March 11, 1930. D. J. LA BAUVE 1,750,411

UTILITY SHEAR

Filed May 8, 1928

Fig. 3.

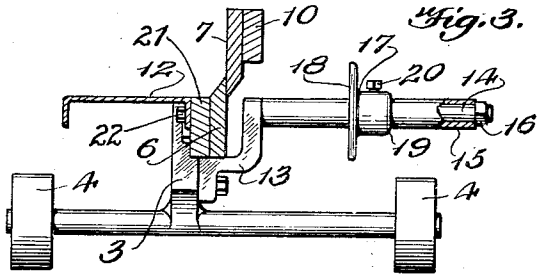


Fig. 1.

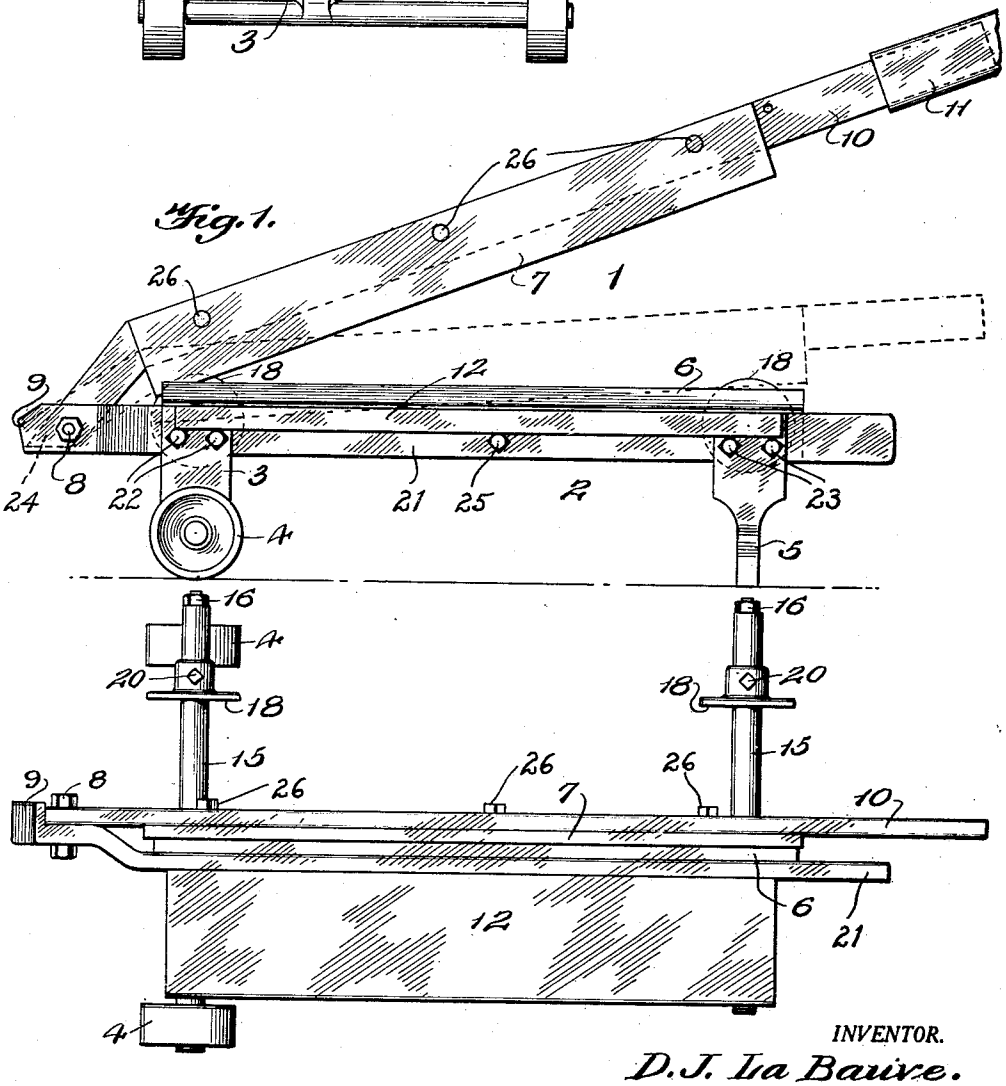


Fig. 2.

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Patented Mar. 11, 1930 1,750,411

UNITED STATES PATENT OFFICE

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UTILITY SHEAR

Application filed May 8, 1928. Serial No. 276,084.

This invention relates to a shearing machine and has for its primary object the design of a shearing machine adaptable to materials of different characteristics and capable of being very readily moved from place to place to be arranged contiguous to the material to be operated upon.

An object of the invention is simplicity of construction and lightness of the machine, thereby enabling the production of a portable machine that may be utilized for numerous purposes, thereby materially extending utility of the machine.

A feature of the machine is the novel arrangement of the table and roller devices relative to the cutting blades so that the material may be properly supported during the cutting operation and the cut material readily conveyed from the machine.

Besides the above my invention is distinguished in the simplified design of the component parts and mode of assembly so as to materially reduce the production cost of the machine to materially widen the sales possibilities.

With these and other objects in view, this invention will be better understood from the following detailed description taken in connection with the accompanying drawing, wherein,—

Figure 1 is a side elevation of the machine.

Figure 2 is a top plan view.

Figure 3 is a cross sectional view.

Again referring to the drawing illustrating one of the many constructions of my invention it will be noted that the invention consists basically of the shearing structure 1 and the carriage 2 by means of which the shearing structure may be moved from place to place. Referring more particularly to the details of the particular construction of my invention illustrated in its forward portion bearings 3 carrying the wheels 4 for facilitating the movement of the frame over the ground. The rear portion of the frame has attached thereto the legs 5 for engagement with the ground and thereby provide supports for the rear portion of the frame, but I wish to be understood that wheels may be substituted for the legs depending upon which is most advantageous to practice.

The frame of this portable carriage 2 as herein shown consists of a rectangular bar 21 which is preferably made from metal in order that the frame at all times will have a rigid construction. Secured to the forward end of this bar 21 by means of the bolts 22 is the bearing or support 3 whereas the rear support 5 is secured to the rear end of this bar by means of the bolts 23. The forward end of the bar 21 is provided with a stop or check 9 which latter is formed by bending the extremity of the forward end of the bar at right angles thereto as is better illustrated in Figure 2 of the drawings. A lever 10 which supports the movable blade 7 is also formed from a rectangularly shaped metal bar having its forward end offset as shown and is pivotally connected in a rigid manner by means of the bolt 8 to the forward end of the stationary bar 21. This lever or bar 10 is provided with a handle 11 by which the movable blade may be manipulated. A projection 24 is formed with the bar 10 and extends beyond the pivot point provided by the bolt 8 whereby this projection 24 will contact with the under side of the check or stop 9 in order to check the lower lever after each shearing operation, so that the upper lever will not have a tendency to spring away from the lower lever and enable the working parts to get out of line. Secured to one side of this bar 21 by means of the bolts 22, 23 and 25 is a stationary blade 6 and a similar blade is also detachably secured by means of the bolt 26 to the bar 10. Herein, it will be noted that these cutting blades 6 and 7 are relatively long and have a particular bevel thereon leading to the cutting edges thereof whereby these cutting blades may be utilized for the cutting of heavy or light material as conditions may dictate. These blades 6 and 7 are identical in construction and may be interchanged so that a cutting blade of the same construction may be used upon the stationary bar 21 or the movable bar 10.

Bolted to the carriage or frame 2 is a shelf or table 12, arranged in a particular relation with the cutting blades so that the material being acted upon may be supported on the

table to facilitate the cutting operation and besides accommodate materials of different configurations. As far as I have proceeded it will be appreciated that the machine may be readily moved from place to place for cutting various types of materials under various conditions with the material properly supported by the table 12 to be subject to an effective cutting operation by the blades arranged in predetermined relation to the table. The design, construction and assemblage of the component parts of the machine and the portability thereof enables the machine to be utilized to cut sheets of various materials and may be used in the field for cutting grain or other forms of vegetation.

I have found from actual experience that it is of material advantage to provide supporting means for supporting the material after being cut and to facilitate the removal of the material from the machine.

To accomplish this desired result I have illustrated a plurality of brackets 13 bolted to the frame 2 at predetermined points contiguous to the cutting blades so as to support the roller devices now to be described. These roller devices, as illustrated, consist of rods 14 directly secured to the brackets and supporting roller sleeves 15 that directly receive the cut material. These roller sleeves are detachably held in place by nuts 16 threaded on the ends of the rods and having abutting relation with the ends of the sleeves. To facilitate the engagement of the material with the roller sleeves according to the width of the material cut I have illustrated adjustable stops 17 mounted on the sleeves and illustrated in this particular case as collars 18 having hubs 19 adjustably secured to the sleeves by the set screws 20.

From the foregoing description, taken in connection with the accompanying drawing, it will be apparent that I have designed a machine of relatively few parts of simple design and connected together in a novel manner to produce a relatively light portable machine capable of cutting various types of material under various conditions. It will also be appreciated that the connection of the component parts of the machine simplifies assemblage operations and besides enables a part to be readily renewed should the occasion arise.

Particular attention is called to the fact that a bend is formed at the point of junction of the two blades to properly align the blades for assuring a clean positive cut of material of different characteristics.

It is further apparent from the foregoing that I have provided a portable shearing machine which may be utilized for cutting light or heavy materials in a practical and efficient manner and that the rigid construction herein afforded is such that the blades will retain their alinement and perform a clean cut regardless of the material to be severed and furthermore, owing to the arrangement of the cutting blades, the material may be easily passed between the cutting jaws and will drop freely from the machine after each cutting operation. It will also be noted that when the cutting blades are open or the position as is illustrated in Figure 1 of the drawings, that they will allow the material of any length to be inserted freely between the jaws of the machine and the material can then be held by the left hand and the handle operated by the right hand so that the machine may be continuously operated without the operator being required to change his position.

It will of course be understood that the design and mode of connection of the component parts may be changed in various other manners than illustrated and the machine may be operated manually or mechanically through the use of an electric motor or other power devices. It will also be understood that the cutting structures may be associated with a stationary frame in lieu of the movable frame as illustrated in the drawing. Therefore, I do not desire to be limited in protection in any manner whatsoever, except as set forth in the following claims.

What I claim is:

1. A shearing machine comprising a stationary blade carrying bar, a movable blade carrying bar pivoted at one end to the stationary bar, means at the pivoted end portions of said bars for limiting the movement of said movable bar, a work supporting table fixed to the stationary bar at one side thereof, and work receiving members extending from the opposite side of said bar.

2. A shearing machine comprising a stationary blade carrying bar, a movable blade carrying bar pivoted at one end to the stationary bar, means at the pivoted end portions of said bars for limiting the movement of said movable bar, a work supporting table fixed to the stationary bar at one side thereof, work receiving rollers extending from the opposite side of said bar, and a carriage supporting said bars, table and rollers.

3. A shearing machine comprising a stationary bar having a lateral projection formed at one end thereof, a wheel support carried by said mentioned end of said stationary bar, supporting legs secured to the opposite end of said bar, a cutting blade attached to said bar, a movable bar pivoted at one end to the stationary bar, the pivoted end of said movable bar having an extension adapted to engage the lateral projection of the stationary bar to limit the movement of said movable bar, and a second cutting blade carried by the movable bar and cooperating with the cutting blade of the stationary bar.

4. A shearing machine comprising a stationary bar, wheels supporting one end of said stationary bar, legs supporting the oppo-

site end of the same, a cutting blade attached to said stationary bar, a movable bar pivotally connected to the stationary bar, a cutting blade attached to said movable bar, a table secured to the stationary bar on one side thereof, brackets arranged on the other side of said stationary bar, rods projecting from said brackets, roller sleeves mounted on said rods, and stops adjustably mounted on said sleeves.

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