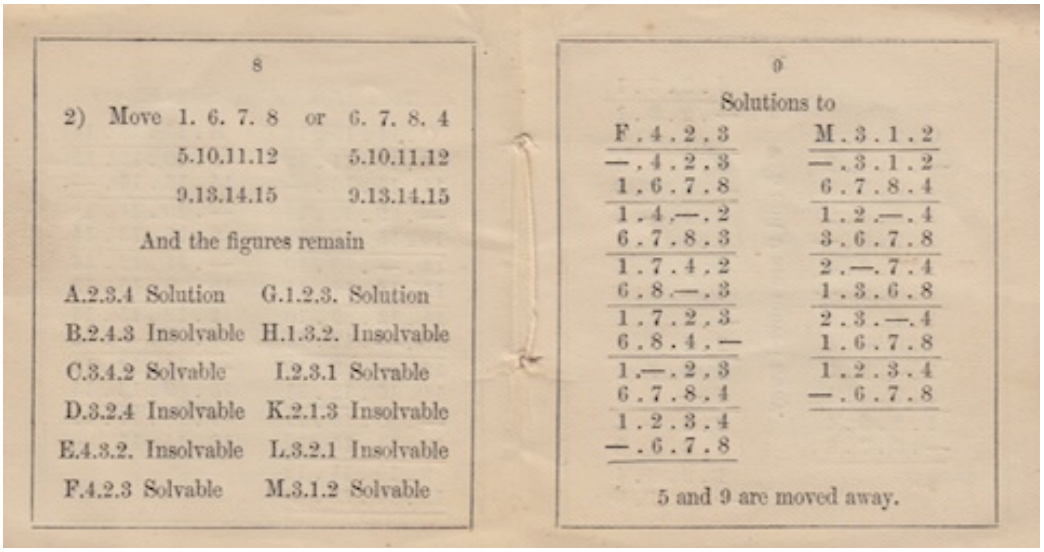
A. 13 . 14 . 15 Solution.
B. 13 . 15 . 14 Insolvable.
C. 14 . 15 . 13 Solvable.
D. 14 . 13 . 15 Insolvable.
E. 15 . 13 . 14 Solvable.
F. 15 . 14 . 13 Insolvable.

7

The solvable problems end as follows:

C . 14 . 15 . 13
9 . 10 . 11 . 12
14 . 15 . 13 . —
— . 9 . 10 . 11
14 . 15 . 13 . 12
14 . — . 9 . 10
15 . 13 . 12 . 11
14 . 13 . 9 . 10
15 . — . 12 . 11
13 . — . 9 . 10
14 . 15 . 12 . 11
— . 9 . 10 . 11
13 . 14 . 15 . 12
9 . 10 . 11 . 12
13 . 14 . 15 . —

E . 15 . 13 . 14
9 . 10 . 11 . 12
15 . 13 . 14 . —
— . 10 . 11 . 12
9 . 15 . 13 . 14
— . 11 . 12 . 14
10 . 9 . 15 . 13
11 . 12 . 15 . 14
10 . 9 . — . 13
— . 11 . 12 . 15
10 . 9 . 13 . 14
9 . 10 . 11 . 12
13 . 14 . 15 . —



8

2) Move 1. 6. 7. 8 or 6. 7. 8. 4
5.10.11.12 5.10.11.12
9.13.14.15 9.13.14.15

And the figures remain

A.2.3.4 Solution G.1.2.3. Solution
B.2.4.3 Insolvable H.1.3.2. Insolvable
C.3.4.2 Solvable I.2.3.1 Solvable
D.3.2.4 Insolvable K.2.1.3 Insolvable
E.4.3.2. Insolvable L.3.2.1 Insolvable
F.4.2.3 Solvable M.3.1.2 Solvable

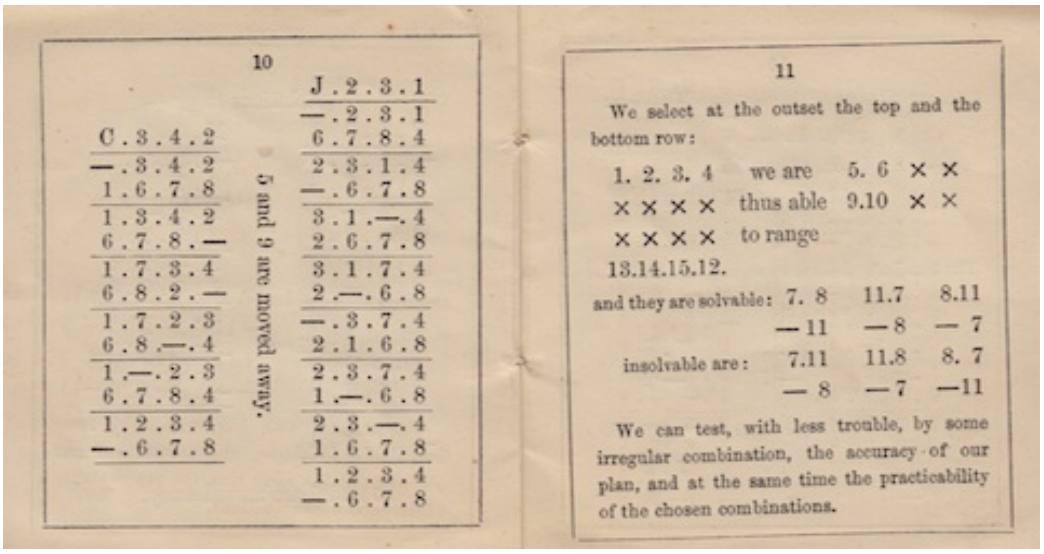
9

Solutions to

F . 4 . 2 . 3
— . 4 . 2 . 3
1 . 6 . 7 . 8
1 . 4 . — . 2
6 . 7 . 8 . 3
1 . 7 . 4 . 2
6 . 8 . — . 3
1 . 7 . 2 . 3
6 . 8 . 4 . —
1 . — . 2 . 3
6 . 7 . 8 . 4
1 . 2 . 3 . 4
— . 6 . 7 . 8

M . 3 . 1 . 2
— . 3 . 1 . 2
6 . 7 . 8 . 4
1 . 2 . — . 4
3 . 6 . 7 . 8
2 . — . 7 . 4
1 . 3 . 6 . 8
2 . 3 . — . 4
1 . 6 . 7 . 8
1 . 2 . 3 . 4
— . 6 . 7 . 8

5 and 9 are moved away.



10

C . 3 . 4 . 2
— . 3 . 4 . 2
1 . 6 . 7 . 8
1 . 3 . 4 . 2
6 . 7 . 8 . —
1 . 7 . 3 . 4
6 . 8 . 2 . —
1 . 7 . 2 . 3
6 . 8 . — . 4
1 . — . 2 . 3
6 . 7 . 8 . 4
1 . 2 . 3 . 4
— . 6 . 7 . 8

5 and 9 are moved away.

J . 2 . 3 . 1
— . 2 . 3 . 1
6 . 7 . 8 . 4
2 . 3 . 1 . 4
— . 6 . 7 . 8
3 . 1 . — . 4
2 . 6 . 7 . 8
3 . 1 . 7 . 4
2 . — . 6 . 8
— . 3 . 7 . 4
2 . 1 . 6 . 8
2 . 3 . 7 . 4
1 . — . 6 . 8
2 . 3 . — . 4
1 . 6 . 7 . 8
1 . 2 . 3 . 4
— . 6 . 7 . 8

11

We select at the outset the top and the bottom row:

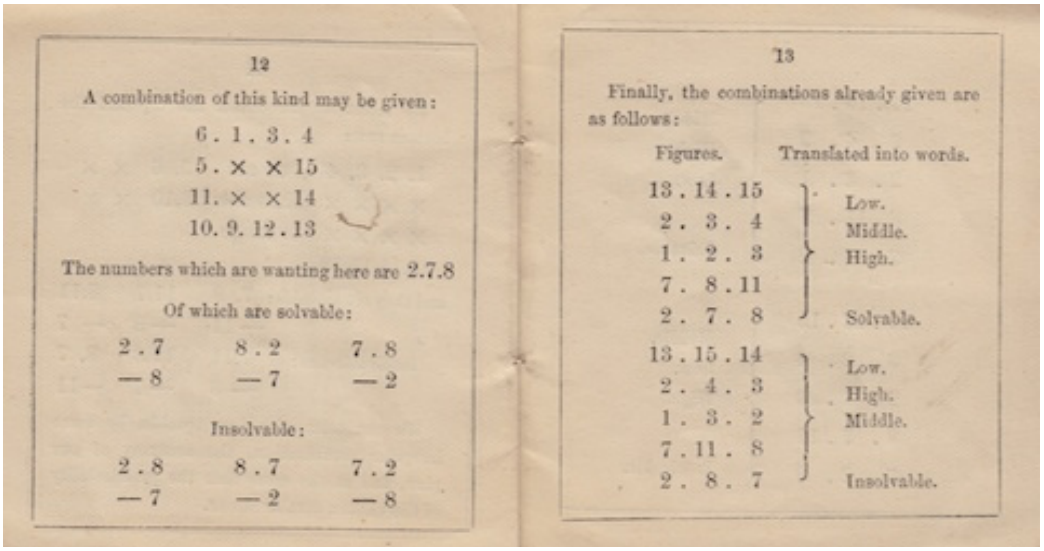
1. 2. 3. 4 we are 5. 6 × ×
× × × × thus able 9.10 × ×
× × × × to range
13.14.15.12.

and they are solvable: 7. 8 11.7 8.11
— 11 — 8 — 7

insolvable are: 7.11 11.8 8. 7
— 8 — 7 —11

We can test, with less trouble, by some irregular combination, the accuracy of our plan, and at the same time the practicability of the chosen combinations.

# Boss Puzzle Booklet Pages About The Game Of 34, Continued



12

A combination of this kind may be given:

6 . 1 . 3 . 4
5 . × × 15
11 . × × 14
10 . 9 . 12 . 13

The numbers which are wanting here are 2.7.8

Of which are solvable:

| | | |
|---|---|---|
| 2 . 7 | 8 . 2 | 7 . 8 |
| — 8 | — 7 | — 2 |

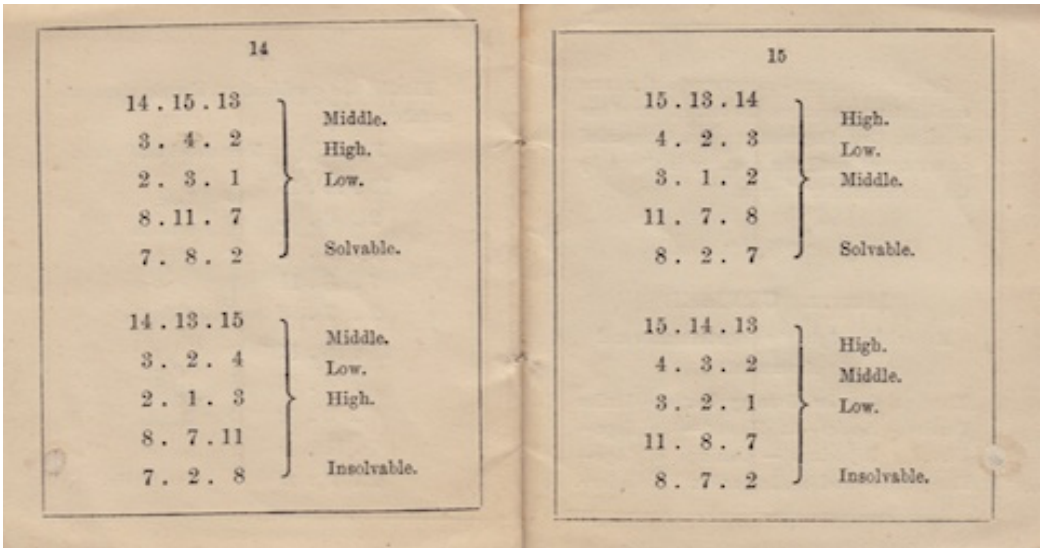
Insolvable:

| | | |
|---|---|---|
| 2 . 8 | 8 . 7 | 7 . 2 |
| — 7 | — 2 | — 8 |

13

Finally, the combinations already given are as follows:

| Figures. | Translated into words. |
|---|---|
| 13 . 14 . 15 | Low. |
| 2 . 3 . 4 | Middle. |
| 1 . 2 . 3 | High. |
| 7 . 8 . 11 | |
| 2 . 7 . 8 | Solvable. |
| 13 . 15 . 14 | Low. |
| 2 . 4 . 3 | High. |
| 1 . 3 . 2 | Middle. |
| 7 . 11 . 8 | |
| 2 . 8 . 7 | Insolvable. |

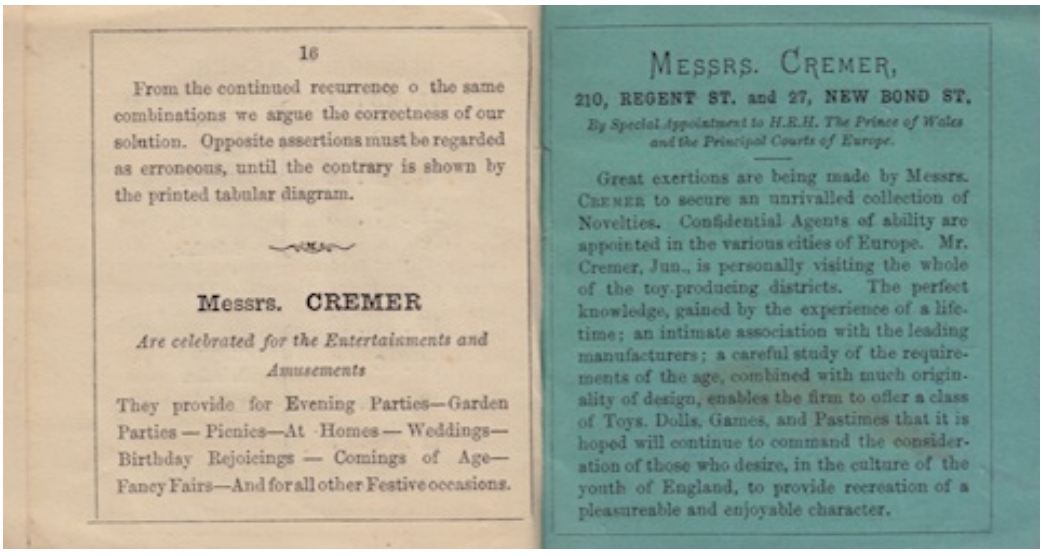


14

| | |
|---|---|
| 14 . 15 . 13 | Middle. |
| 3 . 4 . 2 | High. |
| 2 . 3 . 1 | Low. |
| 8 . 11 . 7 | |
| 7 . 8 . 2 | Solvable. |
| 14 . 13 . 15 | Middle. |
| 3 . 2 . 4 | Low. |
| 2 . 1 . 3 | High. |
| 8 . 7 . 11 | |
| 7 . 2 . 8 | Insolvable. |

15

| | |
|---|---|
| 15 . 13 . 14 | High. |
| 4 . 2 . 3 | Low. |
| 3 . 1 . 2 | Middle. |
| 11 . 7 . 8 | |
| 8 . 2 . 7 | Solvable. |
| 15 . 14 . 13 | High. |
| 4 . 3 . 2 | Middle. |
| 3 . 2 . 1 | Low. |
| 11 . 8 . 7 | |
| 8 . 7 . 2 | Insolvable. |



16

From the continued recurrence o the same combinations we argue the correctness of our solution. Opposite assertions must be regarded as erroneous, until the contrary is shown by the printed tabular diagram.

# An 1880 Newspaper Column On The Fifteen Puzzle

This clipping was tucked into a copy of the 1893 *Hoffmann book*; from the text on the reverse side, it appears to be from a February 13, 1880 issue of an Albany newspaper.

## THE GAME OF FIFTEEN.

*A PUZZLE OVER WHICH PERSONS ARE SAID TO HAVE GONE CRAZY.*

*Solution of the Popular Puzzle—The Mysteries of the Game of Fifteen Exposed.*

It is said that the game of "fifteen" was invented by N. P. Chapman, postmaster of Canastota. Our readers, especially those who are wrecked on "impossible combinations," will remember that this is the same individual whose office was robbed of a pipe, pair of boots and other valuables not long since. The first one of the games invented found its way into the hands of a Syracuse lady, who gave it to an invalid lady at Watch Hill, R. I. This lady took it home to Hartford, Conn., where it attracted considerable attention. A Boston firm soon began manufacturing it. It was not long before two firms were engaged in the manufacture of the blocks. Firm No. 1 tried to block the game of No. 2, but could not because the invention was not patented. The puzzle is being manufactured at the rate of 2,000 a day. The number of possible combinations is said to be 1,397,674,368,000, but there are hundreds of people who firmly believe there are ten times as many ways in which it can't be done.

It is possible that the publication of a solution of the famous puzzle may interrupt rudely the reveries of the philosophers who have either solved the problem for themselves or have the leisure to toil over its intricacies. But the conviction that a solution will bear an olive branch of peace to countless stricken households prompts the N. Y. Evening Post in a spirit of broad philanthropy to offer what appears to be one of several keys to the game.

For the sake of clearness, says the Post, let us first agree that the row of numbers next to the side of the box furthest from the holder, and containing the numbers 1, 2, 3 and 4, shall be called A. The next parallel row, containing the numbers 5, 6, 7 and 8 be called B; and the third row, containing the numbers 9, 10, 11 and 12 be called C. We shall see that B and C are the important rows in our solution.

At the outset, instead of getting the lower numbers in their numerical order, the quicker way to a solution is to arrange eleven numbers in their proper order on the outside rows of the box. That order, it will be seen, is 1, 2, 3, 4, 8, 12, 15, 14, 13, 9, 5, and we can begin with any one of these numbers and work either one way or both ways. This order can be quickly secured by using the four central squares and three blocks. Move into the central square the outer block (any one of those numbered above), turn it until opposite its proper place and make a vacancy for it by removing a block from another part of the outer rows and shifting the outer blocks around. So easily is this done that we leave it to the ingenuity of our readers without further instructions.

The outer blocks having been arranged, the puzzle is limited to the four central squares and the numbers 6, 7, 10 and 11, which will rarely come in their proper order. These four numbers are susceptible of 24 combinations, which, however, as we shall show hereafter, may be resolved into two, namely, a double inversion (in row B 7, 6 and in row C 11, 10, and a single inversion (row B correct and 11, 10 in row C). The double inversion is solved as follows, understanding the mandatory word move before each of the numbers which follow:

12, 8, 6, 10, 11, 7, 10, 6, 8, 11, 6, 10, 7, 6, 10, 7, 6, 10, 11, 12.

Let the foregoing formula be called X

The single inversion (row B correct and 11, 10 in row C), which seems to involve the whole secret of the puzzle, will be solved by moving the following numbers in the order prescribed:

12, 8, 7, 10, 11, 6, 10, 7, 8, 11, 7, 10, 6, 7, 11, 8, 10, 11, 7, 6, 11, 10, 8, 7, 10, 11, 10, 7, 8, 11, 7, 10, 6 7, 11, 8, 12. We now have 7, 11 in row B and 6, 10 in row C. Move all the outer blocks until number 5 is shifted four places and is next to 6 Move the box one-quarter around and it will be seen that the solution is complete. Let the foregoing formula be called Y.

We have disposed of three of the twenty-four combinations possible with the four central numbers. The three are: (1) The right order, (2) one double inversion and (3) one single inversion. Any one of the remaining twenty-one combinations can be quickly converted into one of the foregoing three by applying to them repeatedly the method of moves in formula X, or the method represented in the first eight moves of formula X, or both methods combined. The moves are to be the same, though the order of numbers will, of course, be different. Formula X, and also its first eight moves, should therefore be practiced carefully before any conversion of the twenty-one combinations is tried. After the double or single inversion is obtained they can then be solved by formulas X and Y respectively. All this, which appears complex and difficult on paper, will be readily understood when the box can be used for illustration. The time for solving the puzzle from the beginning is from four to ten minutes.

Any possible combination of the numbers can, in the way we have explained, be merged into some one of the four combinations of the four central blocks, and then solved by the formulas given. This applies, of course, to the final combinations of 15, 14, 13, and 13, 15, 14, and 14, 13, 15, which have been so trying to the nerves and tempers of our provincial friends in Rochester.

There is another story that a deaf-mute in Hartford, Conn., invented this notorious game of fifteen. This is the story current among those engaged in the manufacture of the puzzle. He told his friends about it, and they saw more than a game in it, looking upon it as a mathematical study and its solution as a science. In a short time a factory was started to make the puzzle for public sale. The N. Y. Sun says:

"A Broadway firm of dealers in five and ten cent goods sold 230 gross of this puzzle in one day. A member of the firm invented a new form of this puzzle:

L I T T
L E B U
T T E R
C U P

He sent it out to dealers who ordered assortments of cheap goods. Nothing was heard from it for a time. Suddenly from Chicago, in holiday time, came a flood of orders. The numerical puzzle was not yet known—that is, not yet in vogue there. The puzzle is utilized for advertising. A Southern transportation company has ordered boxes of blocks, which, when properly arranged, will spell the name of the company. A sewing machine company has utilized it in the same manner. It is said that an up-town firm of jewellers has ordered 1,000 of these puzzles made of ivory blocks in fancy boxes. They are to retail for $4 apiece. Another firm is having the puzzle made in glass, with the numbers ground upon the faces of the blocks. These are to sell for 25 cents.

By adding a sixteenth block, the game of thirty-four or the game of sixteen is produced. The object of the player is to so arrange the blocks that the sum of their numbers will be thirty-four when added horizontally, perpendicularly, or diagonally. The blocks may be taken out and changed in whatever manner the player chooses. This is the solution:

| | | | |
|---|---|---|---|
| 1 | 15 | 14 | 4 |
| 12 | 6 | 7 | 9 |
| 8 | 10 | 11 | 5 |
| 13 | 3 | 2 | 16 |

"The puzzle is not new. On the library ceiling in what is called the "castle," at the Schuetzen Park on Bergen Heights, the puzzle is in fresco. It is over the head of whoever lies on the lounge near the library window, and it is a favorite amusement of visitors there to lie and study it. Not only is the sum of thirty-four arrived at in all the lines diagonal, as horizontal and perpendicular, but thirty-four is also the sum of each of the sets of four numbers composing the four corners, of the corner numbers themselves, and, in fact, of every four numbers that form smaller squares with the main square."

# IMP Puzzle - On Which the ThinkFun Version Was Based

Shown on page 102 of the *Fifteen* book. This 2.5 inch square metal puzzle was made in the 1933 to 1934 time frame in a number of similar variations, including different pegs on which the pieces slide (round vs. square), different colors, different text on the sides of the puzzle, different cases (shiny vs. textured red), similar but different booklets (all are 2.25 inches square with the same cover graphics), and even a *braille* version.

round pegs with black and white tiles,
bottom edge says
MADE IN U.S.A.,
left edge says
"IMP" PAT. APPLIED FOR,
right edge says
MODERN BRANDS INC. N. Y.,
top edge is blank

square pegs with black and white tiles,
bottom edge says
"IMP" PAT. APPLIED FOR MADE IN U.S.A.,
top edge says
MODERN BRANDS INC. N. Y.,
other edges are blank

square pegs with black and red tiles,
bottom edge says
"IMP" PAT. APPLIED FOR MADE IN U.S.A.,
top edge says
MODERN BRANDS INC. N. Y.,
other edges are blank

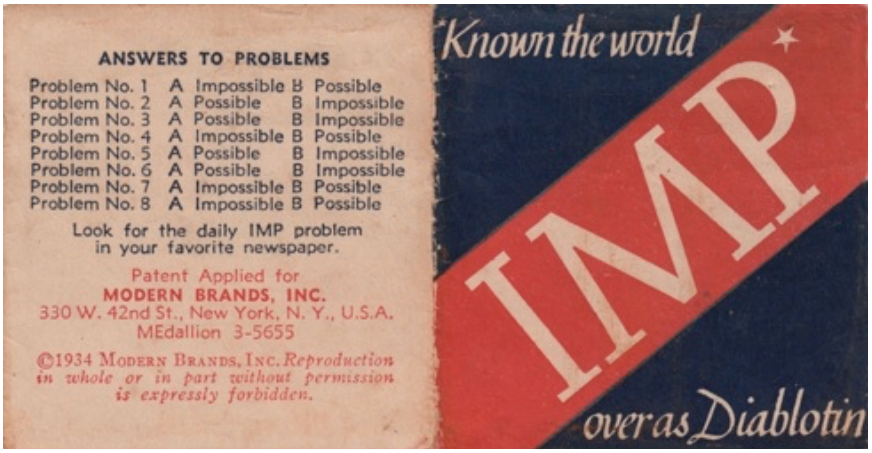
square pegs with black and red tiles,
bottom edge says
"IMP" PAT. APPLIED FOR,
top edge says
IMPORTED BRANDS INC. N. Y.,
left and right edges are blank

square pegs with red and white tiles,
bottom edge says
"IMP" PAT. APPLIED FOR,
top edge says
IMPORTED BRANDS INC. N. Y.,
left and right edges are blank

square pegs with blue and white tiles,
bottom edge says
"IMP" PAT. APPLIED FOR,
top edge says
IMPORTED BRANDS INC. N. Y.,
left and right edges are blank

# IMP 1934 Booklet - *Modern Brands*

(from the black & white round peg MODERN BRANDS version shown above)



**ANSWERS TO PROBLEMS**

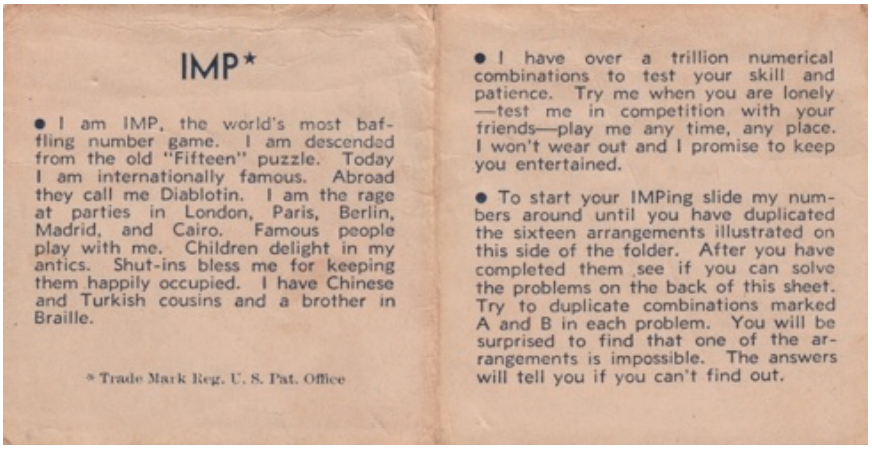
| | | | | |
|---|---|---|---|---|
| Problem No. 1 | A | Impossible | B | Possible |
| Problem No. 2 | A | Possible | B | Impossible |
| Problem No. 3 | A | Possible | B | Impossible |
| Problem No. 4 | A | Impossible | B | Possible |
| Problem No. 5 | A | Possible | B | Impossible |
| Problem No. 6 | A | Possible | B | Impossible |
| Problem No. 7 | A | Impossible | B | Possible |
| Problem No. 8 | A | Impossible | B | Possible |

Look for the daily IMP problem in your favorite newspaper.

Patent Applied for
**MODERN BRANDS, INC.**
330 W. 42nd St., New York, N. Y., U.S.A.
MEdallion 3-5655







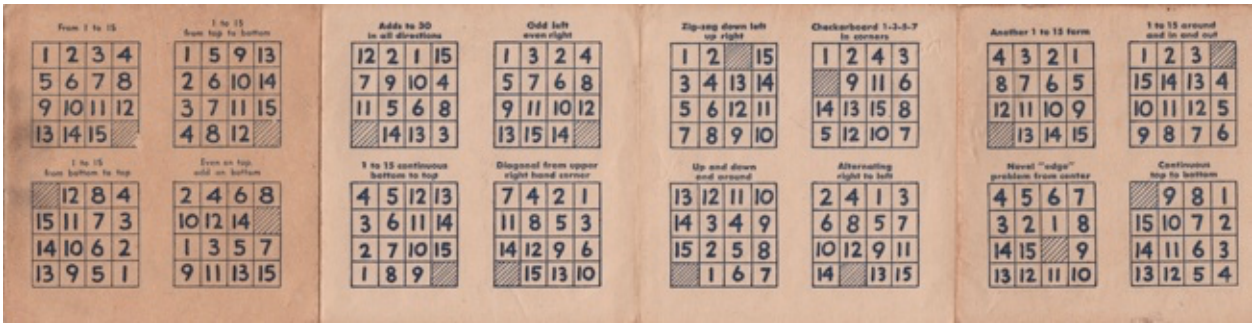
## IMP*

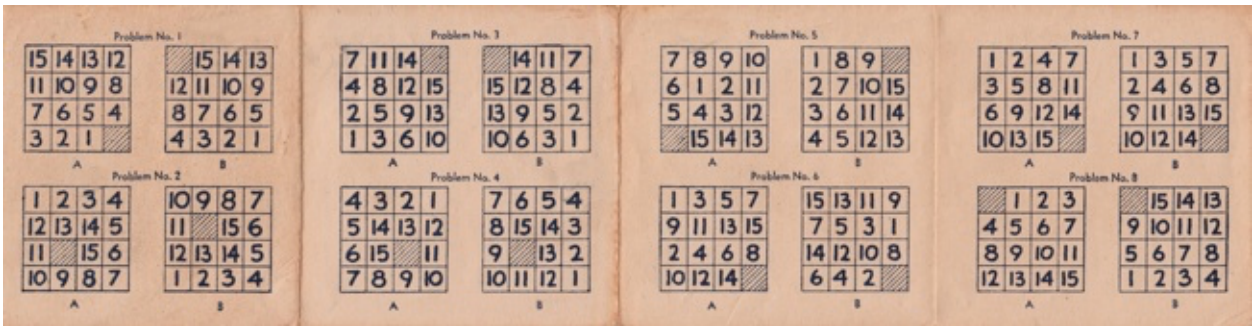
● I am IMP, the world's most baffling number game. I am descended from the old "Fifteen" puzzle. Today I am internationally famous. Abroad they call me Diablotin. I am the rage at parties in London, Paris, Berlin, Madrid, and Cairo. Famous people play with me. Children delight in my antics. Shut-ins bless me for keeping them happily occupied. I have Chinese and Turkish cousins and a brother in Braille.

* Trade Mark Reg. U. S. Pat. Office

● I have over a trillion numerical combinations to test your skill and patience. Try me when you are lonely —test me in competition with your friends—play me any time, any place. I won't wear out and I promise to keep you entertained.

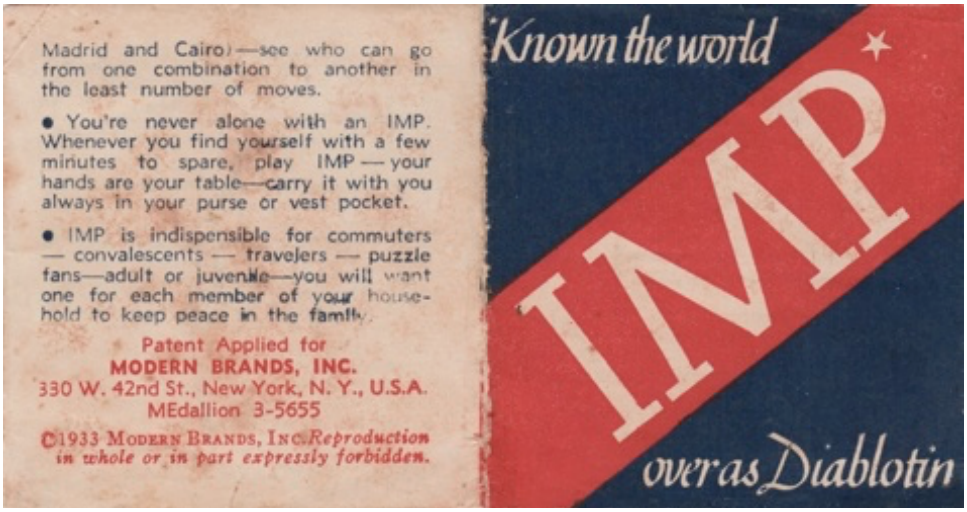
● To start your IMPing slide my numbers around until you have duplicated the sixteen arrangements illustrated on this side of the folder. After you have completed them see if you can solve the problems on the back of this sheet. Try to duplicate combinations marked A and B in each problem. You will be surprised to find that one of the arrangements is impossible. The answers will tell you if you can't find out.





# IMP 1933 Booklet - *Modern Brands*

(from the black & white square peg MODERN BRANDS version shown above)



Madrid and Cairo)—see who can go from one combination to another in the least number of moves.

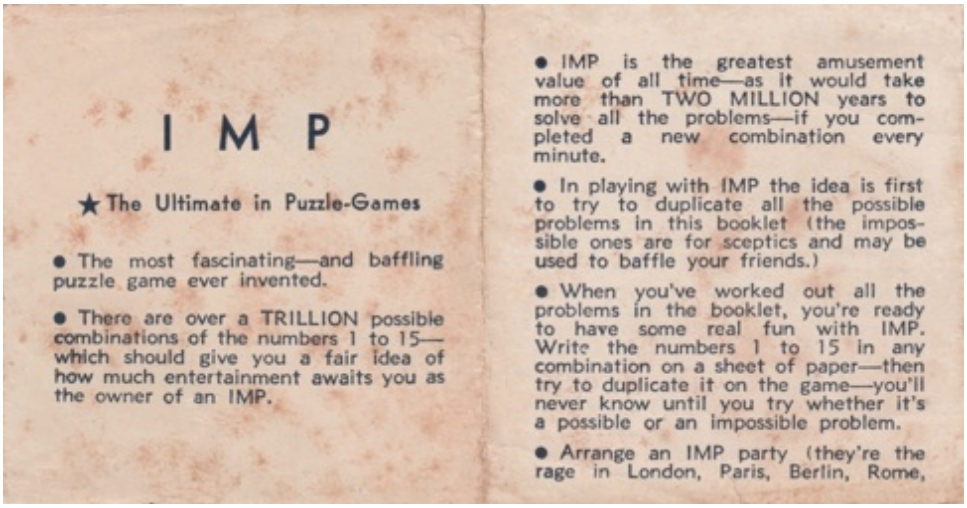
● You're never alone with an IMP. Whenever you find yourself with a few miriutes to spare, play IMP — your hands are your table—carry it with you always in your purse or vest pocket.

● IMP is indispensible for commuters — convalescents — travelers — puzzle fans—adult or juvenile—you will want one for each member of your household to keep peace in the family.

Patent Applied for
**MODERN BRANDS, INC.**
330 W. 42nd St., New York, N. Y., U.S.A.
MEdallion 3-5655







# I M P

★ The Ultimate in Puzzle-Games

● The most fascinating—and baffling puzzle game ever invented.

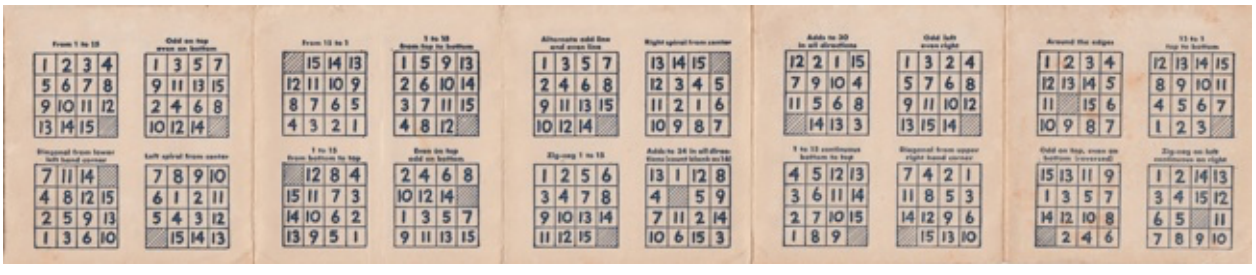
● There are over a TRILLION possible combinations of the numbers 1 to 15—which should give you a fair idea of how much entertainment awaits you as the owner of an IMP.

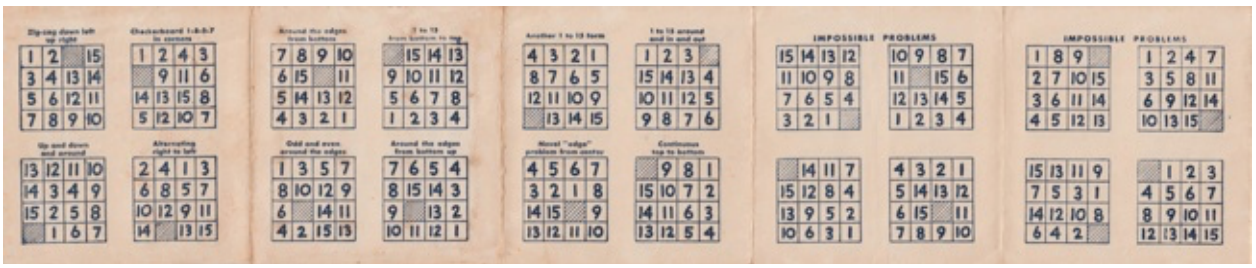
● IMP is the greatest amusement value of all time—as it would take more than TWO MILLION years to solve all the problems—if you completed a new combination every minute.

● In playing with IMP the idea is first to try to duplicate all the possible problems in this booklet (the impossible ones are for sceptics and may be used to baffle your friends.)

● When you've worked out all the problems in the booklet, you're ready to have some real fun with IMP. Write the numbers 1 to 15 in any combination on a sheet of paper—then try to duplicate it on the game—you'll never know until you try whether it's a possible or an impossible problem.

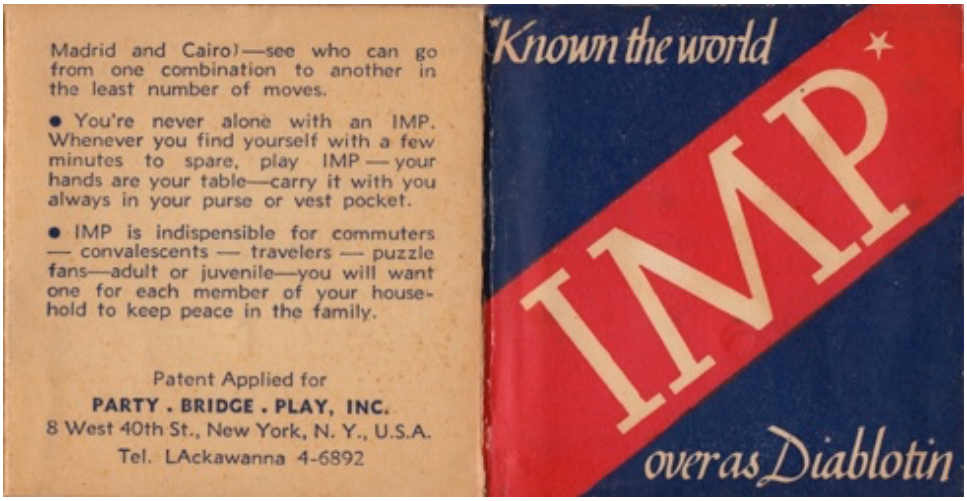
● Arrange an IMP party (they're the rage in London, Paris, Berlin, Rome,





# IMP 1933 Booklet - *Party Bridge Play Inc.*

(from the black & red square peg IMPORTED BRANDS version shown above)



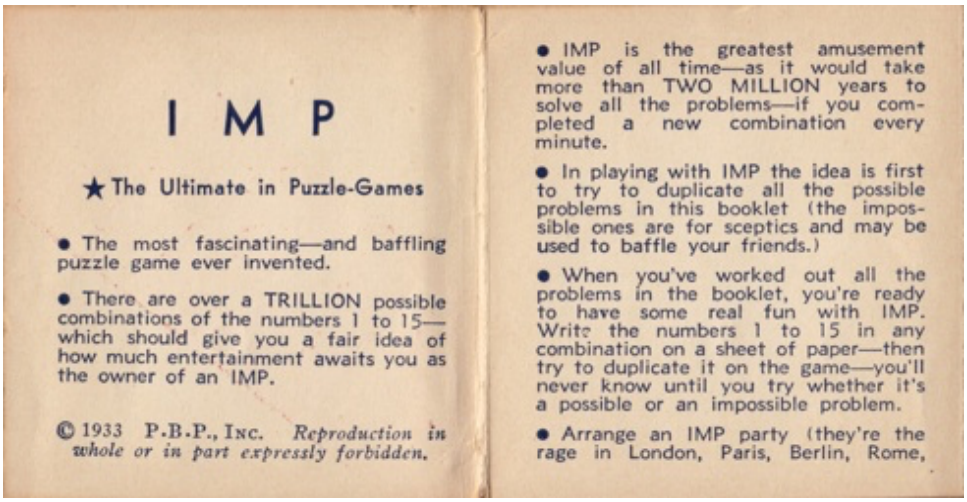
Madrid and Cairo)—see who can go from one combination to another in the least number of moves.

● You're never alone with an IMP. Whenever you find yourself with a few minutes to spare, play IMP — your hands are your table—carry it with you always in your purse or vest pocket.

● IMP is indispensible for commuters — convalescents — travelers — puzzle fans—adult or juvenile—you will want one for each member of your household to keep peace in the family.

Patent Applied for
**PARTY . BRIDGE . PLAY, INC.**
8 West 40th St., New York, N. Y., U.S.A.
Tel. LAckawanna 4-6892





# I M P

★ The Ultimate in Puzzle-Games

● The most fascinating—and baffling puzzle game ever invented.

● There are over a TRILLION possible combinations of the numbers 1 to 15—which should give you a fair idea of how much entertainment awaits you as the owner of an IMP.

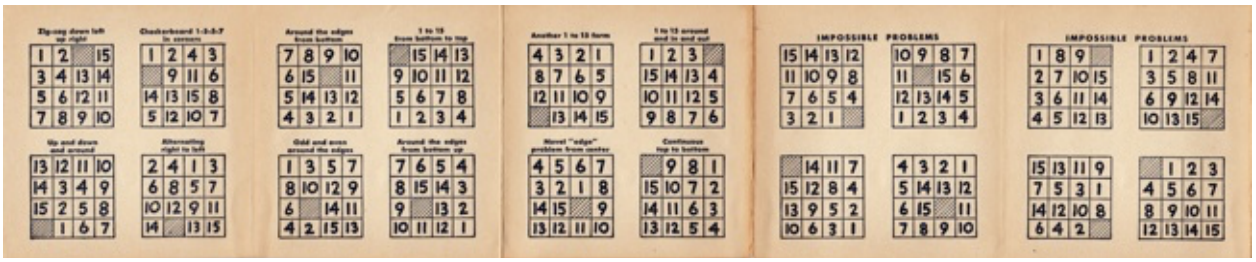


● IMP is the greatest amusement value of all time—as it would take more than TWO MILLION years to solve all the problems—if you completed a new combination every minute.

● In playing with IMP the idea is first to try to duplicate all the possible problems in this booklet (the impossible ones are for sceptics and may be used to baffle your friends.)

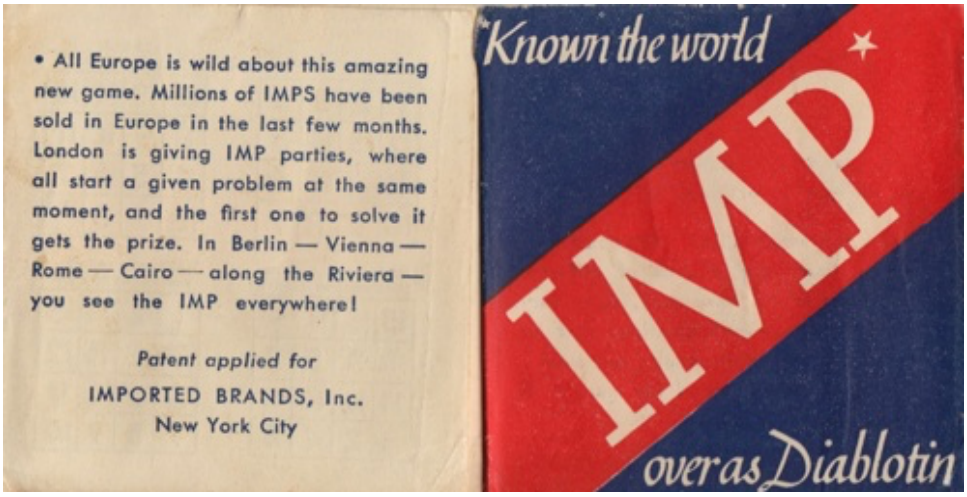
● When you've worked out all the problems in the booklet, you're ready to have some real fun with IMP. Write the numbers 1 to 15 in any combination on a sheet of paper—then try to duplicate it on the game—you'll never know until you try whether it's a possible or an impossible problem.

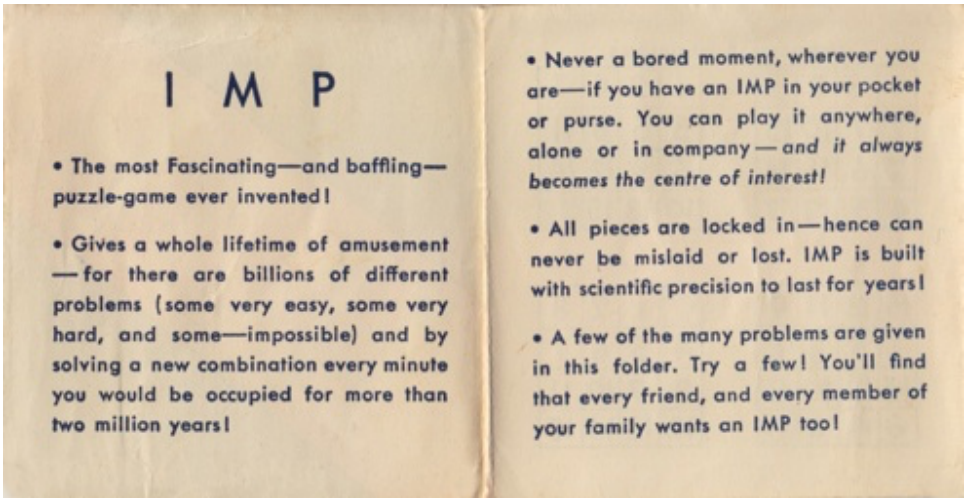
● Arrange an IMP party (they're the rage in London, Paris, Berlin, Rome,

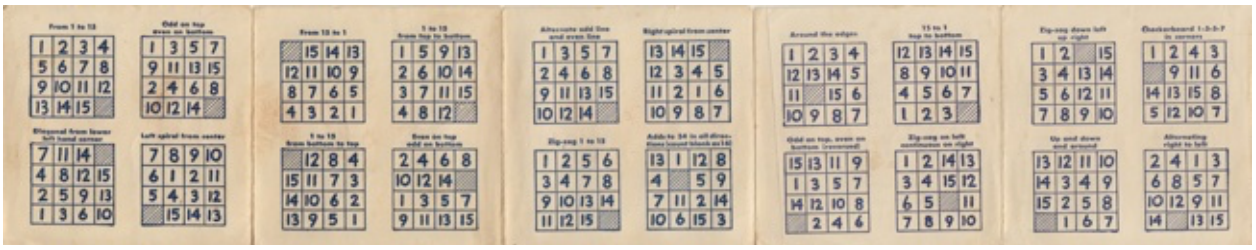


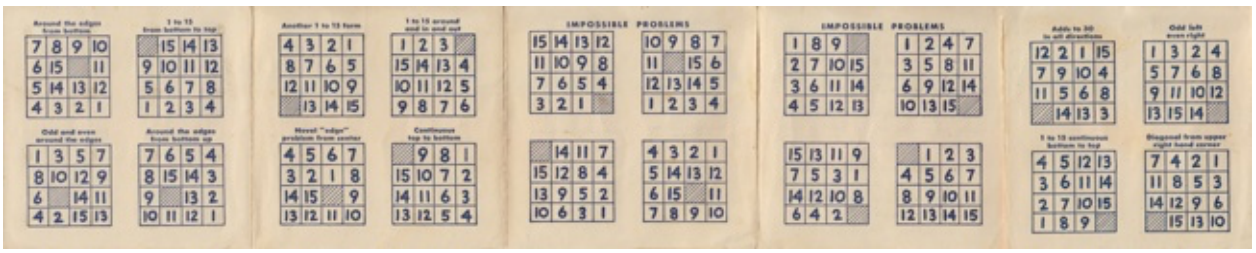
# IMP Undated Booklet - *Imported Brands Inc.*

(from the blue & white square peg IMPORTED BRANDS version shown above)



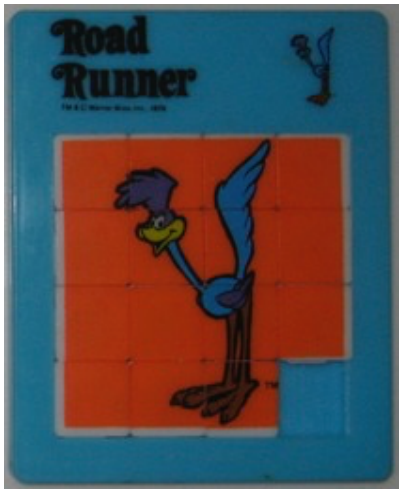


# Graphic Versions of the Fifteen Puzzle

Many fun and promotional versions of the Fifteen puzzle have been made with graphics of some kind rather than numbers. Sometimes the graphics are such that every square is unique, and so it is really exactly the same puzzle as the standard Fifteen. However, when there are two pieces that are identical, as is the case with each of the four Warner Brothers puzzles shown below, it is possible to be stuck at a configuration where the puzzle is finished except that two adjacent pieces are out of order. In this case, solve the puzzle with the positions of the two identical pieces exchanged. For example, for the *bugs bunny* puzzle shown below, the pieces that go in positions 5 and 9 are identical (note that this is not the case for positions 8 and 12 because piece 12 is not quite blank); if you are not able to complete the last two rows because of this problem, move the blank piece that appears to go in position 9 to position 5 (causing the blank piece that was in position 5 to now be in the last two rows), and now solve the last two rows.


*Bugs Bunny, Warner B. 1979.*
(plastic, 4.8 by 3.9 inches)


*Bugs Bunny / Daffy Duck, Warner B. 1979.*
(plastic, 4.8 by 3.9 inches)




*Road Runner, Warner B. 1979.*
(plastic, 4.8 by 3.9 inches)


*Tweety, Warner B. 1979.*
(plastic, 4.8 by 3.9 inches)

# Roalex Versions of the Fifteen Puzzle


*"Digit", Roalex Co., Forest Hills, NJ, circa 1950's and 1960's.*
(card is 4.4 by 5.6 inches, puzzle is plastic 2.5 inches by 1/4 inch thick)

A similar puzzle was made by Plastrix.

## Roalex Versions of the Fifteen Puzzle, Continued


*"Popeye", "Superman", "Yogi Bear", "Pebbles",*
*Roalex Co., Forest Hills, NJ, circa 1950's and 1960's.*
(card is 5 by 6 inches, puzzle is plastic 2.5 inches by 1/4 inch thick)

The *Roalex Co.* made numerous Fifteen puzzles based on cartoons and TV shows; some based four related characters in each of the columns (such as the Popeye puzzle above) and some on individual characters (such as the Superman puzzle above that J. Storer played with as a child). These puzzles on their original cards (which sometimes had an extra piece on top) are a popular for collectors (see further reading).

**Roalex Versions of the Fifteen Puzzle, Continued**


*Roalex Co., Forest Hills, NJ, circa 1950's and 1960's.*
(card is 6.1 by 5.3 inches, puzzle is plastic 2.5 inches by 1/4 inch thick)

Although many Roalex cards were horizontal ones of an approximate shape of width 1.25 times height as with the version of Popeye on the preceding page, other shapes were used, including a shape of about height 1.14 times width, such as this version of Popeye.

**Roalex Versions of the Fifteen Puzzle, Continued**

Here is what is on the back of the Popeye card of the preceding page:

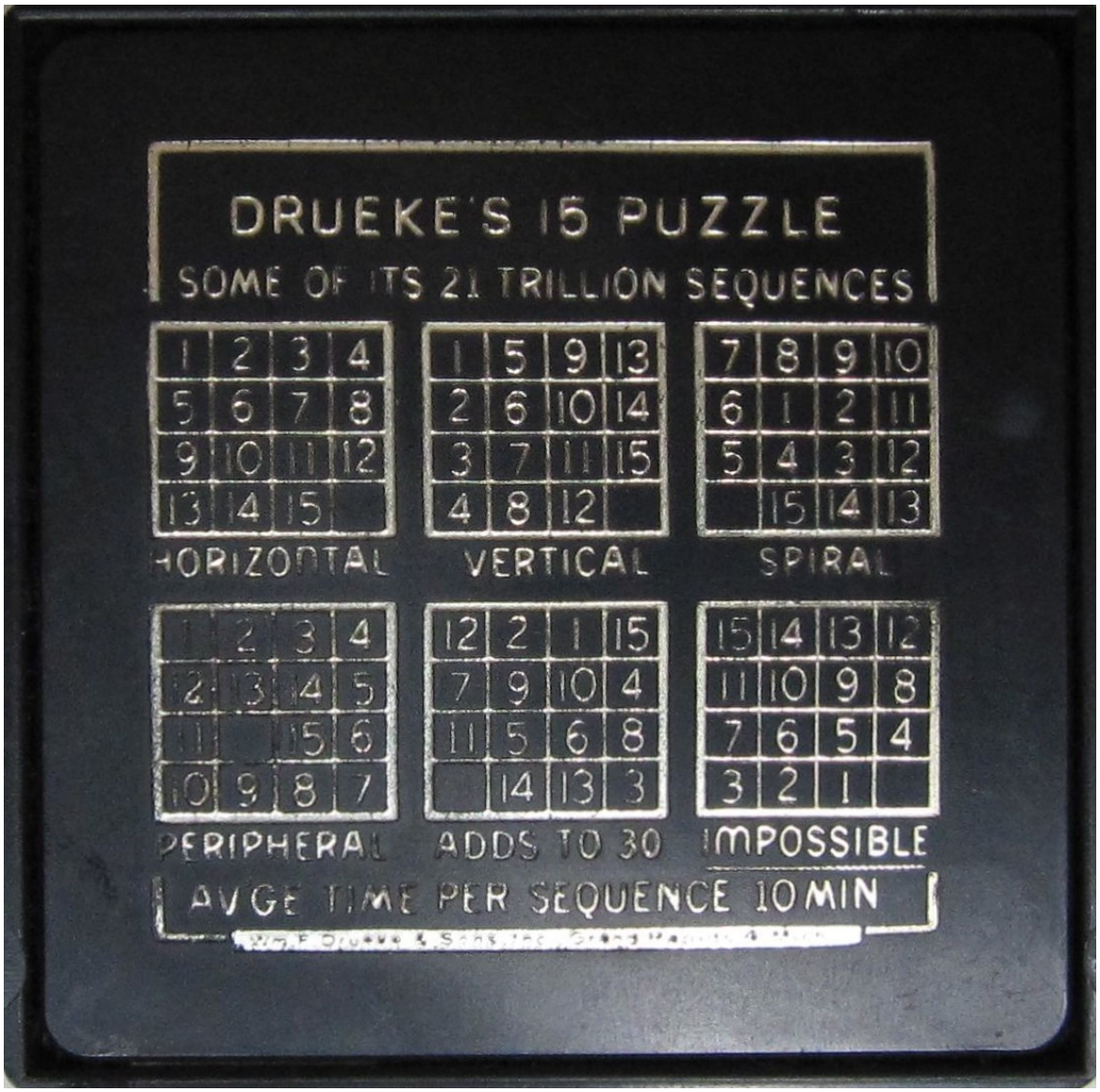
## Other Versions of the Fifteen Puzzle


"*Gem Puzzle No. 0*", *Matthias Rice, December, 1879*.
(3.25 inches square by 1/2 inch thick cardboard box and 15 wood pieces;
shown on the cover page, page 8, and page 11 of the *Fifteen* book,
which dates this puzzle and gives some history)

The top of the box top says "THE GEM PUZZLE No. 0", the bottom of the box top says "Place the Blocks in the Box irregularly, then move until in regular order.", the left and right sides have been scratched out on this one, but originally on the left side was "MANUFACTURED BY M. J. RICE" and on the right side "For CARY, FULTON & Co., No. 29 Kingston Street, Boston."

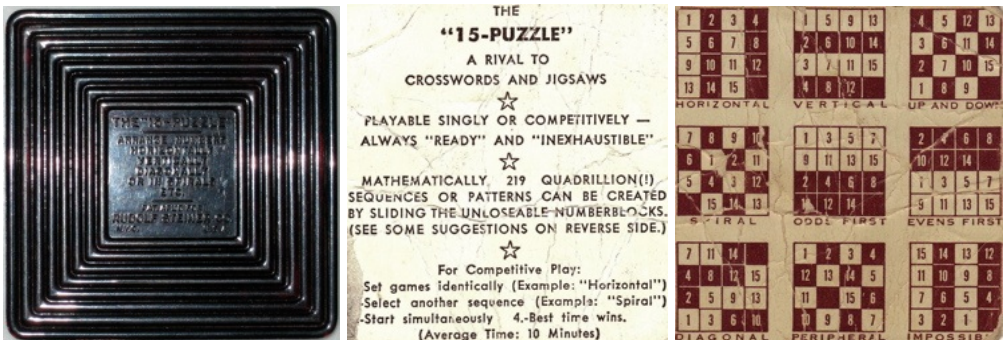
Although the theme of the Fifteen book is that the origin of the Fifteen puzzle is unknown, it does indicate that the high popularity of the puzzle in the 1880 time frame started with this production of the puzzle in December of 1879, and describes a March 1, 1880 interview of Mr. Rice published in the *Boston Herald* that describes how he got the idea for making the puzzle from a version made in Hartford by deaf students, and sold for 75 cents apiece.

## Other Versions of the Fifteen Puzzle, Continued

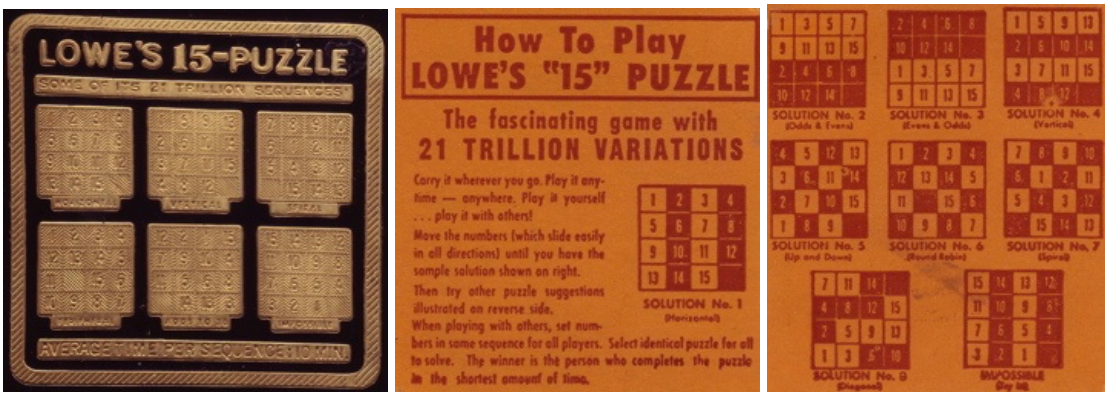




*"Drueke's 15 Puzzle", Wm. F. Drueke & Sons, Grand Rapids, Mich.", circa 1960's.*
(plastic, 2.5 inches square by 3/16 inch thick)

## Other Versions of the Fifteen Puzzle, Continued

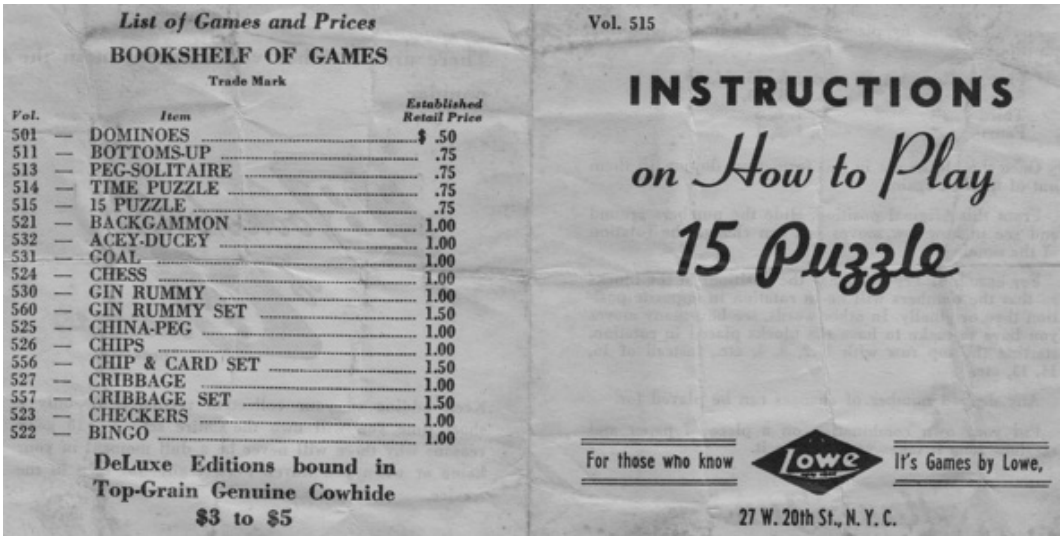



"*15-Puzzle*", *Rudolph Steiner, NY, circa 1950's*.
(cloth pouch, plastic puzzle, and cardboard instructions, 2.5 inches;
the back says THE "15-PUZZLE", ARRANGE NUMBERS. HORIZONTALLY, VERTICALLY, DIAGONALLY, OR IN SPIRALS, ETC., PAT. APPLIED FOR, RUDOLPH STEINER CO., N.Y.C. U.S.A.)


"*Lowe's 15-Puzzle*", *circa 1950's*.
(felt lined pouch, plastic puzzle, and cardboard instructions, 2.5 inches;
shown on page 103 of the *Fifteen* book)

## Other Versions of the Fifteen Puzzle, Continued

*List of Games and Prices*

**BOOKSHELF OF GAMES**

Trade Mark

| Vol. | | Item | Established Retail Price |
|---|---|---|---|
| 501 | — | DOMINOES | $ .50 |
| 511 | — | BOTTOMS-UP | .75 |
| 513 | — | PEG-SOLITAIRE | .75 |
| 514 | — | TIME PUZZLE | .75 |
| 515 | — | 15 PUZZLE | .75 |
| 521 | — | BACKGAMMON | 1.00 |
| 532 | — | ACEY-DUCEY | 1.00 |
| 531 | — | GOAL | 1.00 |
| 524 | — | CHESS | 1.00 |
| 530 | — | GIN RUMMY | 1.00 |
| 560 | — | GIN RUMMY SET | 1.50 |
| 525 | — | CHINA-PEG | 1.00 |
| 526 | — | CHIPS | 1.00 |
| 556 | — | CHIP & CARD SET | 1.50 |
| 527 | — | CRIBBAGE | 1.00 |
| 557 | — | CRIBBAGE SET | 1.50 |
| 523 | — | CHECKERS | 1.00 |
| 522 | — | BINGO | 1.00 |

**DeLuxe Editions bound in Top-Grain Genuine Cowhide $3 to $5**

Vol. 515

**INSTRUCTIONS**

*on How to Play*

**15 Puzzle**

For those who know Lowe It's Games by Lowe,

27 W. 20th St., N. Y. C.

Start the game by placing all blocks in the following positions:

| | | |
|---|---|---|
| First | Row Across | — Blank, 15, 14, 13 |
| Second | " " | — 12, 11, 10, 9 |
| Third | " " | — 8, 7, 6, 5 |
| Fourth | " " | — 4, 3, 2, 1 |

Once the blocks are in this formation, do not lift them out of the box again.

From this original position, slide the numbers around and see in how few moves you can change the rotation of the numbers.

For example: Try to change the positions of the blocks so that the numbers will be in rotation in opposite position than originally. In other words, see how many moves you have to make to have the blocks placed in rotation, starting the top row with 1, 2, 3, 4, etc., instead of 15, 14, 13, etc.

Any desired number of changes can be played for.

Put your own combination on a piece of paper and see how long it takes you to solve it.

*Have Fun!*

**There are 17 other volumes of fun in the popular**

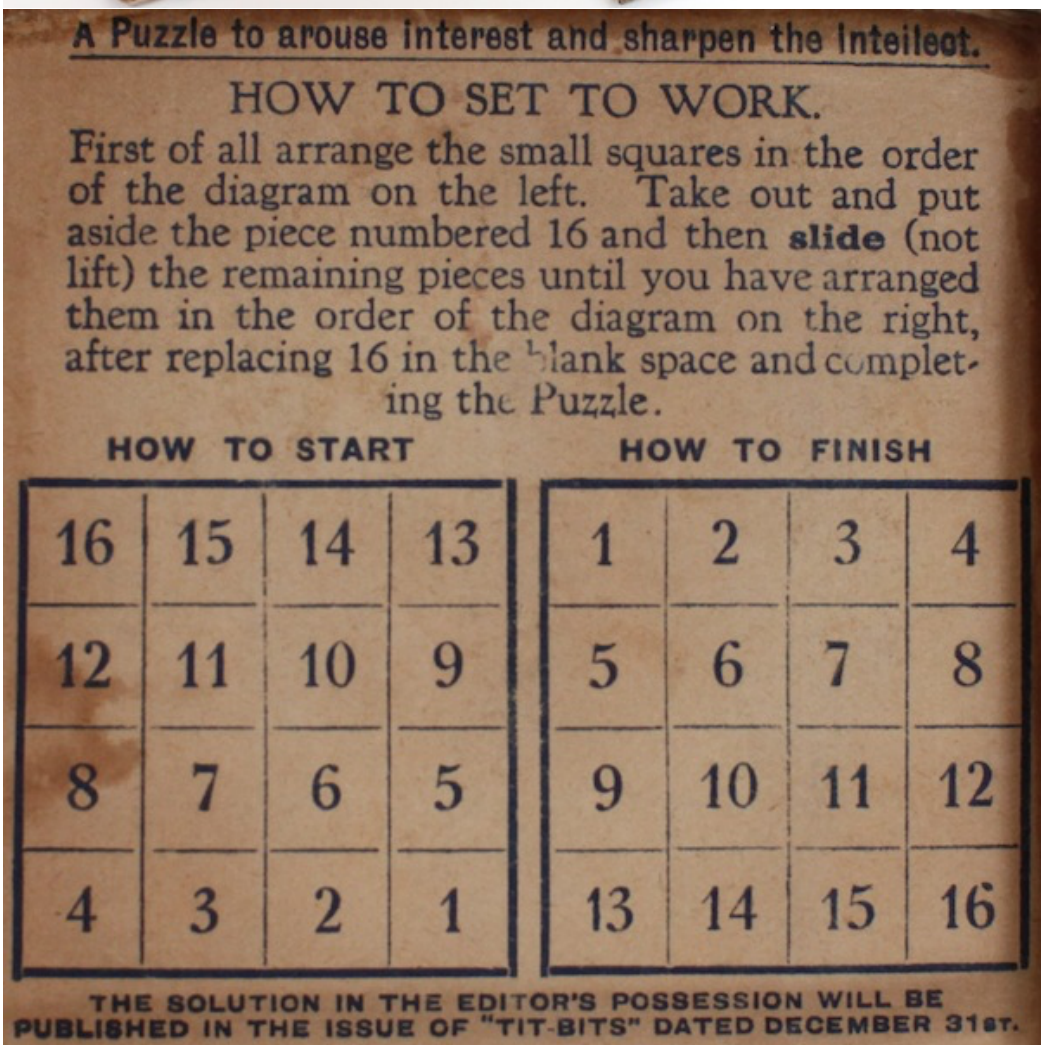
***Bookshelf of Games**

*Trade Mark

Keep adding to your collection regularly. In only a short time you will own the entire set . . . 18 good reasons why there will never be a dull moment in your home or when you travel. Perfect gifts for men in the service.

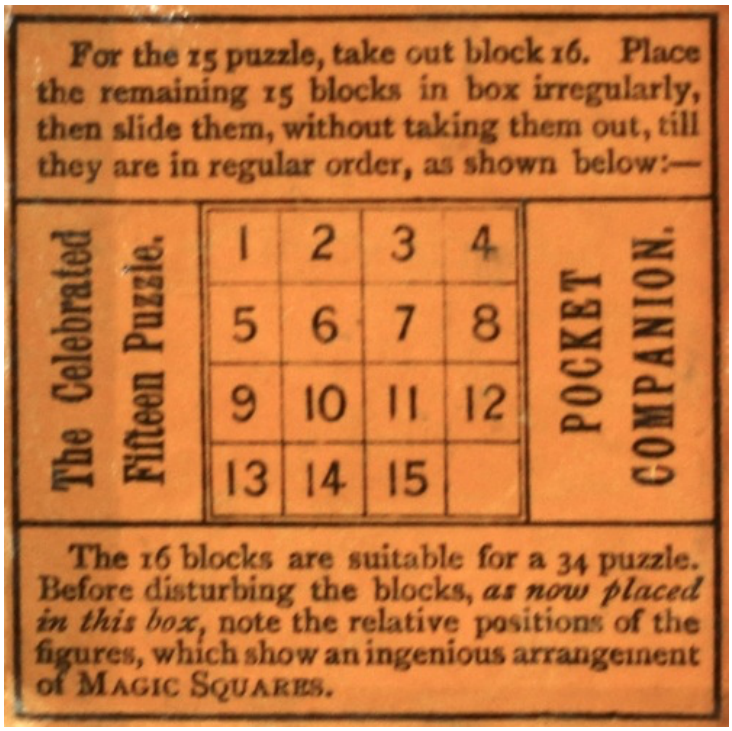
*"15 Puzzle", Lowe's, circa 1940?*
(4.75" square by 1" leather covered box with fifteen 1" square by 1/2" wood pieces)

## Other Versions of the Fifteen Puzzle, Continued


"*Great 16 Puzzle*", *Tit-Bits Teaser No. 6, circa 1930's*.
(wood pieces in cardboard box, 3.6" square x 3/8" thick)

## Other Versions of the Fifteen Puzzle, Continued




"*Celebrated Fifteen Puzzle*", *Fairy Queen Steamer, circa late 1800's?*
(wood pieces in hinged wood box, 2.3" square x 3/4" thick)

The Fairy Queen steamer boat is mentioned in the 1885 *Thorough Guide Series for Scotland*; here is an excerpt from page 185:

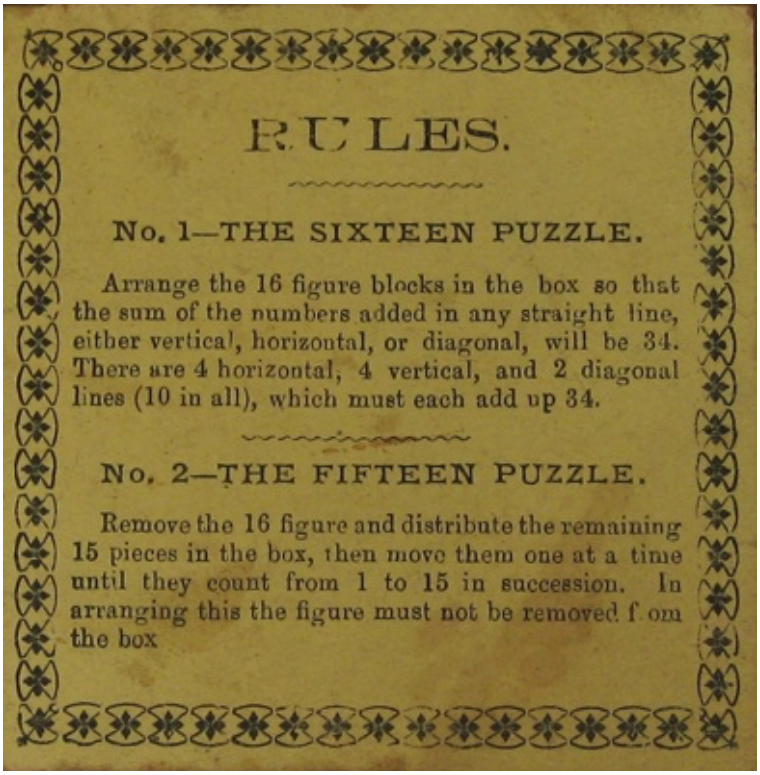
**Loch Eck Route.** From Dunoon the coach take the coast-route through *Kirn*, *Hunter's Quay*—leafy and luxuriant—and *Sandbank*, whence it proceeds round the head of the *Holy Loch* into the Echaig valley, whose waters connect Loch Eck with the sea. At *Inverchapel* the passengers are transferred to the little steamer "Fairy Queen," which conveys them the whole length of the loch.

## Other Versions of the Fifteen Puzzle, Continued

*Wood box with inlay of dancing couple and 15 wood pieces, 1837 ???*
(4.6 inches square by 1 inch thick, pieces are 1 inch square by 1/4 inch thick,
the date 1837 is hand written on the back)

This box has a beautiful inlaid top showing a dancing couple and looks quite old. The date of 1837 written on the back raises the fun possibility that this puzzle pre-dates the 1880's Fifteen puzzle craze that is documented in the *Fifteen* book. However, it is hard to give this date too much weight; it could have been written by anyone at anytime. Below are photos of the inside, which looks quite similar (including the hinges) to the inside of the *Souvenir d'Egypt* puzzle (made in France) that is shown on page 97 of the Fifteen book.

## Other Versions of the Fifteen Puzzle, Continued

RULES.

No. 1—THE SIXTEEN PUZZLE.

Arrange the 16 figure blocks in the box so that the sum of the numbers added in any straight line, either vertical, horizontal, or diagonal, will be 34. There are 4 horizontal, 4 vertical, and 2 diagonal lines (10 in all), which must each add up 34.

No. 2—THE FIFTEEN PUZZLE.

Remove the 16 figure and distribute the remaining 15 pieces in the box, then move them one at a time until they count from 1 to 15 in succession. In arranging this the figure must not be removed f om the box

*"Calculator Puzzles", England, circa 1880's.*
(4.5" square by 7/8" wood box and sixteen 1" diameter by 3/8" round painted wood pieces;
paper label on box top and rules on underside of box top;
same box as the one shown on page 25 of the *Fifteen* book)

## Other Versions of the Fifteen Puzzle, Continued




*"Little Buttercup Puzzle", B. F. Gould, 40 Bromfield St., Boston, 1880.*
(cardboard box and 15 wood pieces, 3 by 3 by 1 inch;
the ridged tops have the numbers 1-15 and the smooth bottoms have letters
(close-ups of the piece P / 5 are shown above),
the directions on the box top ask you to spell LITTLEBUTTERCUP
(the fourth T and the C are a too worn to read in the photo above),
the *Fifteen* book shows this puzzle on pages 20, 36, and 49
where it credits manufacture to B. F. Gould and shows a Feb. 1880 advertisement)



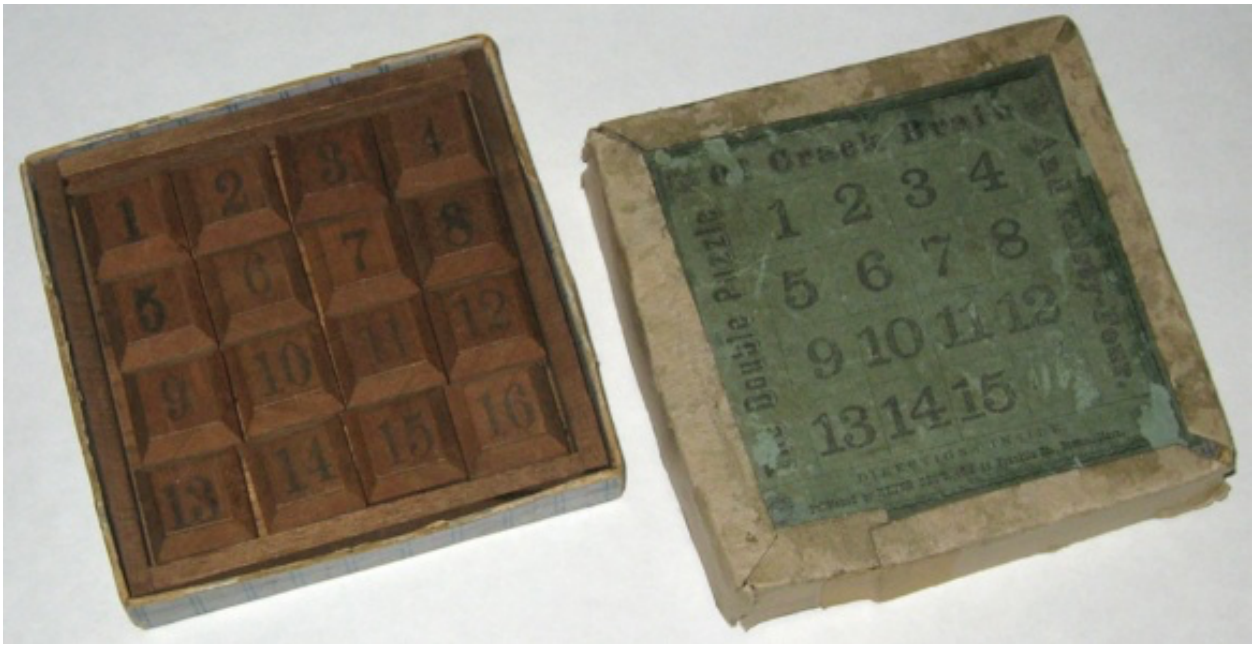
*Hopkins, Oxford, NY, circa 1880's.*
(wood tray and 15 wood pieces, 3.7 inches;
1 is a bit burned, 5 is damaged, and 10 was lost and replaced by a blank,
the back is stamped "J. A. Hopkins MAKER Oxford NY",
from J. A. Storer's grandfather in Oxford NY)

## Other Versions of the Fifteen Puzzle, Continued


*"The Game of Fifteen Gem Puzzle", manufactured by Alan L. Lovejoy, Boston, 1880.*
(cardboard box. wood tray, and 15 wood pieces, 3.75 by 3.75 by 3/4 inches;
shown on page 19 of the *Fifteen* book where it cites manufacture and date)


*"The Game of Fifteen Gem Puzzle", circa 1880.*
(cardboard box. wood tray, and 15 wood pieces, 3.75 by 3.75 by 3/4 inches;
shown on page 23 of the *Fifteen* book; box says "SENT TO ANY ADDRESS FOR 25 CENTS".)

## Other Versions of the Fifteen Puzzle, Continued




DIRECTIONS FOR PUZZLE OF 34

Consisting of 16 Blocks.

The object of this Puzzle is to so place th Blocks that each line will add up 34 in any di rection, viz: Up, down, crosswise and diag onally; being in ten different directions.

### Directions for Crack Brain Puzzle.

Take out No. 16 Block, then place the re maining 15 irregularly in the Box, leaving a empty space in upper left-hand corner; then move until in regular order.

Published by HEYER BRO'S,

*Nos. 42 and 44 Franklin Street, Boston, Mass.*

"*Double Puzzle Of Crack Brain And Thirty Four*", *Heyer Brothers, Boston, circa 1880*.
(cardboard box, wood tray, and 16 wood pieces, 3.9 by 3.9 by 3/4 inches;
directions on the inside of the box top;
shown on page 40 of the *Fifteen* book)

## Other Versions of the Fifteen Puzzle, Continued



*"The Gem Puzzle / Double Puzzle", circa 1880's.*
(cardboard box and 16 wood pieces, 3.25 inches square by 9/16 inches;
shown on page 34 of the *Fifteen* book;
includes piece 16 to have the magic square as a second puzzle)

## Other Versions of the Fifteen Puzzle, Continued



*"The Boston Puzzle", circa 1880's.*
(cardboard box and 15 wood pieces, 3 inches square by 5/8 inches;
different than the "Boston Puzzle" shown on page 24 of the *Fifteen* book)

## Other Versions of the Fifteen Puzzle, Continued


**The Old "Fifteen Puzzle"**

If a new puzzle is needed to take the place of cross-words, why not revive the old "Fifteen Puzzle?" This "teaser" flourished in the days when Hayes was president. At that time a well known weekly paper had a cartoon showing President Hayes and all the cabinet members working a Fifteen Puzzle at a cabinet meeting. This puzzle consisted of a little box, the bottom of which was marked off in 16 squares. There were 15 cubes, numbered from one to 15. Cube No. 1 was placed in square No. 1 in the left hand corner of the box. All the cubes were placed in regular order until the top row was

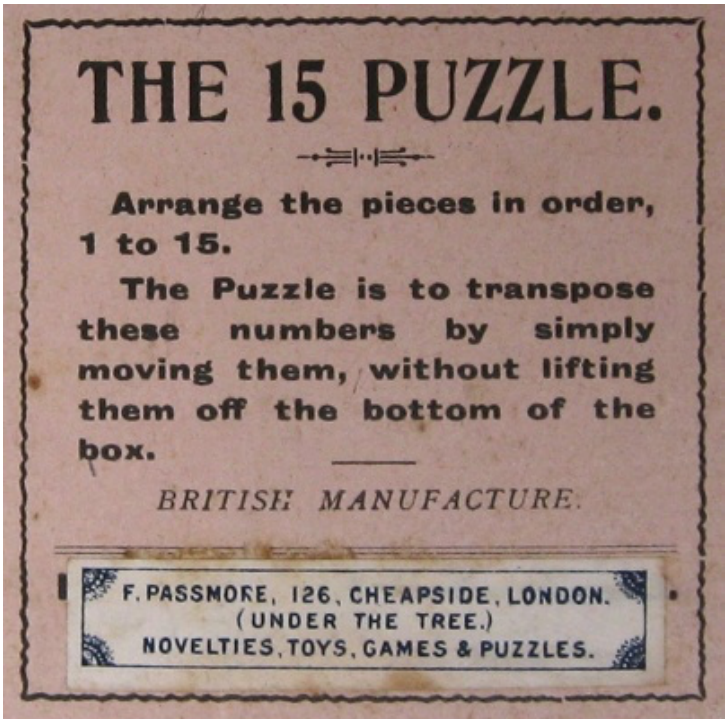
JANUARY 30, 1926

*ion Hour—*

reached. Here, instead of placing them in order, 13, 14, 15, they were reversed. The 15 was at the left of the row and they read 15, 14, 13, and the 16th square was left vacant. The game was to move the cubes around from one square to another until you had them all straight, reading from one to 15. These cubes could not be lifted from the box in moving them. The boxes were of pine or ebony with cubes to match. On some expensive sets the numbers on the ebony were inlaid with mother-of-pearl. If you want to have a "puzzling sweet time" try to work a "Fifteen Puzzle."

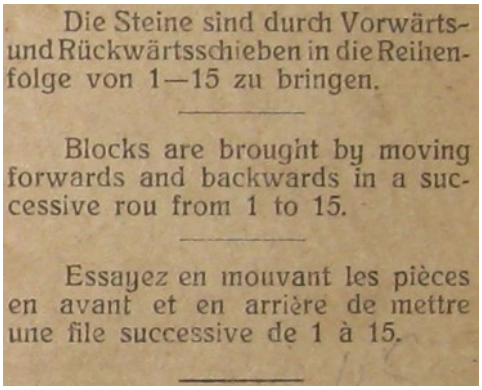
"*The Puzzle Of 15 and 16*", *circa 1880's*.
(cardboard box and 16 wood pieces, 3.25 inches square by 51/2 inches;
shown on page 38 of the *Fifteen* book;
"This little puzzle looks simple and easy but TRY IT ONCE.";
this one came with an article from a 1926 newspaper that reflects on the Fifteen Puzzle
as something from the past when R. B. Hayes was president)

## Other Versions of the Fifteen Puzzle, Continued

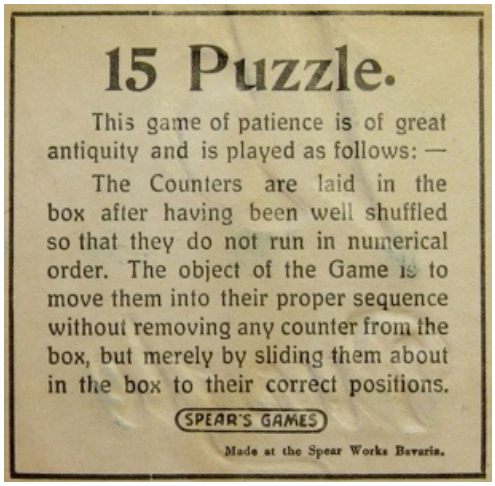

*"The Popular Fifteen Puzzle", F. Passmore, London, circa 1880's.*
(cardboard box and 15 wood pieces, 4.2 inches square by 5/8 inches;
directions on the inside of the box top;
Shown on page 30 of the *Fifteen* book, but listed with a different English manufacture;
a very similar box top is also shown inside the cover of the Fifteen book)

## Other Versions of the Fifteen Puzzle, Continued



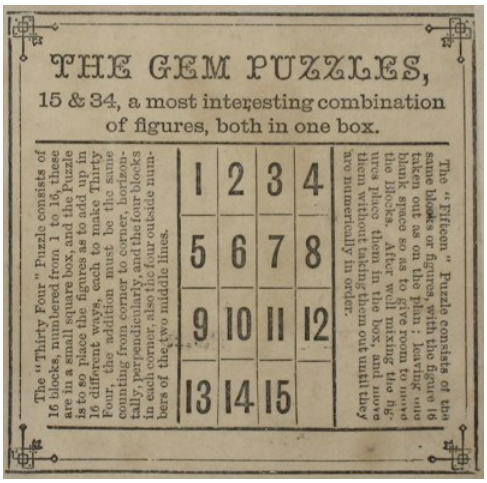

*German, circa 1880's.*
(cardboard box and wood pieces, 2.5 x 2.5 x 3/8 inches;
shown on page 121 of the *Fifteen* book)

On the page of the Fifteen book that shows this puzzle is a nice discussion of how newspapers from February and March of 1880 had a large number of "notes, articles, and poems that claimed that the Fifteen Puzzle was driving solvers insane and overcrowding the lunatic asylums".


*"15 Puzzle", Spear Works Bavaria 1915.*
(cardboard box and wood pieces, 4 x4 x 5/8 inches;
shown on page 119 of the *Fifteen* book where it cites manufacture and date)

## Other Versions of the Fifteen Puzzle, Continued

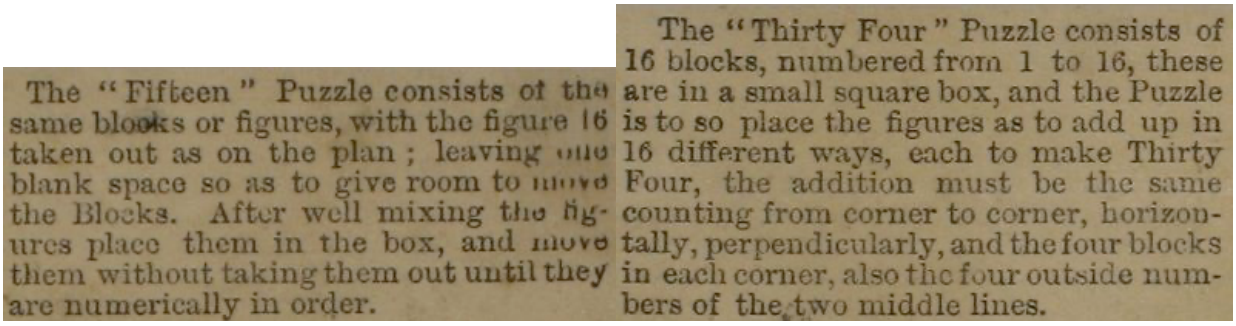


THE GEM PUZZLES,

15 & 34, a most interesting combination of figures, both in one box.

The "Thirty Four" Puzzle consists of 16 blocks, numbered from 1 to 16, these are in a small square box, and the Puzzle is to so place the figures as to add up in 16 different ways, each to make Thirty Four, the addition must be the same counting from corner to corner, horizontally, perpendicularly, and the four blocks in each corner, also the four outside numbers of the two middle lines.

| | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | |

The "Fifteen" Puzzle consists of the same blocks or figures, with the figure 16 taken out as on the plan; leaving one blank space so as to give room to move the Blocks. After well mixing the figures place them in the box, and move them without taking them out until they are numerically in order.

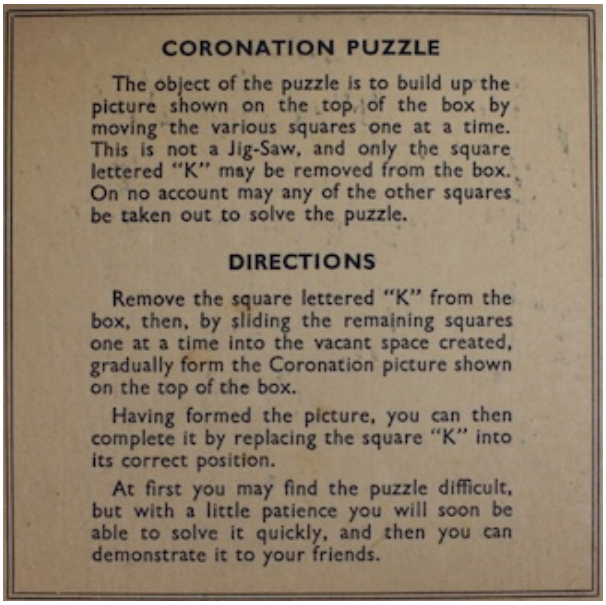

The "Fifteen" Puzzle consists of the same blocks or figures, with the figure 16 taken out as on the plan; leaving one blank space so as to give room to move the Blocks. After well mixing the figures place them in the box, and move them without taking them out until they are numerically in order.

The "Thirty Four" Puzzle consists of 16 blocks, numbered from 1 to 16, these are in a small square box, and the Puzzle is to so place the figures as to add up in 16 different ways, each to make Thirty Four, the addition must be the same counting from corner to corner, horizontally, perpendicularly, and the four blocks in each corner, also the four outside numbers of the two middle lines.

*"Gem Puzzle" by John Heywood, Manchester, UK, undated.*
(cardboard box and 16 wood pieces, 3.4 x 3.4 x 1/2 inch;
shown on page 29 of the *Fifteen* book)


*"15 and 34 puzzle", De La Rue & Co., London, circa 1880.*
(cardboard box and 16 wood pieces, 3.75 x 3.75 x 5/8 inch;
shown on page 35 of the *Fifteen* book)

## Other Versions of the Fifteen Puzzle, Continued

**CORONATION PUZZLE**

The object of the puzzle is to build up the picture shown on the top of the box by moving the various squares one at a time. This is not a Jig-Saw, and only the square lettered "K" may be removed from the box. On no account may any of the other squares be taken out to solve the puzzle.

**DIRECTIONS**

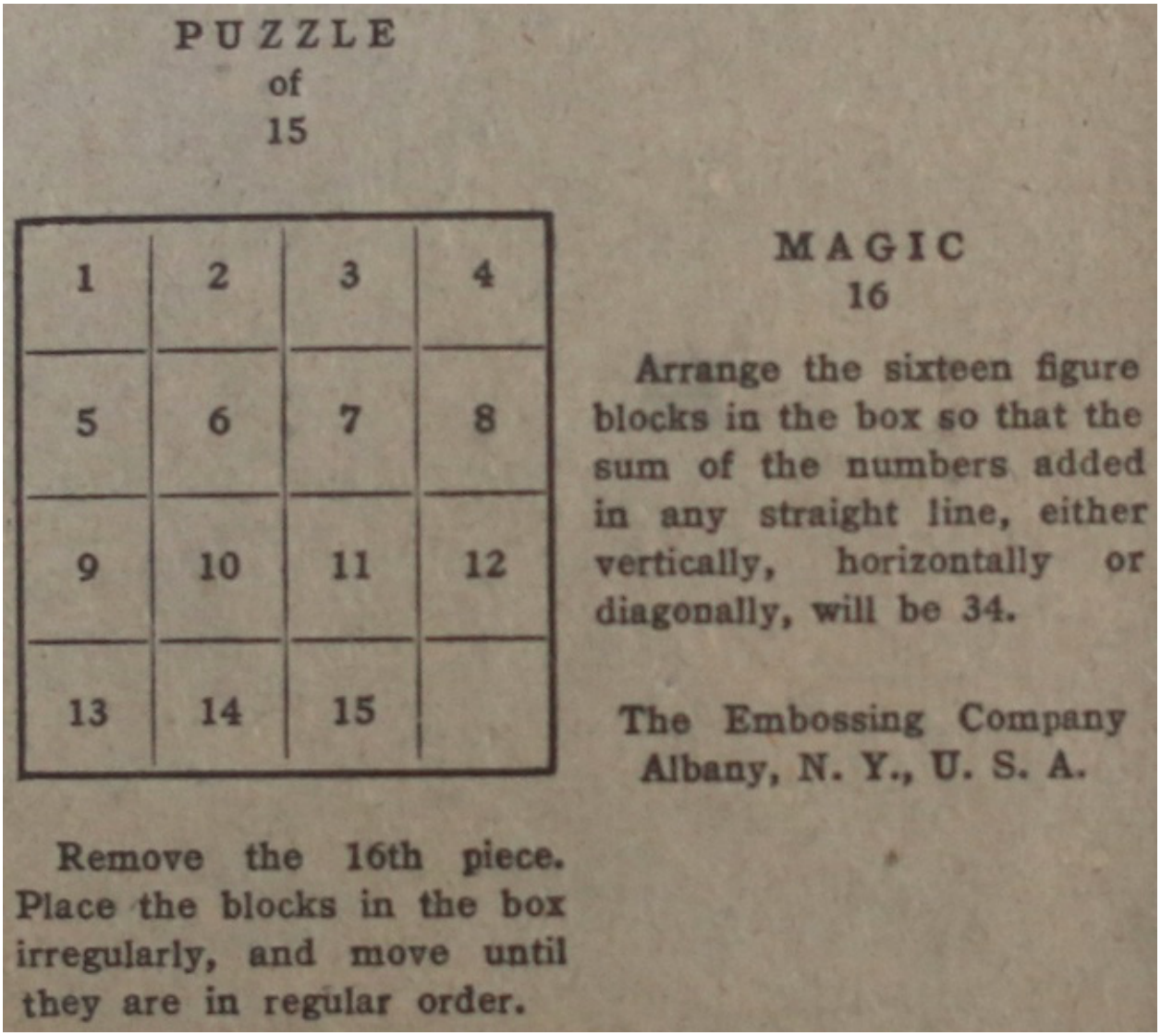
Remove the square lettered "K" from the box, then, by sliding the remaining squares one at a time into the vacant space created, gradually form the Coronation picture shown on the top of the box.

Having formed the picture, you can then complete it by replacing the square "K" into its correct position.

At first you may find the puzzle difficult, but with a little patience you will soon be able to solve it quickly, and then you can demonstrate it to your friends.

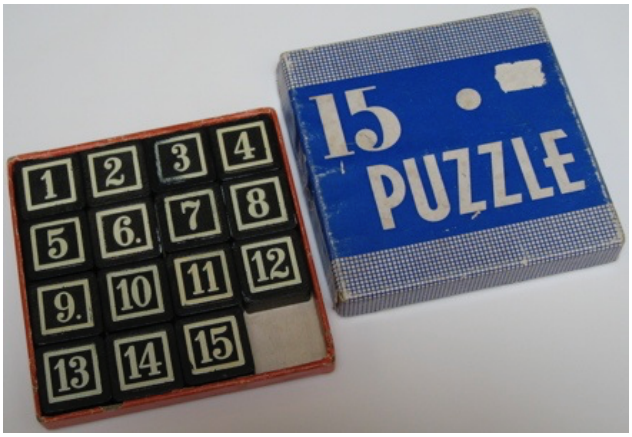

*"King George VI Coronation Puzzle", circa 1937.*
(cardboard box and 16 cardboard pieces, 4.25 x 4.25 x 1/4 inch;
inside of box top has directions;
inside of the box bottom advertises Meadow Butter;
both the puzzle pieces and the box top have photos of the royal family;
to read about king George VI, see for example the Wikipedia Page)

## Other Versions of the Fifteen Puzzle, Continued

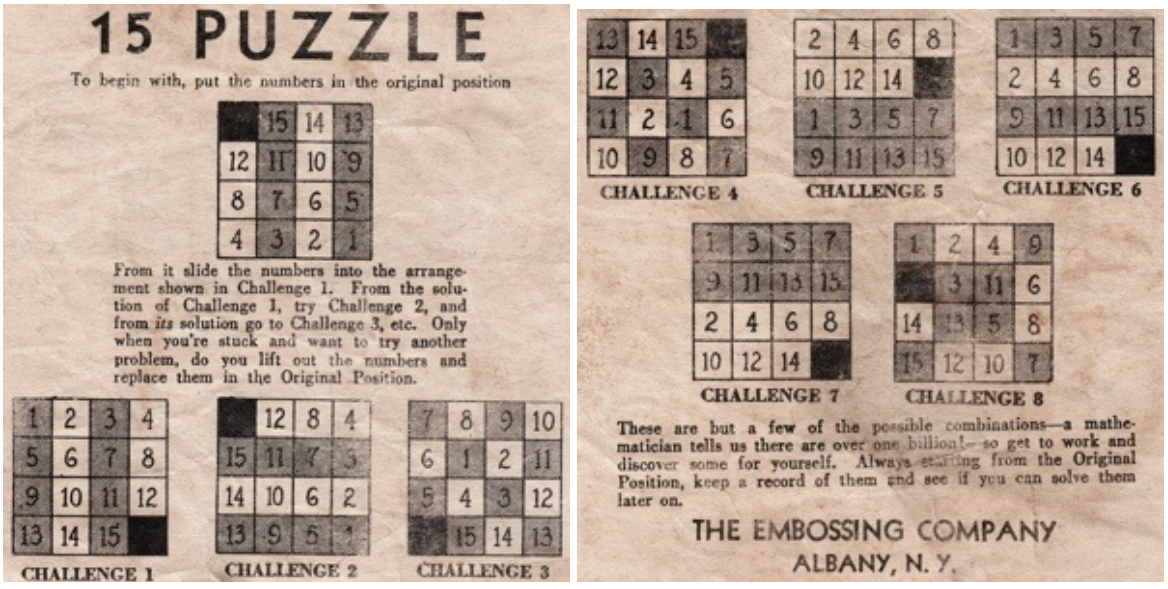




*"Magic 16 Puzzle", Copyright the Embossing Company, Albany, NY, 1930.*
(3.3" x 3.3" x 9/16", sixteen 3/4" square by 1/2" thick wood pieces)

## Other Versions of the Fifteen Puzzle, Continued

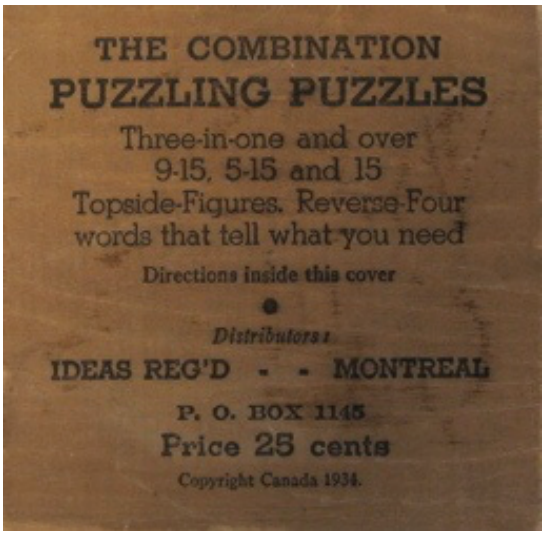


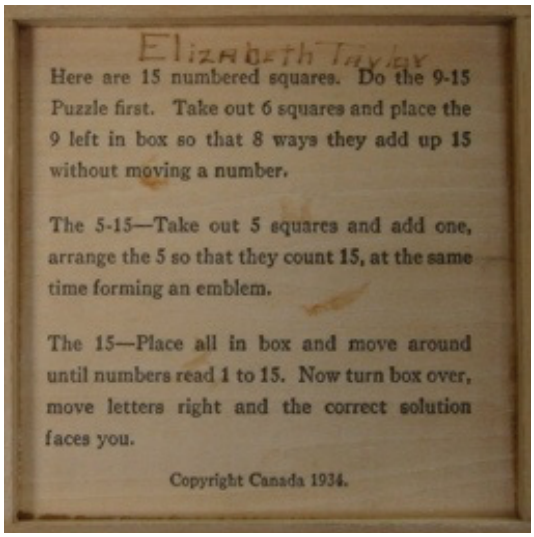




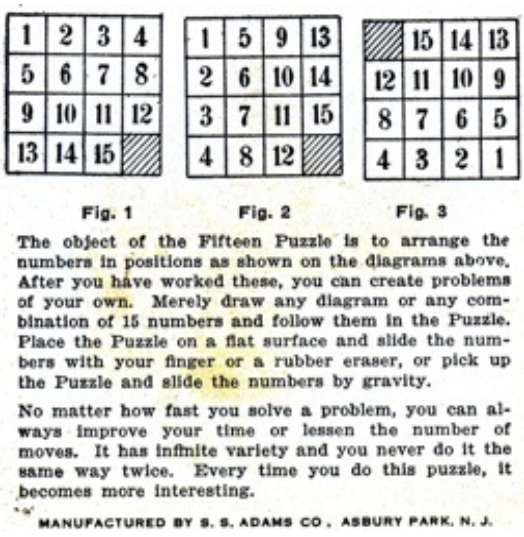

*"15 Puzzle", The Embossing Company, Albany, NY, circa 1937.*
(cardboard box and 15 wood pieces, 4.2 x 4.2 x 5/8 inch;
this red version appears to have a second 6 instead of a 9,
same manufacturer and box size / style as the *Time* and *Missionary* Puzzles)

## Other Versions of the Fifteen Puzzle, Continued

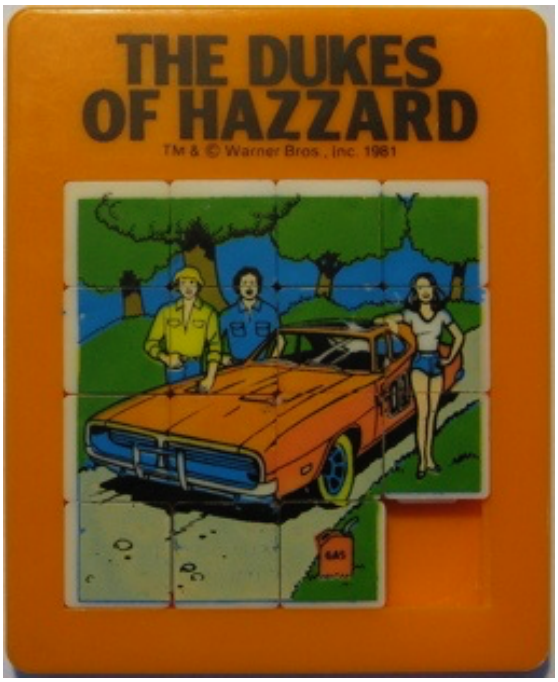

*"The Combination Puzzling Puzzles", copyright Canada 1934.*
(wood box, 15 wood pieces, 3.9 by 3.9 by 7/8 inches;
flip the puzzle over and the backs of the pieces have the letters GDOAETYNANALNI?,
? for piece 13 that has been replaced and had A hand written on the back)


*Adams Co., unknown age.*
(cardboard case and metal puzzle, 3.25 inches)

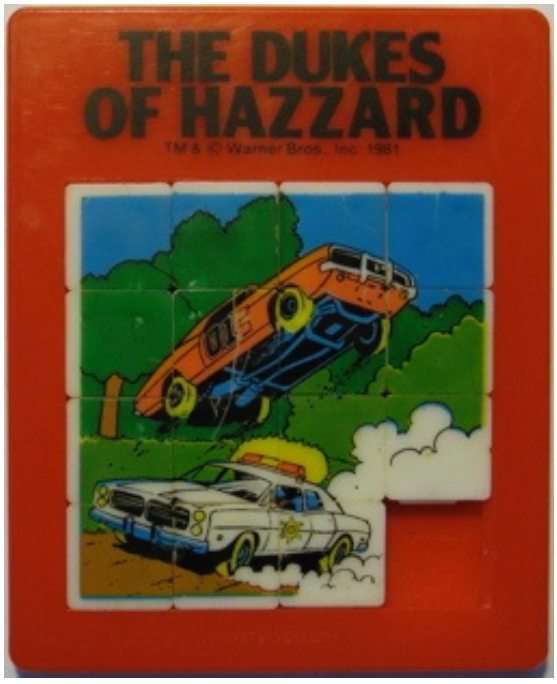
## Other Versions of the Fifteen Puzzle, Continued - "Dukes Of Hazzard"


*Dukes Of Hazzard, Warner B. 1981.*
(plastic, 4.8 by 3.9 inches)




*Bo, Luke, and Daisy Duke, Warner B. 1981.*
(plastic, 4.8 by 3.9 inches)


*Boss Hogg, Warner B. 1981.*
(plastic, 4.8 by 3.9 inches)




*General Lee, Warner B. 1981.*
(plastic, 4.8 by 3.9 inches)

## Other Versions of the Fifteen Puzzle, Continued


*Superman, D C Comics 1978.*
(plastic, 4.8 by 3.9 inches)


*Batman, D C Comics 1978.*
(plastic, 4.8 by 3.9 inches)


*Spiderman, Marvel Comics 1978.*
(plastic, 4.8 by 3.9 inches)


*Incredible Hulk, Marvel Comics 1978.*
(plastic, 4.8 by 3.9 inches)

## Other Versions of the Fifteen Puzzle, Continued


*Snap Crackle Pop, Kellog Companys 1979.*
(plastic, 4.8 by 3.9 inches)


*Dig'Em Kellog Companys 1979.*
(plastic, 4.8 by 3.9 inches)

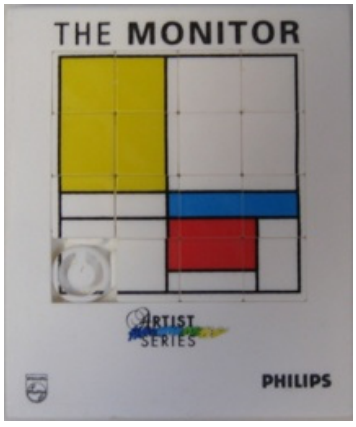

*Toucan Sam, (c) Kellog Company 1979.*
(plastic, 4.7 by 3.8 inches)


*Popeye, King Features 1981.*
(plastic, 4.8 by 3.9 inches)

## Other Versions of the Fifteen Puzzle, Continued


*Circa 1960's.*
(brass, 3.25 inches)

*Hungarian, circa 1950?*
(metal, 2.75 inches)




*The Monitor, Artist Series, Philips, no date.*
(plastic, 3.5" x 2.9" x 1/4";
sticker on back shows solved position)


*Alphabet, circa 1960's.*
(plastic, 2.5 inches)

*Marge & Homer Simpson, circa 2000.*
(plastic, 2.5 inches)

*Bart Simpson, circa 2000.*
(plastic, 2.5 inches)

## Other Versions of the Fifteen Puzzle, Continued


*101 Dalmatians, Disney, circa 1960's?*
(plastic, 3.5 by 3 inches)


*Donald Duck, Walt Disney Productions, circa 1960's?*
(plastic, 2+5/8" x 2+5/8" x 3/16")

## Other Versions of the Fifteen Puzzle, Continued


*Santa Claus, circa 2000?*
(plastic, 2+3/4" x 4.5" x 3/16")

## Further reading:

*Slocum's Page:* http://www.puzzleworld.org/PuzzleWorld/jerry_slocum.htm
*Baxter's Page:* http://www.johnrausch.com/SlidingBlockPuzzles
*Jaap's Page*, from: http://www.geocities.com/jaapsch/puzzles/fifteen.htm
*Wikipedia Ffiteen Page*, from: http://en.wikipedia.org/wiki/Fifteen_puzzle
*Wikipedia Magic Square Page*, from: http://en.wikipedia.org/wiki/Magic_square
*Wolfram Magic Square Page*, from: http://mathworld.wolfram.com/MagicSquare.html
*May Patent*, from: www.uspto.gov - patent no. 50,608
*Kinsey Patent*, from: www.uspto.gov - patent no. 207,124
*McCleary Patent*, from: www.uspto.gov - patent no. 284,037
*Brown Patent*, from: www.uspto.gov - patent no. 390,829
*Bradshaw Patent*, from: www.uspto.gov - patent no. 427,392
*Brown Patent*, from: www.uspto.gov - patent no. 433,444
*Cook Patent*, from: www.uspto.gov - patent no. 476,980
*Anderson Patent*, from: www.uspto.gov - patent no. 483,276
*Eymann Patent*, from: www.uspto.gov - patent no. 535,279
*Johnson Patent*, from: www.uspto.gov - patent no. 1,555,980
*Fritz Patent*, from: www.uspto.gov - patent no. 1,693,711
*Nesis Patent*, from: www.uspto.gov - patent no. 5,785,318