The Stephenson link motion shown in Fig. 10 involves a slightly different method of attack and is worked out in full here, but is not drawn correctly to scale, so as to avoid confusion of the diagram. In this case the link of reference is the crank shaft containing the crank C and the eccentrics E and F, and instead of making C^1, E^1 and F^1 coincide with C, E and F, as in the previous examples, we have made $OC^1 = 2OC$, etc. The scale will then be $OC^1 = OC \times \omega$ ft. per sec. We locate C^1, E^1, F^1, H^1, D^1 and I^1 at once. Further, we choose M on the link AB directly below K on LDK, and we also know that E^1I^1, F^1B^1, H^1G^1, and D^1K^1 are parallel respectively to EI, FB, HG and DK. Now, we have already seen that the image of each link is similar and similarly divided to the link itself, and we see that the link AGB has the points G, A and B. We also know the lines along which G^1, A^1 and B^1 lie, so that the problem is simply one of locating a curved line similar to AGB, with its ends on the lines A^1E^1 and F^1B^1, and divided at G^1 by the line through O parallel to GH, so that $\frac{AG}{BG} = \frac{AG}{BG}$. (There are simple geometrical methods of accomplishing this result, but these are omitted here.) Thus $A^1G^1B^1$ is located and the whole link may be drawn in similar to AGB, but to a larger scale, and on it the point M^1 may be found from the relation $\frac{MA}{BM} = \frac{MA}{BM}$. Since K slides with regard to M we have K^1M^1 normal to A^1B^1 at M^1, which locates K^1, and we may readily locate L^1 from the relation $\frac{LD}{DK} = \frac{LD}{DK}$.

The linear velocity of the slide valve is $OL^1 \times \omega$, and it moves to the right.

Note.—The images of all links are similar to and similarly divided to the links themselves, and are always parallel to the links, of which they are the images.

Lack of space prevents further illustrations, of which very many useful ones exist, but enough cases have been given to show the method of procedure in any mechanism, and to show that by this method the velocity of any point in a mechanism may readily be found by means of a drafting board. Those using the phorograph will no doubt invent geometrical methods for getting the desired ratios between the image and the link in any case which occurs.