A demonstration was recently made in which the lathe was set complete for turning wheels of 78 inches diameter with 6¼ in. tires in 12 minutes, including the placing of the wheels in position for work. They were then finished complete in 19 minutes and placed on the floor in four minutes more. The total time from floor to floor, including the setting of the lathes, was 35 minutes. This work was the same as the turning off of a new set of tires and the cut was but ⅛-in. deep.

In another test, a pair of 67 inch wheels with 6¼ in. tires, were chucked in 7 min. turning complete in 28 min., and put

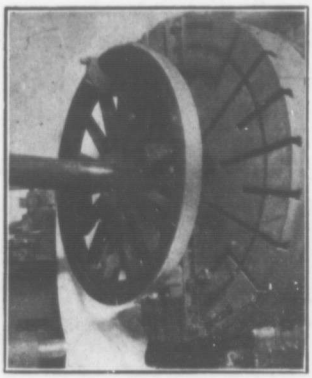

FIG. 10

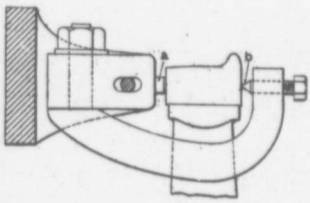

FIG. 11

on the floor in 3 minutes more, or a total of 38 min. from floor to floor. In this case the cut was ⅜-in. deep.

A third test was made with 67 in. wheels and 6¼ in. tires. They were chucked in 9 min. and finished in 43 min., the breaking of a tool having delayed the work four minutes. The work was done at a cutting speed of from 13 to 15 ft. per min. When a tool steel is produced that can stand the stress and heat of a higher speed no doubt there will be a greater output than modern machine tool practice will allow.

The automatic nut-tapping machine illustrates one phase of modern development in machine tools to secure maximum production. In this machine the only attention required is for the attendant to drop the nut blanks into the hopper. One of these machines, in the Schenectady works of the American Locomotive Co., operated during a week's run at the rate of 12,000 half inch nuts in ten hours, and in the same period of time 10,000 ⅝-in. nuts.

The straught or taper bolt turning machine has a practical