H. GANTKE.

METHOD OF SEVERING TIMBER.

APPLICATION FILED NOV. 10, 1909.

1,050,768. Patented Jan. 14, 1913.

Fig. 1.

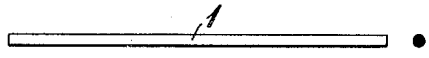


Fig. 2.

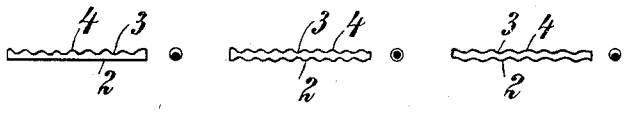


Fig. 3.

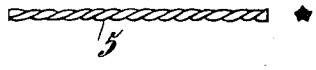
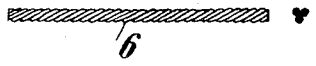


Fig. 4.



WITNESSES

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METHOD OF SEVERING TIMBER.

1,050,768. Specification of Letters Patent. Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, HUGO GANTKE, a subject of the King of Prussia, residing at Berlin, N. W. 40, Heidestrasse 52, Germany, have invented certain new and useful Improvements in Methods of Severing Timber; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to severing timber, and a primary object is to provide an improved method of severing the same by means of wires.

A method of severing timber by means of a wire is well-known, the traverse being made by carbonizing the wood in front of the wire and the carbonized wood being removed by reciprocating the wire. The heat necessary for the carbonization is obtained by heating the wire electrically. In contradistinction to this known method using specially heated wires which I do not claim, I use solely the heat which results from the friction between the wire and timber.

Whenever timber is worked up frictional heat is produced but as an undesirable secondary effect. Therefore in general, the tool is kept sharp in order to allow as little frictional heat as possible to be produced. In contradistinction to this, when carrying my new method into practice the tool is made so that it generates as much frictional heat as possible.

Several forms of wire suitable for carrying my method into practice are represented by way of example in the accompanying drawing, wherein:

Figure 1 shows a smooth wire, in elevation and section. Figs. 2 and 3 show other forms of wires, Fig. 4 a wire rope in elevation and section.

The simplest form of such a tool is a smooth wire 1 which is drawn through the timber in a varying or unchanging direction. The wood contacting with the wire becomes carbonized by the frictional heat and the carbon produced is partially rubbed away by the moving wire. Frequently, however, more carbon is produced than the wire can scrape away so that the latter soon becomes fixed in the carbon which is a bad conductor of heat and the operation is brought to a standstill. I avoid this disadvantage by employing, instead of a smooth wire, a wire 2 having tooth-like constrictions 3 and thickened portions 4, as shown in Fig. 2, or a polygonal, spirally twisted wire 5 or wire rope 6 as shown in Figs. 3 and 4, respectively. Now when such a wire is moved in the timber the elevations and recesses in the separating tool follow one another causing more carbon to be scraped away than when a smooth, round wire is employed. If the size and number of the thickened portions and constrictions of the wire are in the correct ratio to its diameter and velocity, the separated faces of the timber show no serious carbonization. On the contrary, the layer of carbon produced at the traverse is very thin.

My new process is particularly intended for employment when it is less a matter of using a small amount of power, but rather of replacing expensive manual labor in an effective, simple manner by mechanical work, *e. g.* when felling trees, cutting rafted timber, piles, timber lying on the ground, stacked timber and other timber in a position accessible with difficulty.

I claim:

1. The hereindescribed method of severing timber which consists in reciprocating one or more wires against the same and thus producing the heat necessary for the carbonization of the timber in front of the wire.

2. The hereindescribed method of severing timber which consists in reciprocating one or more wires having projections against the timber and thus producing the heat necessary for the carbonization of the timber in front of the wire.

3. The hereindescribed method of severing timber which consists in reciprocating a rough wire in a varying direction against the timber and thereby heating the wire, carbonizing the timber and removing part of the carbonized timber.

4. The method of severing timber which consists in progressively carbonizing a traverse of the timber by friction.

5. The method of severing timber which consists in progressively carbonizing a traverse of the timber by the frictional action of a moving wire.

6. The method of severing timber which

consists in progressively carbonizing a traverse of the timber by the frictional action of a rapidly reciprocated wire.

7. The method of severing timber which consists in progressively carbonizing a traverse of the timber by the frictional action of a moving roughened wire.

8. The method of severing timber which consists in progressively carbonizing a traverse of the timber by the frictional action of a rapidly reciprocated roughened wire.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

HUGO GANTKE.

Witnesses:
JOHANNES HEIN,
HENRY HASPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."