

might be the process of preparing celery for market. This process consists of a series of jobs, one of which is packing the celery in crates. It requires two operations to perform this job. One worker picks out a given size of celery while another worker places the sized celery in the crate. The operation of sizing, however, is made up of several work elements: (1) select stalk, (2) place on table. In turn, the stalk was placed on the table by a series of therbligs such as: (1) transport empty hand to stalk, (2) position hand, (3) grasp, (4) transport load, (5) inspect, (6) position, (7) release load.

In this study, method-analysis was used in several ways. It facilitated comparisons of different methods already in use and thereby served to explain the causes for differences in labor required by these methods. Furthermore, such comparisons indicated the advantages and disadvantages of certain work routines, especially when illustrated graphically. The most valuable use of method-analysis, however, was in developing new methods. After the parts were separated into individual items they were reassembled in what would appear to be the most effective combination. The new method thus developed was then tested. The testing, in turn, might suggest a recombination of parts.

Each segment of the overall method was subjected to a series of questions commonly called a "check-list." An abbreviated "check-list," used frequently in this study, is shown in Fig. 2.

Through successive breakdowns of methods, the number of method-analyses possible in this study would be very large. During the course of the field investigations, however, only what were considered key methods were charted in detail. No particular form or schedule was used for recording the data obtained.

Certain work routines which are highly repetitive and performed with a series of rapid movements are best analyzed by means of micromotion study. The field work involved in making such a study is limited to observing workers perform the routine being studied, selecting typical workers and photographing them with a motion-picture camera at a selected camera speed. The normal speed of 16 mm. cameras is approximately 1,000 frames a minute, although the common motion-picture camera can be speeded up to about 4,000 pictures a minute. A number of complete cycles of the work routine are photographed. The balance of micromotion study takes place in the laboratory.