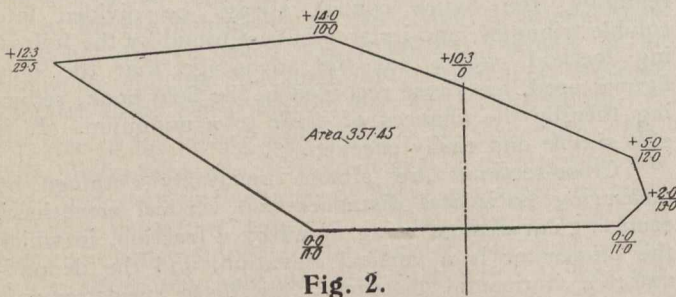


Distances.	Alternate Fills.	Differences.	Products.
— 8.0	0.0	—6.8	6.8
—18.2	0.0	—7.4	7.4
0.0	—6.8	—8.2	1.4
20.3	—7.4	0.0	—7.4
8.0	—8.2	0.0	—8.2

One-half of 404.90 = 202.45 = Area. —404.90

It will be noticed that there are two solutions to each figure, one in which the numerators are multiplied by alternate denominators, and one in which the denominators are multiplied by alternate numerators, the result in each case being the same, although the figures in the products are dissimilar. In example No. I. it will be noticed also that the figures resolve themselves into the rule for 3-level sections.



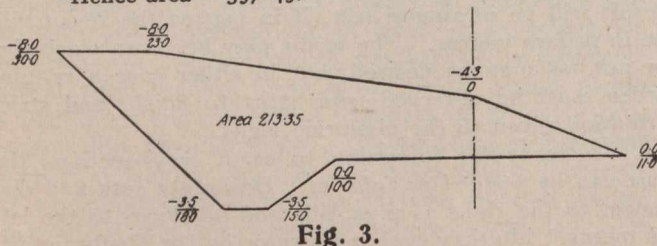
Example II. (Fig. 2).

Cuts.	Alternate Distances.	Differences.	Products.
14.0	0.0	—29.5	29.5
12.3	—10.0	—11.0	1.0
0.0	—29.5	11.0	—40.5
0.0	—11.0	13.0	—24.0
2.0	11.0	12.0	—1.0
5.0	13.0	0.0	13.0
10.3	12.0	—10.0	22.0

One-half of 714.9 = 357.45 = Area. 714.9

Distances.	Alternate Fills.	Differences.	Products.
—10.0	10.3	12.3	—2.0
—29.5	14.0	0.0	14.0
—11.0	12.3	0.0	12.3
11.0	0.0	2.0	—2.0
13.0	0.0	5.0	—5.0
12.0	2.0	10.3	—8.3

Hence area = 357.45.



Example III. (Fig. 3).

Elevations.	Alternate Distances.	Algb. Diff.	Products.
8.0	0.0	—30.0	30.0
8.0	—23.0	—18.0	—5.0
—3.5	—30.0	—15.0	—15.0
—3.5	—18.0	—10.0	—8.0
0.0	—15.0	11.0	—26.0
0.0	—10.0	0.0	—10.0
4.3	11.0	—23.0	34.0

∴ Area = 213.35.

Distances.	Alternate Elevations.	Algb. Diff.	Products.
—23.0	4.3	+8.0	—3.7
—30.0	8.0	—3.5	11.5
—18.0	8.0	—3.5	11.5
—15.0	—3.5	0.0	—3.5
—10.0	—3.5	0.0	—3.5
11.0	0.0	4.3	—4.3
0.0	0.0	+8.0	

∴ Area = 213.35.

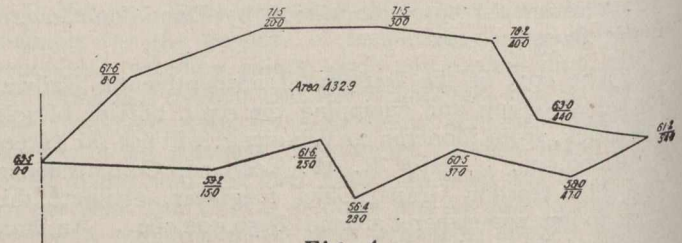


Fig. 4.

Example IV. (Fig. 4).

Numerators.	Alternate Denominators.	Algb. Diff.	Products.
13.5	15.0	8.0	7.0
17.6	0.0	20.0	—20.0
21.5	8.0	30.0	—22.0
21.5	20.0	40.0	—20.0
20.2	30.0	44.0	—14.0
13.0	40.0	54.0	—14.0
11.2	44.0	47.0	—3.0
8.0	54.0	37.0	17.0
10.5	47.0	28.0	19.0
6.4	37.0	25.0	12.0
11.6	28.0	15.0	13.0
9.2	25.0	0.0	25.0

∴ Area = 432.9.

Denominators.	Alternate Numerators.	Algb. Diff.	Products.
0.0	59.2	67.6	—8.4
8.0	63.5	71.5	—8.0
20.0	67.6	71.5	—3.9
30.0	71.5	70.2	1.3
40.0	71.5	63.0	8.5
44.0	70.2	61.2	9.0
54.0	63.0	58.0	5.0
47.0	61.2	60.5	—7.0
37.0	58.0	56.4	1.6
28.0	60.5	61.6	—1.1
25.0	56.4	59.2	—2.8
15.0	61.6	63.5	—1.9

∴ Area = 432.9.

This method is noted in some text books, but is not in general use, mainly because the procedure is at first a little difficult, but with the aid of the above examples it can be easily understood.

A full mathematical discussion will be found in a book entitled "Traverse Tables," by Messrs. Louis and Gaunt, where the method is applied to the finding of areas of figures platted by Latitudes and Departures.

No less than 40,000 horsepower will be available from the new power site reserve in Boulder Canon, two miles east of Las Vegas, Nev., which the United States Federal Government has approved.