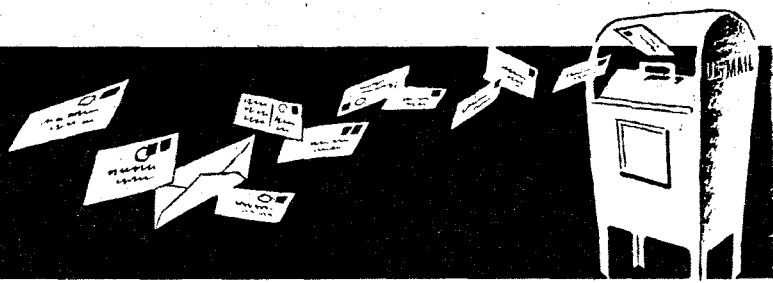


# Dear Editor



Address mail to: Letters Editor, MECHANIX ILLUSTRATED, 67 West 44th Street, New York, N. Y. 10036.

## ● Trisecting the Angle

A reader tells us (at length) that he has trisected the angle—something not done in 3,500 years of trying. He challenges MI readers to find a fallacy in his trisection. So here it is (see below). Address your replies to Trisection, c/o MI, etc. We will hold all letters for Mr. Harry Cohen, who is something of a mystery man but, we swear, has actually been seen by us. We are assured that the skeletal construction and proof which follow can be followed to the end.

To start you off on the right foot, the angle to be trisected is  $\text{AOB}$ . A is at upper right center of the drawing, B directly below. O is the center of the right circle. To trisect:

Construction: 1. a. Draw any circle O. b. Draw any 2 diameters AC and BD forming any two angles  $\text{AOB}$  and  $\text{COD}$ . c. Draw diameter ER to bisect angles  $\text{AOB}$  and  $\text{COD}$  and extend ER to  $\text{E}'$ , approximately doubling length of ER.

2. a. Draw chords AD and BC and extend to same length as bisector  $\text{EE}'$ . b. Draw chords AB and DC forming rectangle ABCD. (Point G is midpoint of chord DC.)

3. a. Lay off GR from point R on the bisector  $\text{EE}'$ , which will fall on point H. b. Using point G as a center and GH as a radius, describe an arc intersecting extended chords AD and BC at  $\text{C}'$  and  $\text{D}'$ .

4. a. Draw chord  $\text{D}'\text{C}'$  forming rectangle  $\text{DD}'\text{C}'\text{C}$ . b. Draw  $\text{D}'\text{O}$  and  $\text{C}'\text{O}$  intersecting circle O at M and N. c. Extend  $\text{D}'\text{O}$  to K and  $\text{C}'\text{O}$  to J.

5. a. Lay off  $\text{A}'\text{D}'$  equal to AD of circle O and  $\text{B}'\text{C}'$  equal to BC and draw  $\text{A}'\text{B}'$ , forming rectangle  $\text{A}'\text{B}'\text{C}'\text{D}'$  equal to rectangle ABCD of circle O. b. Draw diagonals  $\text{A}'\text{C}'$  and  $\text{B}'\text{D}'$ . They intersect bisector  $\text{EE}'$  at point  $\text{O}'$ . Then  $\text{O}'$  is the center of a circle equal to circle O.

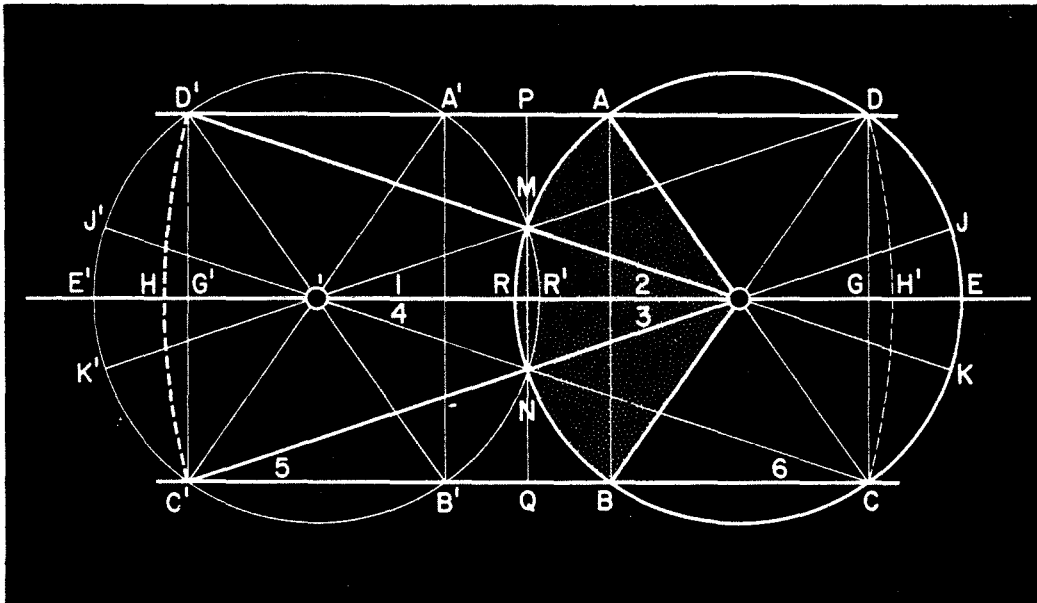
6. a. Draw circle  $\text{O}'$ . It will intersect circle O at M and N. b. Draw  $\text{DO}'$  and extend to  $\text{K}'$  and draw  $\text{CO}'$  and extend to  $\text{J}'$ . c. Draw PQ through M and N.

Angle  $\text{AOB}$  is trisected at points M and N.

Proof: 1. Triangle  $\text{AOD}'$  equals triangle  $\text{BOC}'$  (sss). Therefore, angle  $\text{AOM}$  equals angle  $\text{BON}$ .

2. Triangle  $\text{MON}$  equals triangle  $\text{MON}$  (sss). Therefore, angle  $\text{MON}$  equals angle  $\text{M}'\text{O}'\text{N}'$ .

[Continued on page 16]



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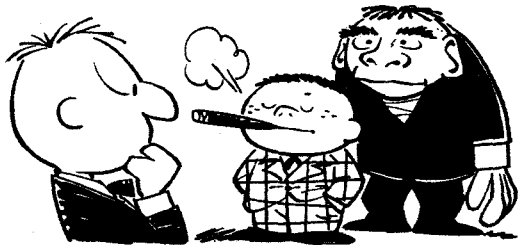
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## Dear Editor

[Continued from page 10]

3. Line OO' bisects angles MON and MO'N. Therefore, for angles 1, 2, 3 and 4 are equal angles.
4. Angle 6 equals angle 4. (When a line intersects parallel lines the alternate angles formed are equal.)
5. Therefore, angle 6 equals angle 3.
6. Angle 6 equals 1/2 angle BON (inscribed angle is equal to 1/2 central angle) and angle 3 equals 1/2 angle MON. Therefore, angle MON equals angle BON equals angle AOM. Therefore, angle AOB is trisected at points M and N.

### ● A Leaping Liar?



In your October issue an article appeared in which a boy 14 claimed to have jumped from one branch to another 15 feet away and 20 feet lower. Who does this punk think he's fooling?

L. Manchester  
Richville, N. Y.

You take this too hard, L. A word of advice—never call a punk a punk. He might be a gorilla's uncle.

### ● Dead Limb Advice

I am a boy age 11 and I have been climbing trees for, who knows how long. After reading the story "go climb a tree" I thought I might give a few tips, too.

1. If you're on a large branch and no limbs to climb up it except small ones of course. grab tight and put your feet on them, no matter how small they will hold you.
2. and don't ever get on a dead limb except at the base of the limb.

well that's all I got to say so, adios amego.  
Jim Farley

Des Moines, Iowa  
It'll be adios, all right, if we take your advice. Are you related to the other Jim Farley in East St. Louis?

[Continued on page 25]