June 19, 1945. F. A. ODIAN 2,378,428

SIDING CUTTER

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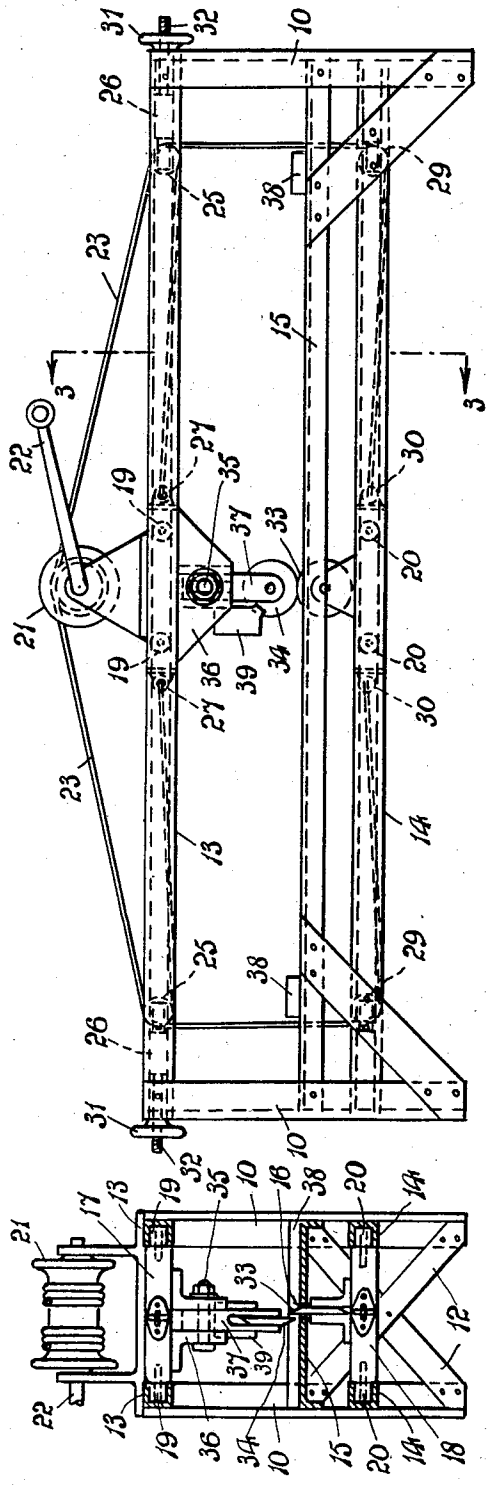


Fig. 1.

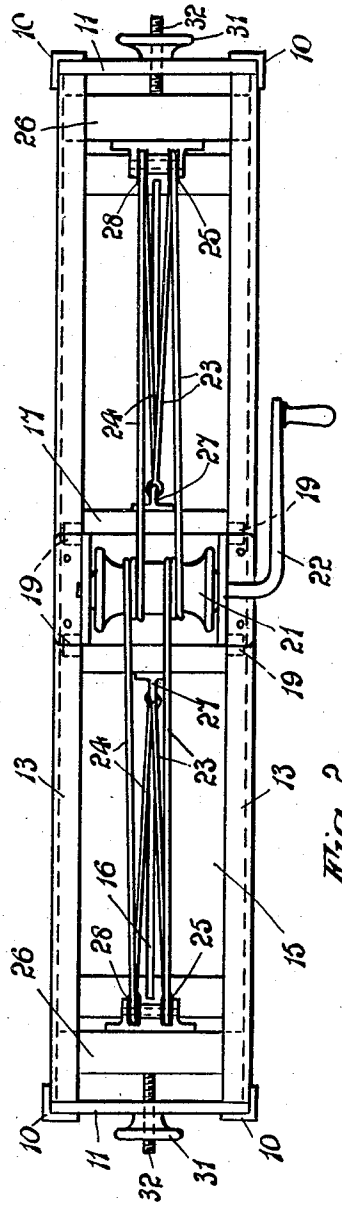


Fig. 2.

Fig. 3.

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SIDING CUTTER

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4 Claims. (Cl. 164—77)

This invention relates to a portable hand operated machine more particularly intended for the cutting of brick siding such as is commonly applied in the re-facing of houses.

This siding generally comes in sheets which are cut by the workmen usually with a saw to such sizes and shapes as may be necessary for the proper fitting to the structure being covered. Such cutting is not only a fairly slow and difficult process, due to the construction of the siding which usually includes several materials such as tar, felt, fibrous filler and frequently a highly abrasive coating, which materials, especially in combination, readily foul and dull the teeth of the saw so that it must be frequently cleaned and re-sharpened, often being rendered practically useless in a very short time. The alternative of using knives, which is sometimes resorted to, still imposes considerable difficulty involving the expenditure of too much time and excessive energy.

The present invention has for its object to provide a simply constructed and easily operable machine which will readily cut such material as brick siding in a highly satisfactory and speedy manner without fouling of the cutting elements and without excessive labor whereby an operator can accurately and cleanly cut a much greater quantity of siding in a given time than has heretofore been generally possible.

The said invention still further provides for the cutting of material such as brick siding by co-acting knives operating on the upper and under sides of the material and carried by guided supports coupled for simultaneous movement in a common direction and driven by common means.

A further object in the invention is to provide for the lubrication of at least one of the knives entering the tar, or similar adhesive layer or layers of the siding, with a suitable grease or fluid intended to prevent such layer or layers from sticking to the knife or otherwise offering undue resistance to its progress.

Still further objects or advantages additional or subsidiary to the aforesaid objects or resulting from the construction or operation of the invention as it may be carried into effect will become apparent as the said invention is hereinafter further disclosed.

In carrying the said invention into effect I may provide a structural frame having upper and lower longitudinal horizontal guides, each supporting a slidable member, a slotted table between said upper and lower guides, the lower slidable member carrying a disc cutter projected upwardly through the slot of said table, the upper slidable member carrying a disc cutter above and slightly overlapping the projecting portion of the lower cutter, a crank-operated winch on said upper slidable member, and cables connecting said winch with said upper and said lower slidable members in such manner that the rotation of said winch in one or other direction will effect the synchronous movement of both of said slidable members toward one or other end of said structural frame. All of which is more particularly described and ascertained, by way of example, having reference to the accompanying drawing, wherein;

Figure 1 is an elevation of a siding cutter embodying the said invention;

Figure 2 is a plan of the same; and

Figure 3 is a transverse section of the same taken on a plane indicated by the line 3—3 in Figure 1.

Similar characters of reference indicate similar parts in the several figures of the drawing.

The structure illustrated shows end frame members made up of angle iron legs 10 suitably connected together as by upper and lower straps 11 and 12 for convenience.

A pair of channel iron rails 13 connect the upper ends of the end frames together and a similar pair of channel iron rails 14 connect the said end frames together at a point materially below the plane of the upper rails 13, the said rails 13 and 14 together with the said end frames, thereby forming an elongated open benchlike structure characterized by the upper and lower spaced parallel pairs of rails. Between these pairs of rails is arranged a longitudinally slotted work supporting table 15 and 16 indicating the slot in the said table.

17 and 18 are carriers supported respectively by the rails 13 and 14 for longitudinal movement therealong which movement is facilitated by the said carriers being provided with rollers 19 and 20 riding in the channels of the said rails. And on the upper rail 13 is mounted a winch 21 operable by the crank 22 and having cables 23 and 24 wound thereon for simultaneous operation by the winch, the two ends of each of the cables 23 and 24 being connected to opposite ends of the carriers 19 and 20 in such manner that rotation of the winch 21 in one or other direction will pull both of the said carriers 19 and 20 simultaneously toward one or other end of the elongated structure described.

Any suitable system of connection to accom-

plish this purpose may be adopted and in the present case the cable **23** is shown as passing over pulleys **25** carried by adjustable supports **26** arranged in the end portions of the rails **13**, the ends of the said cable **23** then being connected to eye bolts or brackets **27** on opposite ends of the said upper carrier **17**.

Similarly the cable **24** passes over pulleys **28** carried by the adjustable supports **26** and thence over pulleys **29** arranged below the work table **15** and finally the ends of the said cable are connected to eye bolts or brackets **30** on opposite ends of the lower carrier **18**. The hand wheels **31** mounted on the threaded rods **32** extending through the frame and straps **11** from the members **26** serve to effect the adjustment of the said members in the rail ends for the suitable tensioning of the cables.

33 is a dics cutter carried by the carrier **18**, its periphery extending upwardly through the slot **16** of the work table **15** and **34** is a similar disc cutter mounted on the under side of the upper carrier **17** in such manner that its lower periphery substantially meets or overlaps the upper peripheral portion of the cutter **33** and in order that this relationship between the two cutters may be varied to meet the desires of the user or to permit readjustment of the cutters after regrinding. Adjustment means may be provided such as a simple clamping bolt **35** passing through a bracket **36** in which a holder **37** of the said cutter **34** is vertically slidable.

38 are stops at either end of the work table **15** against either of which the end or any portion of a slab of siding may abut for positioning purposes and when the work is so placed on the said table, either squarely with or at an angle to the slot **16** the said disc cutters may be moved in the required direction to effect the severing of the work along the line of the said slot by simply rotating the winch in the desired direction. Obviously there may be practically no lost motion in the use of the machine as cutting may be effected in both directions of travel so that when a piece of work has been severed by moving the cutters towards one of the stops **38** another piece of work is simply placed in position against the other of the said stops and the cutters moved back through this second piece of work.

The upper cutter is intended to effect the major portion of the cutting inasmuch as the work is supported underneath by the table **15** and the lower cutter simply scores or makes a relatively light cut from the under surface of the work to substantially complete the severing of the material. In the drawing, the projection of the lower cutter above the table is exaggerated as the depth of cut of said lower cutter may be only, say, one-tenth that of the upper cutter in many cases.

Obviously the main upper cutter **34** is rolled through the several layers of the siding during the operation which is a most effective way of cutting material of this character as both pressure and shear are involved in an efficient manner; and to prevent or minimize the tendency of material such as resin and tar often incorporated in such siding to adhere to the cutters and resist their operation, I provide a reservoir **39** to feed a suitable lubricant or solvent, such, for instance, as kerosene, to the cutter **34**, which reservoir may be of any convenient type to contain the said lubricant or solvent and control its flow to the said cutter.

In actual use the described device has proved itself to be both fast and highly efficient in the cutting and trimming of such materials as brick siding commonly considered quite difficult to shape to size, and is both accurate and easily operable without calling for any special skill on the part of the operator other than his ability to recognize the correct position in which the work is to be placed on the table for any particular cut to be made.

This invention may be developed within the scope of the following claims without departing from the essential features of the said invention, and it is therefore desired that the specification and drawing be read as being merely illustrative of a practical embodiment of the said invention and not in a strictly limiting sense.

What I claim is:

1. In a device for cutting heavy laminated siding, a frame having upper and lower pairs of horizontal rails, a work table between said pairs of rails and parallel thereto, a freely rotatable disc cutter guided by said lower rails beneath said table, said first cutter being positioned to almost completely sever the siding, a second cutter projecting slightly above the surface of said table to substantially meet the lower part of the first cutter and slightly penetrate the under side of the siding, and common means for moving said cutters simultaneously in either direction of said rails.

2. In a device of the class described for cutting heavy laminated material, a frame having upper and lower pairs of horizontal rails, a work table between said pairs of rails and parallel thereto, a freely rotatable disc cutter guided by said upper rails above and closely approaching said table to almost sever material placed thereon, a second freely rotatable disc cutter guided by said lower rails beneath said table, said second cutter projecting slightly above the surface of said table to substantially meet the lower part of the upper cutter and merely score the underside of material placed on said table, and common means for moving said cutters simultaneously in either direction of said rails.

3. In a device for cutting heavy laminated siding, a frame having upper and lower pairs of horizontal rails, a work table between said pairs of rails and parallel thereto, a freely rotatable disc cutter guided by said upper rails above said table, a second freely rotatable disc cutter guided by said lower rails beneath said table, the first cutter positioned to substantially penetrate siding placed on said table, said second cutter projecting only slightly above the surface of said table to substantially meet the lower part of the upper cutter and score the underside of such siding, work stops at opposite ends of said table, and common means for moving said cutters simultaneously in either direction of said rails.

4. In a device for cutting heavy laminated siding, a frame having upper and lower pairs of horizontal rails, a work table between said pairs of rails and parallel thereto, an upper freely rotatable disc cutter above and closely approaching said table, a cutter support guided by said upper rails, a second freely rotatable disc cutter beneath said table and projecting only slightly above the surface thereof to substantially meet the lower part of the upper cutter, a support for the lower cutter guided by said lower rails, a winch, and cables connecting said winch to oppoiste ends of both of said supports for moving said cutters simultaneously in either direction of said rails.

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