(*a*) One part is called one-fourth ($\frac{1}{4}$); two parts, two-fourths ($\frac{2}{4}$); three parts, three-fourths ($\frac{3}{4}$). Four-fourths make a whole ($\frac{4}{4}=1$; two-fourths make a half ($\frac{2}{4}=\frac{1}{2}$).

(*b*) Have fourths added:—

One-fourth plus one-fourth makes two-fourths.

($\frac{1}{4}+\frac{1}{4}=\frac{2}{4}$); $\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{3}{4}$;

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{4}{4}=1$; $\frac{1}{4}+\frac{1}{2}=\frac{3}{4}$.

(*c*) Find what must be put with $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, to complete the circle.

$1-\frac{3}{4}=\frac{1}{4}$; $1-\frac{1}{2}=\frac{1}{2}$; $1-\frac{1}{4}=\frac{3}{4}$.

(*d*) Find how many times $\frac{1}{4}$ must be taken to make, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{4}{4}$; $\frac{1}{4}\times 2$; $\frac{1}{4}\times 3$, etc.

(*e*) Find how many times $\frac{1}{4}$ is contained in $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1; $\frac{1}{4}\div\frac{1}{4}=1$; $1\div\frac{1}{4}=4$.

Each result as it is thus found objectively is translated into arithmetical form and placed on the blackboard. In developing the fraction in this method teachers will find the form, not the idea, puzzling to children, *e. g.* $1\div\frac{1}{4}=?$ will no longer embarrass a pupil when he is able to translate the form into the words "How many times does a whole contain a quarter?" It is most important, therefore, that this introductory work of translating fractional expressions from words to figures and vice versa, should be well done and frequently reviewed.

Let us take another instance to show how after a principle has been taught objectively, a rule of working may be derived inductively.

Let us suppose that the object of your lesson is to teach the reduction of mixed numbers to improper fractions. With Mr. Lippens' permission we will use his chart. We have here two circles, each divided into thirds, and another from which one-third has been taken, leaving two-thirds. We see that each circle contains three-thirds, that the two circles contain six-thirds, which with two-thirds more make eight-thirds.

$2\frac{2}{3}$ circles $=\frac{8}{3}$ circles.

Similarly below we find,

$2\frac{3}{4}$ circles $=\frac{11}{4}$ circles,

and $2\frac{5}{6}$ circles $=\frac{17}{6}$ circles.

When this analysis has been grasped and an oral statement can be readily given, withdraw the objects and repeat.