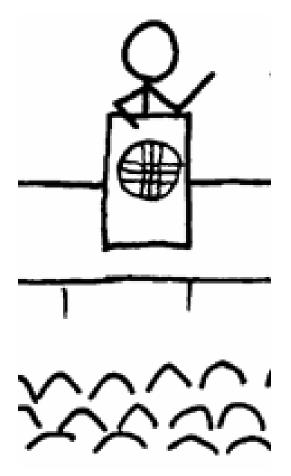
## A Modest Drawing of Chance

Prize drawings limitations:

- poorly defined process
- poor distribution
- bias
- paper sticks together
- inconsistent folding
- privacy and regulatory issues



# Random Indexing in Ten Easy Steps

- 1. Precisely count the submissions.
- 2. Pile the submissions face down in a stack.
- 3. Generate a random positive integer in the range of the number of submissions.
- 4. Precisely pop off the stack counting off the random number.
- 5. The last popped off the stack might be the winner, set aside (note, not the top item on the stack, otherwise #1 would never win).
- 6. If the stack underflows, then a mistake was made, start over.
- 7. Continue to precisely pop the stack until gone, while counting the remaining submissions.
- 8. Sum the count of remaining submissions to the random number.
- 9. The sum should be identical to the first count.
- 10.If not identical, then a mistake was made, start over.

# Fair Coin Selection



- 1. Pile the submissions face down in a stack.
- 2. Cut the stack roughly (or exactly) in two.
- 3. Flip a fair coin.
- 4. Use the coin result to consistently choose a stack to discard.
- 5. Repeat until only one submission remains, the winner.

### **Risk Management in Action**

#### Or we could just use a hat.



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