is composed of 6 compartments. The rotor is somewhat different from that developed by Smith (6). It delivers the material out of one side only, and was less sensitive in regard to centering the delivery funnel over the rotor opening than when a twin-opening rotor was used. The rotor should not be operated at speeds much greater than 200 rpm, for the centrifugal force will cause the rotor to fill with fertilizer.

The fertilizer feed belt mechanism is exactly the same as that described by Hunter (3), except that only 1 of the 4 boxes is used. A container with a tripping device above the belt is used to accommodate the fertilizer for the next plot while fertilizer on the belt is applied to the plot being seeded. Near the beginning of the next plot, the fertilizer in the container is dropped on the belt by pulling a lever. The tripper container is troughlike in construction, with one side hinged to serve as the release mechanism when the lever is pulled. Uniform placement of fertilizer on the belt depends on the uniformity with which it is spread in the tripping device. The belt mechanism and miniature grain drill are ground-driven while the divider is operated by a 6-volt motor powered from the battery on the tractor.

Seeding and Fertilizing Procedure

When the grain is to be seeded at a constant rate and fertilizer varied for the different plots, the miniature grain drill is set to deliver the desired rate of seed per acre. The fertilizer for each plot is weighed beforehand into a bag. These bags, including empty ones for the check plots, are placed in order, according to the experimental plan, in the box mounted just left of the operator’s seat as shown in figure 1. The tractor is operated at a relatively slow but steady speed. The operator handling the fertilizer bags places the fertilizer in the tripping device and trip it approximately 4 feet before the disk openers reach the plot line to allow for the lag involved before the fertilizer reaches the soil after leaving the tripper. While one plot is being fertilized, another bag is opened and its contents are placed in the tripper. No stops are necessary during the seeding and fertilizing of an entire experiment. A plan of the experiment is mounted in an appropriate place on the machine so that the fertilizer bags may be periodically checked with the corresponding plots involved. Two operators, accustomed to the machine and technique, can seed and fertilize an experiment at the rate of two or more plots per minute. If the grain, as well as fertilizer, is varied in one experiment, both the grain and fertilizer are weighed for each plot. Both are placed on the tripper and fed through the divider by means of the belt.

As with any other fertilizer applicator, the machine will not function well in extremely humid weather. If, however, the machine is thoroughly washed with water immediately after use, it will then function well in extremely humid weather. If, however, the machine is thoroughly washed with water immediately after use, it will then function well in extremely humid weather. If, however, the machine is thoroughly washed with water immediately after use, it will then function well in extremely humid weather. If, however, the machine is thoroughly washed with water immediately after use, it will then function well in extremely humid weather.