

In taking out the big fir stumps a fairly liberal use of powder (either 20 per cent. stumping powder, 40 per cent. dynamite, or Judson powder) is essential. All three kinds of powder have their supporters, and experience alone can decide which is the best, as it depends a great deal upon the degree of soundness of the stump, the character of the soil and the way the stump lies; but for all round use, either 20 per cent. stumping or Improved Judson will probably be found most satisfactory.

Powder always acts better if the stump is fairly sound; it is sometimes sufficient to put in a small charge to split it up and then start a fire in it. This reduces the fragments to a size that can easily be handled with a team, and they can then be hauled away to the "burning pit." In burning either stumps or logs it should be remembered that so long as two pieces of wood are either touching or within an inch or two of each other the fire will not go out, but will burn continuously until everything is burnt up, but if they get four inches apart the fire will gradually die, so that one should always try and pile up the logs and roots so that as they burn they will fall towards each other. Careful piling saves a lot of extra work afterwards. As a rule, however, it is much better in blasting the stumps to use enough powder to take the whole stump clean out at one blast, as whatever is left in after the blast has, as a rule, to be dug out; both time and money are saved by careful use of the powder, and by not stinting its use. Do not dig around a stump you are going to blast, or expose any roots. The idea is in blasting out a stump to blast the earth underneath the stump, as this lifts the whole thing out together. It makes a much bigger hole, but it is a good deal easier to fill a hole in than to dig a stump out. This refers to almost all fir stumps, and to the solid cedar stumps, but would not refer to the hollow cedar stumps. These have to be dug or pulled out with teams and blocks and tackle, with the aid of an occasional small blast. It is impossible to give anything more than very general hints as regards the blasting of these big stumps, as experience and the means you have at command will decide the system of work. It can safely be said, however, that the cost of getting them out, if the work is intelligently and systematically done, is, as a rule, very much less than has been generally supposed.

The tools required are a 1-inch auger about three feet long; a 2-inch auger about four feet long, and a 4-inch auger about five feet long. A post-hole auger with a 6-inch bit is also useful for the larger stumps.

Remember always to get the hole as deep as possible under the stump. The greater the depth at which the explosion disturbs the soil the more likely it is that all the roots will come out at one blast. This is always the thing to be aimed for, as if the stump does not come out at the first blast, as it blows the soil out and bares the roots, it is usually impossible to get a satisfactory blast again, and the roots will have to be chopped or cut with a small piece of 40 per cent. dynamite inserted in a 1-inch auger hole. This latter takes longer than chopping, but sometimes the roots are in such a position that it is impossible to chop them without spending a lot of time in digging. With a little experience it will be found that most of the big roots will come out entirely at the first blast, and as a rule the blast will not only lift the stump out but will also split it into two or more pieces.

So far the taking out of the big stumps only has been referred to, but as regards the second growth stumps, the largest of which will not exceed 2 feet