

CHIRAN - SAWMEN in Kumaon, India
Axel Weller October 2000

Hewing wood and preparing wood near Jhargaon-Talla

The Sawmen (Chiran)

Those who do the felling of trees and carry out hewing and sawing of timber are called Chiran in Kumaon.

In Jhargaon -Tala, near Okhalkanda in Nainital district of the state of Uttar Pradesh (now Uttarakhand), Dulap Singh Bisht and Ganesh Singh Bisht work as sawmen. Both are also farmers and as such belong to the Thakur group, who earn their extra income with forest work. Dulap was born around 1945, is married and has two sons, Ganesh is twenty years younger, also married and has a son (see picture 10). Both started working in the forest around the age of 20. At her thirty-five year or fifteen years of professional experience, they practice almost wordlessly communication because they know each other's abilities and the sequence of work steps very accurately. As a younger Ganesh takes on the physically difficult work during Dulap performs more difficult tasks. So Dulap has almost exclusively the sharpening and straightening of the tools.

The work brings low wages. The daily wage for hewing beams is 50 rupees (around 1.2 euros) common. The sawing is paid according to the result, but is also included with great hard work only slightly higher. A carpenter, on the other hand, receives on the construction site double.

Example:

Production of a beam about 5 meters long.

Report of the work process from 29/30 October 2000

The process begins with the builder purchasing the necessary trees from the responsible authority Forester (Forest Guard). This is usually done legally, and it is not uncommon for the forester to receive one "Reward". Even if the builder asserts his rights, the forester must receive an allowance be paid. Only the purchase of wind break and storm fall or of is permitted dead wood (picture 1). Prison sentence is for cutting living wood. Far However, larger sums sometimes make it possible to purchase good wood. The consequence of this regulation is that only inferior construction wood is used - wood that already exists is infested with worms and fungi. Hardwoods like sal or toon are almost unattainable.

Almost exclusively in Kumaon there is a fast-growing pine tree, the Himalayan long-needle pine (*Pinus voxburghii*) use. The price of these trees is based on the length and diameter mid-height accordingly at 100 to 1000 rupees (2.5 to 25 euros).

Once the trees have been purchased, the building owner commissions the sawmen to fell them. Is the reward once agreed and the dimensions of the required timber have been determined, the work begins Client constantly accompanied.

The tree is either felled or, as in the case of Windbruch, simply cut to length (Figure 2). When felling, the felling notch is made with the ax (Figure 2) before the chopping saw is applied (Figure 3). Careful attention is paid to the direction of felling so as not to damage the trees around and to enable the tree to be moved to the trimming site (Figure 4).

The wood is cut to length using a shot saw according to the agreed wood dimensions (see yeahDrawing), whereby the special nature of the tree is discussed. The saw cut is secured with wedges placed from above to prevent the saw from jamming to exclude uncontrolled movement of the wood (Figure 5). For further security, the Shot saw has a removable handle on one side so you can take it out if necessary to be able to pull out the cut (see drawing)

The Hewing off the tree is proceed in designated area. To move the Final the wood is cut to length, peace on rules and with long pine sticks are used as levers move the pieces easily to the place. After determining the direction of the log, there are two on the underside straight surfaces were hewn to store the logs safely (Figure 6). After aligning and after checking the position, the final dimension of the desired size is placed on the end grain at both ends off the wood marked. The places to be marked on the top of the trunk are debarked end straightened the branches with a Ax.(picture 7.)

Now the trunk is marked with the chalk line (picture 8). To do this, the cord is rub in to a mixture of charcoal and water. Crushed charcoal is placed on a stone crushed and ground. When water is added, a paste is created with which the chalk line can be made is distributed. It also happens that used batteries are opened to remove their carbon for use. The line rolled with pulp allows five to six strokes.

Before starting the axing, the ax is sharpened on a piece of sandstone (that sandstone has been taken from the neighboring road edging) without the use of water (Figure 9).

The tree is chopped with a long-handled axe. That means the trunk is hewn to such an extent that a level is reached that is one to three centimeters from the chalk line marking. The sawmen stand barefoot on the trunk to guarantee stability. Notches are made from above at a distance of two feet = (61 cm). From these places Hewing backwards standing on the lock. Left side is preferred. In general right hand is the leading hand, this hand is on the Ax handle in front. If the fibre of the tree are changing it can change without any problem the direction and can also change the leading hand.(Figure 1, 12). The ax is effective because of its width splitting off and must therefore be strongly aligned towards the wood (see drawing).

The described technique of hewing requires great precision when striking, because both on the end of the beat both hands on the end of the Ax handle that means ca. 1 m. late correction of the beat is not possible. The length of the Ax handle and the considerable weight of the ax creates a significant impact force, which greatly accelerates rinding.

Almost dried out dead wood or storm-fallen wood makes the Hewing one

strenuous and energy-sapping work. On the other hand, fresh wood can be obtained from green trees much easier to hew. Ganesh, the younger, almost always does the rough work who needs a lot of force. Dulap carries out the finishing work with an instrument similar to a broad ax (see Drawing).

After finishing the two sides, the trunk is turned onto its side laid and the other two sides marked and rough hewn.

Finally, the two sides on which the chalk line can still be seen is to be fine Hewing with the broad ax (pictures 13, 14, 16). This ax is called in Kumaon bihari ax because the blacksmiths of these tools are migrant workers from Bihar. For a season the blacksmiths come with their Family in the mountains, after the rainy season. This ax, which has a long handle like the ax for rough hewing and whose blade is 20 to 25 cm wide, has a considerable weight. The trunk is turned one last time to mark the two side with the chalk line and hew them with the broad ax. (Image 15).

The Chiran need a full day to work on the beam, which is 16.5 feet long (5.03 m) and has a cross section of seven by seven inches (17.8 by 17.8 cm). The washed wood as well as the branches and the top of the tree are carried home by the client's family members in the evening. The Chiran also receive some of the firewood. Resin pieces are particularly valued, which are suitable for lighting fires.

Sawing: Beforehand, the wood is cut into sharp edges. Then the cuts to be sawed are marked on both sides with the chalk line (Figure 19).

Before this operation, a structure is built to place the marked trunk. To do this, a spar about 70 cm high is attached and a depression of around 30 centimeters is scratched on one side of the spar. One end of the trunk is anchored in the recess and rests on the spar in such a way that more than half the length protrudes above it. This end is supported with pine batons. The end located next to the recess is also weighted down with a stone. A thin, notched pole serves as a support for the chiran standing on the trunk (see drawing). The log saw used for sawing is a frame saw with a very light frame made of pine wood. The saw blade is tensioned by wedges with a frame (see drawing). The saw teeth, filed for a longitudinal cut, and the moderate set allow a smooth cut to be made (see drawing). It is set and filed with a sword file. A job that Dulap in turn carries out. About every two Days must be filed while set the teeth as necessary (Figures 17, 18).

At the beginning of the cutting , supports are set up in the front third and approximately in the middle and moved as the work progresses. The support is moved repeatedly until it is placed behind the chiran standing under the trunk. The more strenuous one Ganesh has taken over the role again and he is stabbing barefoot on the trunk (Picture -20- 23.)

Chiran, standing on top of the trunk, ensures that the saw cut is guided.

Deviations from the marking are compensated for by bending the frame to the side.

The cut is carried out to the spar. Then the saw is taken out and the entire trunk is turned over just like on a rocker. Now it's already showing

said halfie downwards so that the remaining towering half can be sawn. If there are multiple cuts to be made (such as when making boards), all cuts are made in parallel before the log is tipped onto the stile.

The women usually carry the finished beams on their heads

Worn at construction site. In this case, you have to travel five kilometers to the village of Jhargaon-Talla (Figure 24)..



Kumaon:

1 Nur totgestandenes Holz und Sturmfall darf geschlagen werden.
Im Bild eine totgestandene Kiefer.



2 Die Fällkerbe wird mit der Axt geschlagen



Kumaon:
3 Mit der Schrotsäge wird der Baum gefällt



4 Die Fällrichtung berücksichtigt die Schonung des Jungbestandes
und leichten Abtransport



Kumaon:

5 Das Ablängen des Baumes erfolgt nach den Erfordernissen des Bauvorhabens und der Beschaffenheit des Stammes

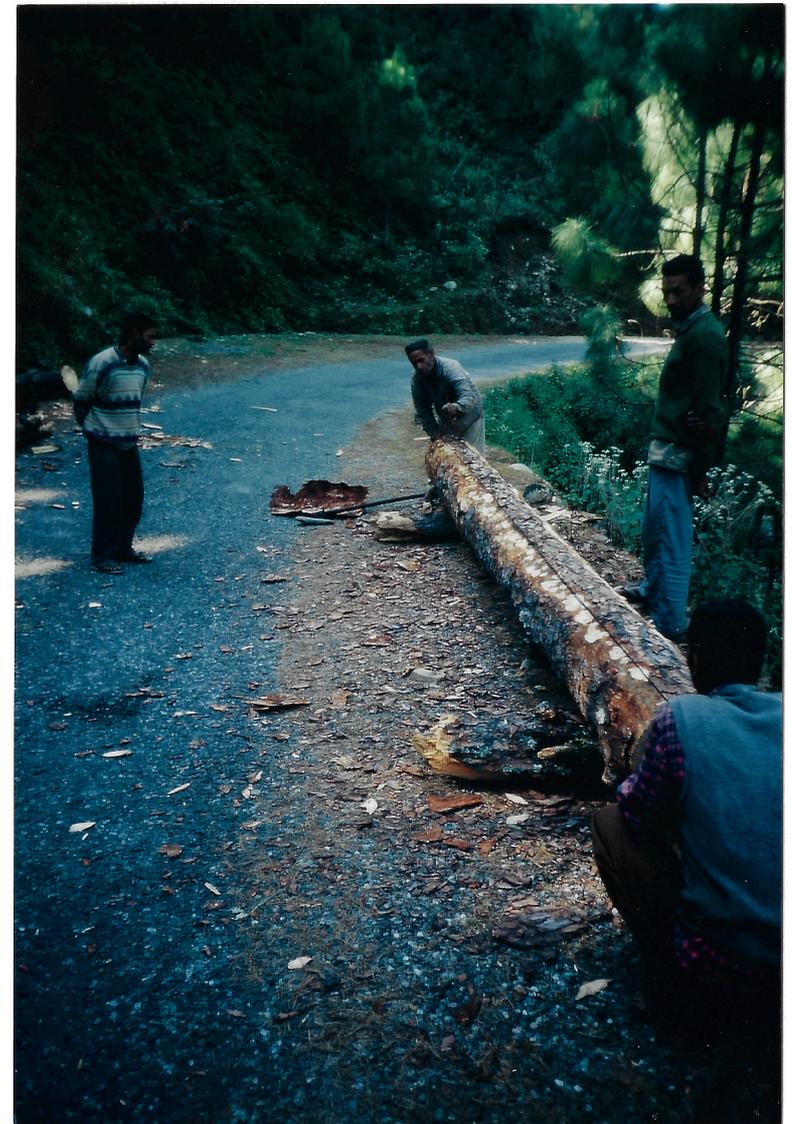


6 Zwei gerade Flächen werden gehauen, um eine gute Auflage des Stammes zu garantieren

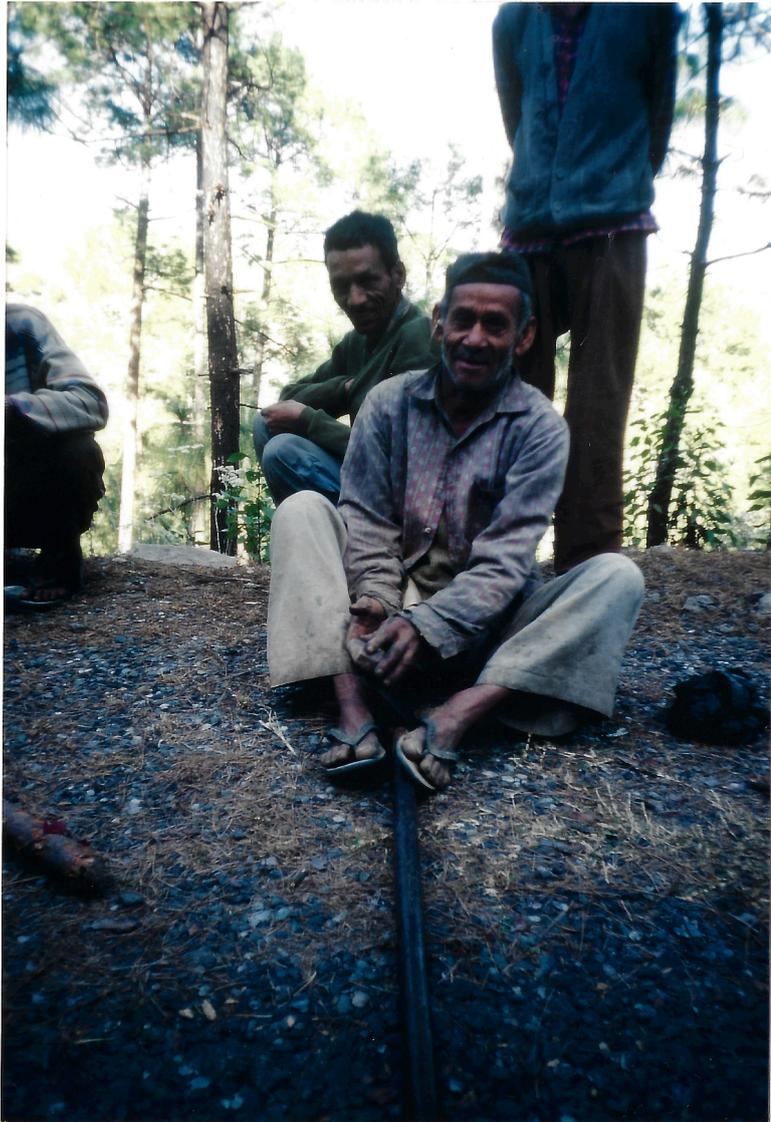


Kumaon:

7 Der Stamm wird an den zu markierenden Stellen mit der Axt geschält



8 Der Schnurschlag markiert die Endmaße des Bauholzes



Kumaon:
9 Die Axt wird mit einem Sandstein geschärft



10 Der Bauherr (links Raghubir Singh Bisht) mit den beiden Chiran,
Ganesh und Dulap Singh Bisht



Kumaon:
11 Der Chiran schlägt auf dem Stamm stehend Kerben



12 Ausgehend von den Kerben wird das Holz grob abgeschwartet



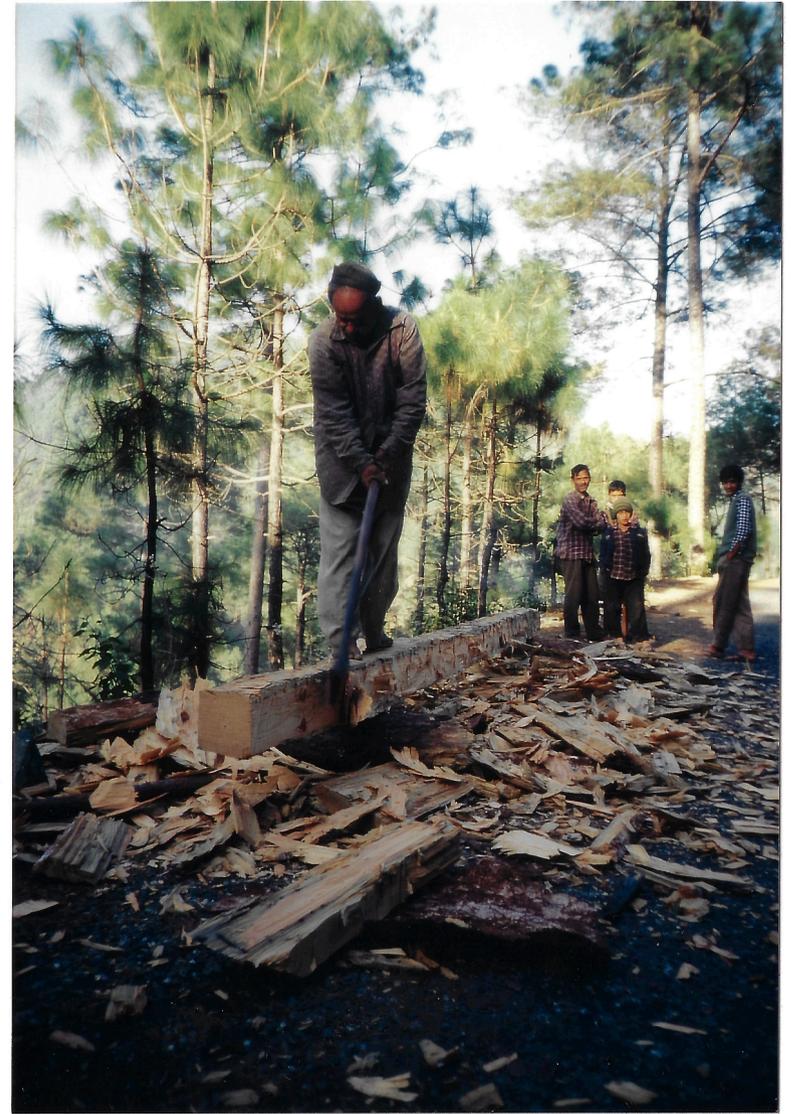
Kumaon:
13 Das Bebeilen wird mit der breiten, schweren Axt ausgeführt



14 Mit hoher Genauigkeit wird bebeit



Kumaon:
15 Die vierte Seite des Stammes wird bebeit



16 Holzabfall wird als Feuerholz fortgeschafft



Kumaon:
17 Die Säge wird täglich gefeilt



18 Die Sägezähne werden nach Bedarf mit der Feile geschränkt



Kumaon:
19 Der Holzblock wird beidseitig mit Schnurschlägen markiert



20 Der Anfang des Sägeschnitts erfordert höchste Präzision, da davon der gesamte Arbeitsvorgang abhängt



Kumaon:
21 Mit dem Fortgang des Sägens rücken die Abstützungen nach hinten



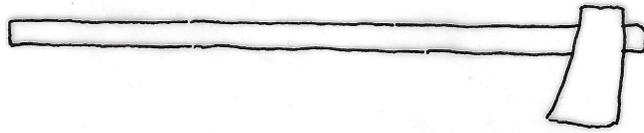
22 Gegen Ende der ersten Hälfte rückt die Unterstützung des Stammes ans Ende



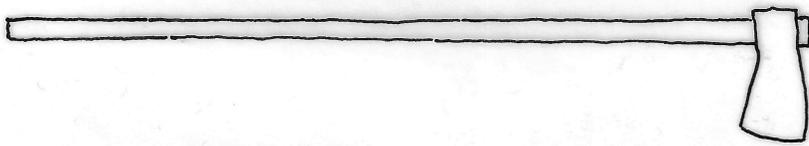
Kumaon:
23 Der untere Chiran verrichtet seine Arbeit gegen Ende kniend



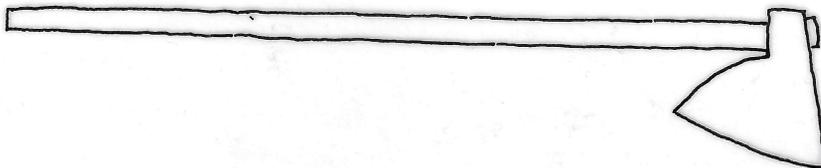
24 Die Frau des Bauherrn trägt das fertig zugesägte Bauholz in das
5 km entfernte Dorf



Eine Waldaxt zum Fällen der Bäume und
Spalten von Feuerholz



Eine langstielige, schwere Axt zum groben
Behauen der Stämme

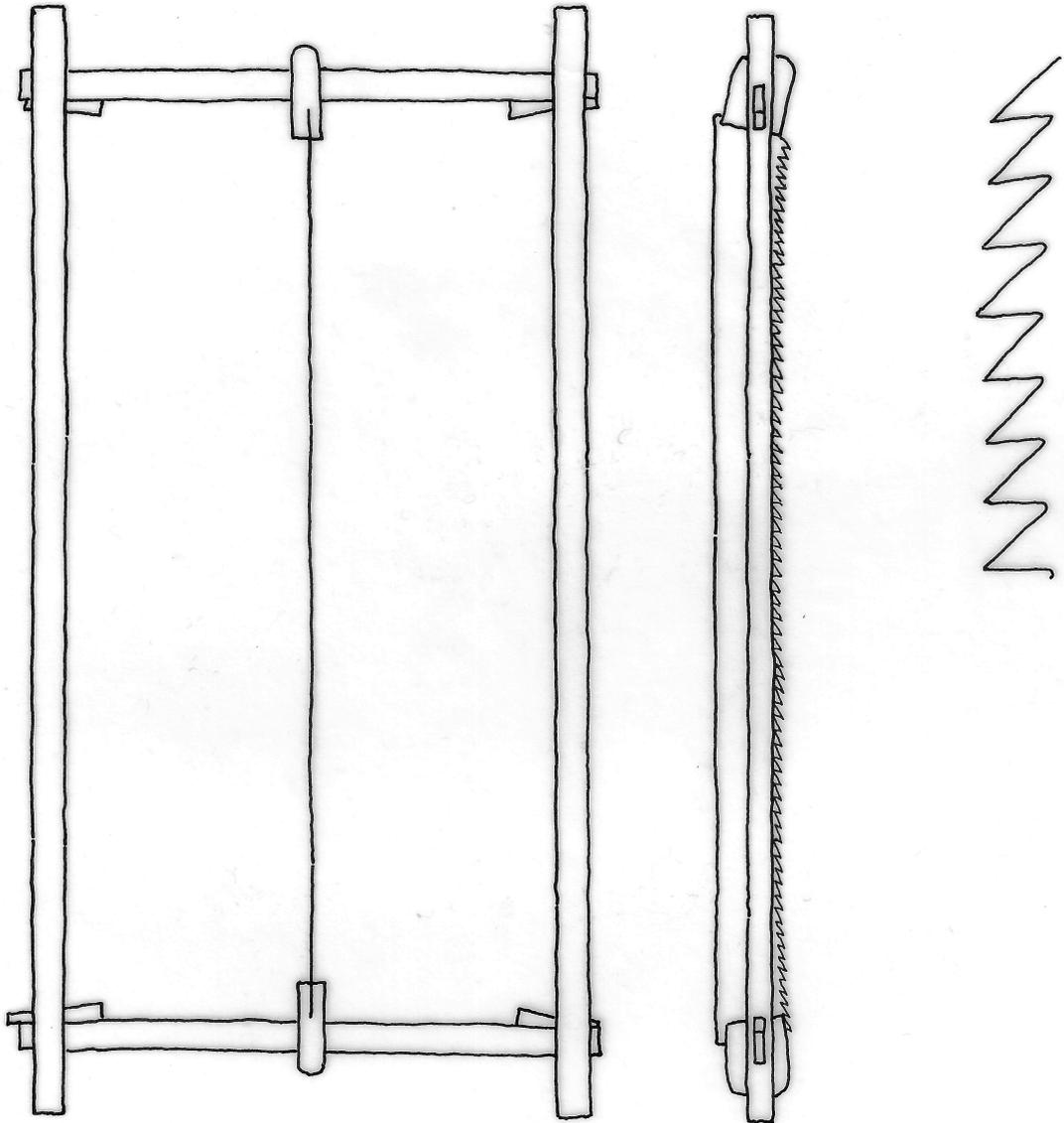


Eine breite, schwere Axt zum feinen
Behauen der Stämme

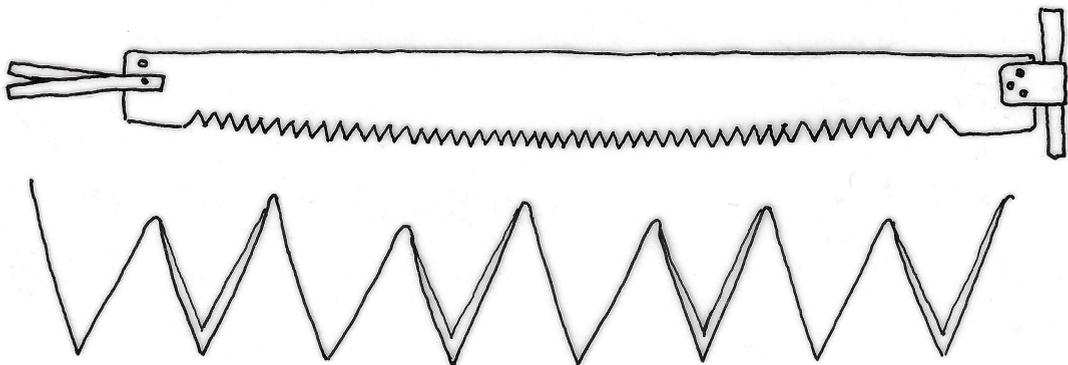


Eine Schwertfeile zum Feilen und Schränken
der Sägezähne

Maßstab 1:10

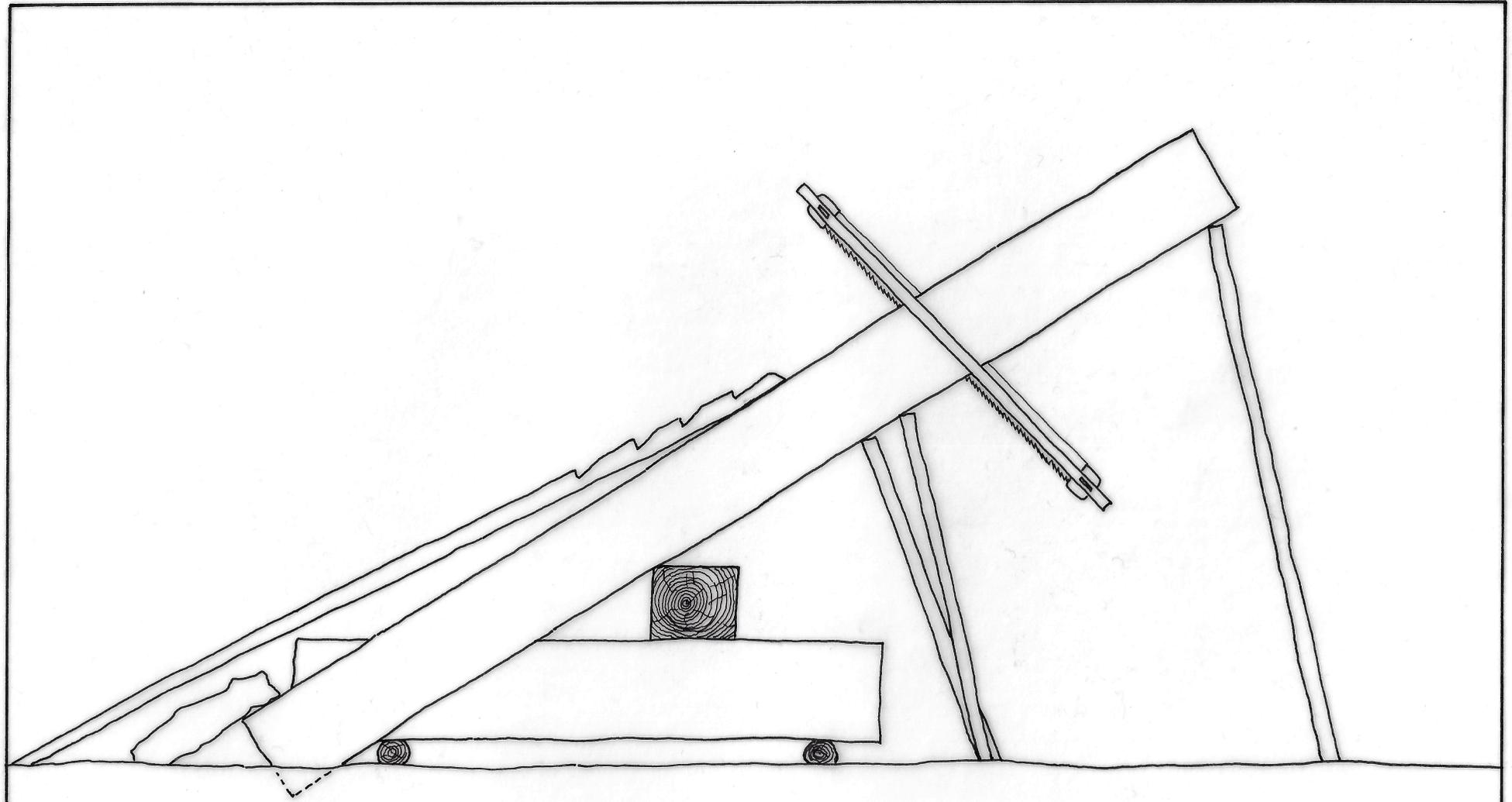


Klöbsäge eine Längsschnittsäge zum Sägen von Balken, Bohlen und Brettern



Schrotsäge eine Querschnittsäge zum Fällen und Ablängen der Bäume

Maßstab 1:10

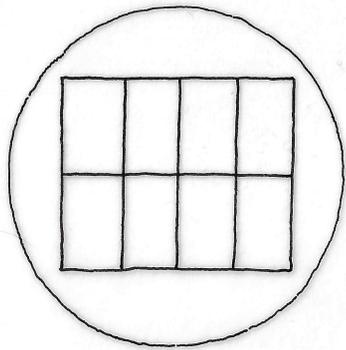


Die Konstruktion eines Sägebockes

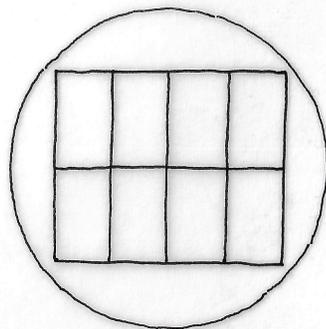
Maßstab 1:20

Beispiel des Zuschnittes eines Baumes

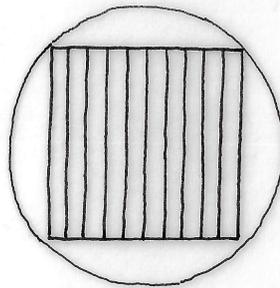
12 feet = 3,658 m	12 feet = 3,658 m	6 feet = 1,838 m	7 feet = 2,134 m	9 feet = 2,743 m	9 feet = 2,743 m
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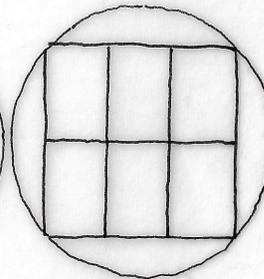
8 Hölzer 3 inch = 7,62 cm
zu 5 inch = 12,7 cm



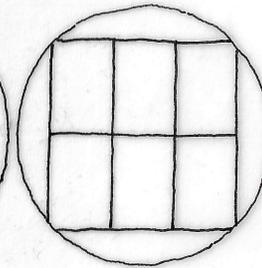
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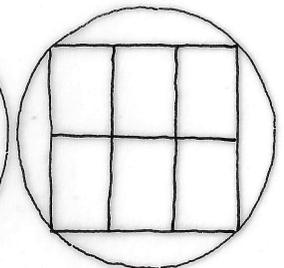
10 Bretter mit
1 inch = 2,54 cm



6 Hölzer 3 inch
zu 5 inch



6 Hölzer 3 inch
zu 5 inch



6 Hölzer 3 inch
zu 5 inch