Aug. 4, 1931. W. GRINKE 1,816,969

MACHINE FOR CLEANING TIMBERS ESPECIALLY BOARDS, BEAMS, OR THE LIKE

Filed Oct. 4, 1930

Fig. 1

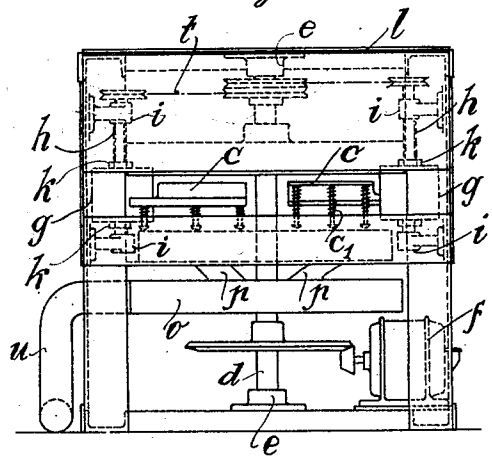


Fig. 2

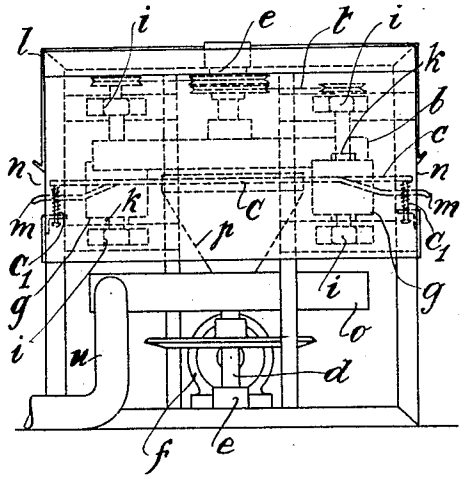


Fig. 3

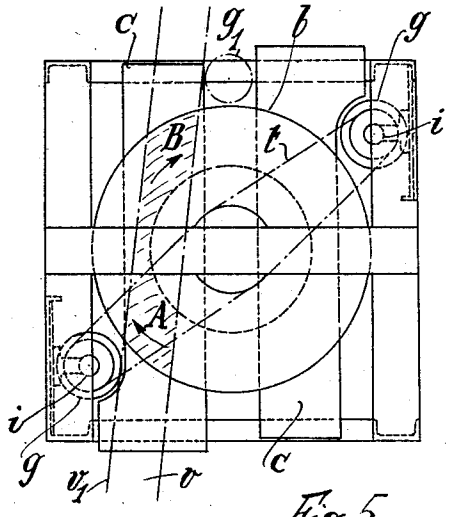


Fig. 4

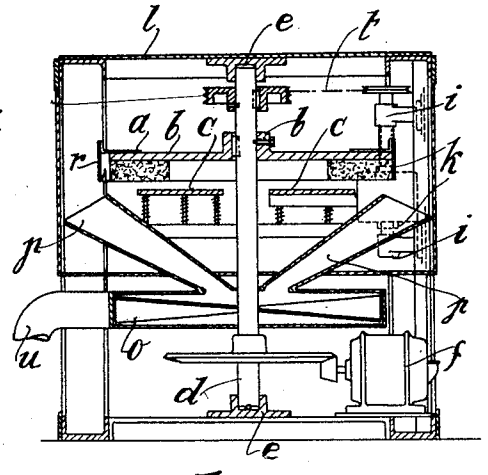


Fig. 5

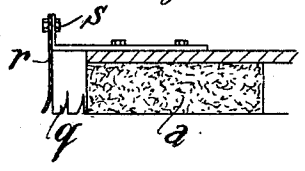
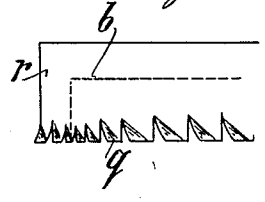


Fig. 6



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Patented Aug. 4, 1931

1,816,969

UNITED STATES PATENT OFFICE

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MACHINE FOR CLEANING TIMBERS ESPECIALLY BOARDS, BEAMS OR THE LIKE

Application filed October 4, 1930, Serial No. 486,331, and in Germany October 5, 1929.

This invention relates to a machine for cleaning timbers, especially boards, beams or the like, in order to free the timbers, which have already been used, of all mortar, paint or other impurities so that they can be used afresh.

The invention consists in arranging above a yieldable guide table a wheel with grinding rim, whereas at the side of the grinding wheel grinding rolls are arranged, effecting at the same time the guiding and the cleaning of the edges and situated at the side or in front of or behind the grinding wheel.

Further features of the invention are the special construction of the machine which may be built in various manners.

An embodiment of the invention is illustrated, by way of example, in the accompanying drawings, in which:—

Fig. 1 is a front elevation of the machine.

Fig. 2 is a side elevation of Fig. 1.

Fig. 3 is a top plan view, the walls having been removed.

Fig. 4 shows the machine in vertical longitudinal section.

Fig. 5 shows in cross section the grinding wheel with a scraping ring.

Fig. 6 is an elevation of Fig. 5.

For cleaning timbers a grinding wheel b, roll or the like, fitted with a grinding rim a is used, under which a spring supported guide table c is arranged. The grinding wheel b, for which a roll may be substituted, is, as shown in Figs. 1 and 3, mounted on a vertical axle d, journaled in bearings e and driven for instance from an electric motor f by means of bevel wheel transmission. The wheel b is keyed on the axle d and, if desired, adjustable relative to the table c by means of a set screw b_1. The grinding wheel b has near the outer periphery a grinding ring a consisting of grinding mass, or of emery. Owing to the grinding ring being mounted on the outer periphery of the grinding wheel b it is possible that, when a long timber v is being inserted, the surface of the timber is first acted upon by the grinding ring only at one point whereupon at the further inserting of the timber always the same point is acted upon but in another direction.

This is clearly shown in Fig. 3, a certain point of the surface of the timber being first acted upon in the direction of the arrow A and then in the direction of the arrow B.

At the side of the grinding wheel grinding rolls g are arranged which are designed for acting upon the edges v_1 of the timber. The grinding rolls may be mounted instead of at the side of the grinding wheel behind said grinding wheel. They may also be arranged in the middle as the roller g_1 indicates in dash-dot lines.

By this arrangement it is possible to insert the timber from one side of the machine, a man standing at the other side of the machine gripping the delivered timber or board and pushing it in again from the rear. The man turns the board so that at the next following operation the lower side and the other edge of the board are cleaned. In order to ensure that the lateral grinding roll g bears securely against the timber or board, even if this roll is worn, the grinding rolls are shiftably mounted on their axles h journaled in bearings i. For adjusting the grinding rolls the axles h may consist of screw spindles on which nuts k are screwed, between which the grinding rolls g are securely held. Instead of the grinding rolls g a grinding wheel may be used rotatable around horizontal axles. Two juxtaposed grinding rolls g or grinding discs may further be arranged resiliently shiftable the one towards the other and between which the board is to be passed so that both edges of the board are worked upon simultaneously.

The table c is supported by springs c_1. The grinding wheel with driving mechanism and the table are accommodated in a completely closed housing l which in front of and behind the table has preferably apertures n fitted with guide plates m in order that the mass removed from the timber or boards and specially coarser pieces and dust are securely discharged. The guide plates may be directly mounted on the guide table c. Under the guide table an exhauster o preferably keyed on the driving axle d is arranged, designed to suck in the mass removed from the timber or board. With this object

in view funnel-shaped suction channels *p* are arranged in the exhauster ending at the centre and extending at both sides to the side of the table. The grinding wheel *b* has on its outer edges knife-shaped scrapers *q* preferably formed by a ring *r* mounted on the outer periphery of the grinding ring *a* and fitted with bent over teeth *x*. This ring *r* may be fixed on the grinding wheel by means of screws *s*, so that it can be adjusted in vertical direction.

The grinding rolls *g* are driven by endless belts *t* directly from the vertical driving axle *d* or by cords, rollers or belt drive. For conveying the removed impurities a pressure pipe *u* is connected to the exhauster.

I claim:—

1. A machine for cleaning timbers especially boards, beams or the like, comprising in combination a spring supported guide table, a grinding wheel rotatably mounted above said table, a grinding ring on said grinding wheel and grinding rolls at the side of said grinding wheel for guiding said timber and for cleaning the edges of the same.

2. A machine for cleaning timbers, especially boards, beams or the like, comprising in combination a spring supported guide table, a grinding wheel rotatably mounted above said table, a grinding ring on said grinding wheel, and grinding rolls behind said grinding wheel for guiding said timber and for cleaning the edges of the same.

3. A machine as specified in claim 1, comprising in combination with the grinding wheel, grinding rolls and guide table, a housing enclosing said elements and having an aperture in the wall before and behind said table, and guide plates on said apertures.

4. A machine as specified in claim 1, comprising in combination with the grinding wheel, a vertical axle for said grinding wheel, and means for adjustably keying said grinding wheel on said axle.

5. In a machine as specified in claim 1 in combination with the grinding wheel, a ring on the outer periphery of said grinding wheel, said ring indented in the lower surface to form a scraper, and outwardly bent teeth on the outer side of said ring.

In testimony whereof I affix my signature.

WILHELM GRINKE.