Feb. 9, 1943. E. J. ZINDRICK 2,310,604

WOOD CUTTING MACHINE

Filed March 12, 1941

Fig. 1.

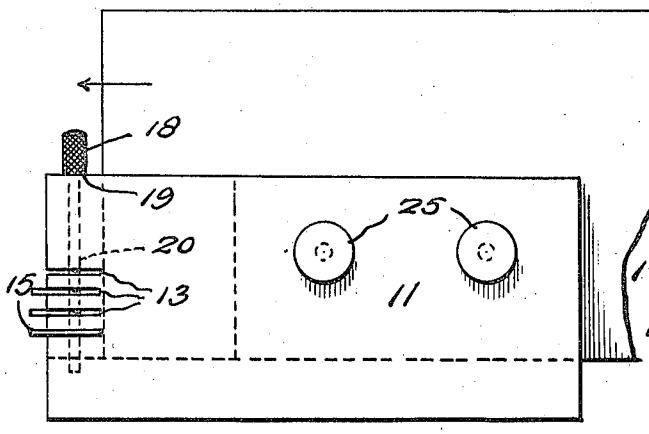


Fig. 2.

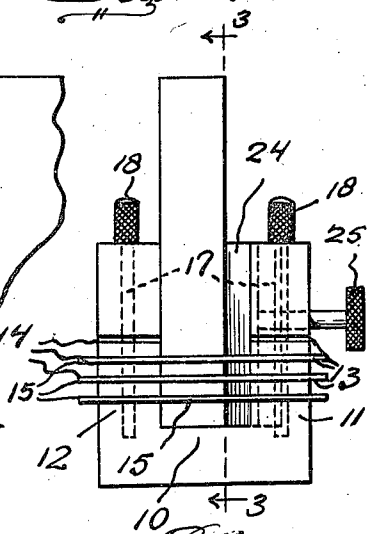


Fig. 3.

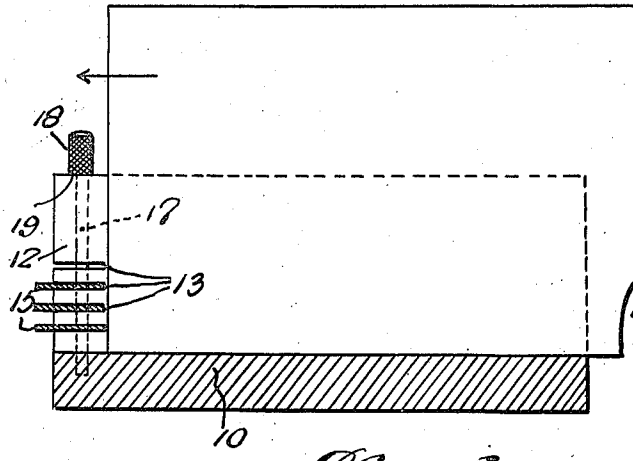


Fig. 4.

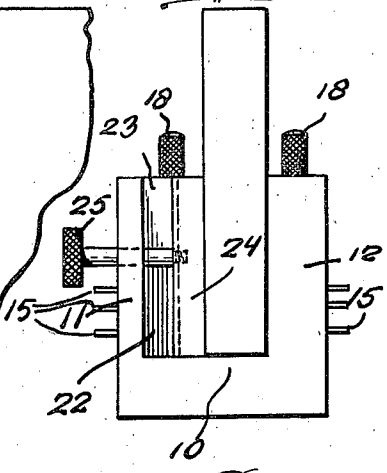


Fig. 5.

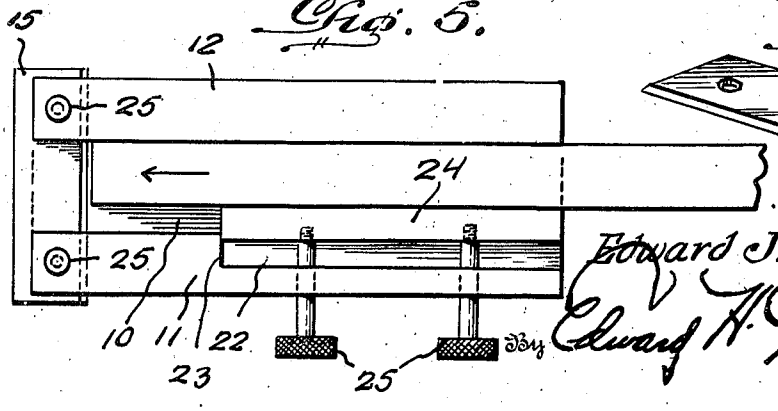


Fig. 6.



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WOOD CUTTING MACHINE

Edward J. Zindrick, Chicago, Ill.

Application March 12, 1941, Serial No. 383,036

3 Claims. (Cl. 144—175)

The present invention comprehends the provision of a wood cutting machine of novel construction, primarily designed and intended for cutting balsa wood into strips of various size for aeroplane construction, although its general application for analogous uses is contemplated by the claims.

In carrying out my invention, I aim to provide a machine of the above mentioned character which is very simple in construction, yet designed to accomplish its purpose with a maximum degree of accuracy and efficiency.

In accordance with the essential characteristics of the invention, the latter is provided with a plurality of spaced knives against which the work is moved to cut the same into strips of predetermined size.

Another important object of the invention resides in the provision of means to prevent buckling of the work in the machine during the cutting operation.

The nature and advantages of the invention will be better understood when the following detail description is read in connection with the accompanying drawing, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawing forming part of the application like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a side elevation of the machine showing how it is used.

Figure 2 is an end elevation thereof.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is an end elevation opposite to that shown in Figure 2.

Figure 5 is a top plan view.

Figure 6 is a perspective view of one of the knives.

The machine constituting the subject matter of the present invention may of course be constructed from any suitable material, and also vary in size without departing from the inventive idea.

In the specific embodiment of the invention herein shown, the device is narrow and of elongated contour in plan as illustrated in Figure 5. The machine includes a base 10 and spaced parallel side walls 11 and 12 respectively. The machine thus defines a channel through which the work passes to be cut into strips in a manner to be hereinafter described. The side walls at one and corresponding ends are provided with a series of spaced superimposed transversely aligned slots 13 and 14 respectively, arranged in pairs as illustrated in Figure 2. Each pair of these slots is adapted to receive a knife 15 of the character shown in Figure 6 having a beveled cutting edge and a pair of spaced openings for a purpose to be presently set forth. The superimposed pairs of knife receiving slots can be spaced any desired distances apart to cut the work into strips of predetermined size. Manifestly the work is adapted to be moved through the channel of the machine against the knives 15 for the cutting operation. Consequently, the knives are slipped into their respective slots with the beveled cutting edges facing the work.

The knives can be held in position for use in any suitable manner, which would permit of their quick association with or removal from the machine as the occasion might require. For this purpose however, I preferably employ a pair of retaining pins 17 having enlarged knurled finger engaging end portions 18. When the knives 15 are positioned in their respective slots 13 and 14, the openings in each knife are arranged in alignment with vertical bores in the walls 11 and 12 of the machine to receive the pins 17. The inner ends of the slots 13 and 14 are closed and constitute stops to limit the insertion of the knives therein. The knives are of a width to project a slight distance beyond the end of the machine as shown in Figure 1, so that they can be readily grasped and conveniently handled while associating the knives with, or removing the same from the machine. Obviously, by virtue of the construction, the knives can be quickly inserted within their slots without any particular care, but with the assurance that the openings in the knives will align with the pin receiving bores of the walls 11 and 12 respectively. Consequently, the knives can be readily placed in position for use and the pins 17 dropped in their respective bores, the pins 17 passing through the openings in the knives to securely hold the latter fixed relatively to the machine.

Upon inspection of Figure 5 it will be noted that the wall 11 of the machine is slightly reduced in thickness to define a recess 22 and a vertical shoulder 23. The recess 22 accommodates a sliding pressure plate 24 one end of which always remains in contacting engagement with the shoulder 23. The plate 24 is utilized to exert sufficient pressure against the work to prevent the latter from buckling during the cutting operation, and the pressure so exerted against the work can be varied or regulated in any suitable manner, without departing from the spirit of the invention. However, in the specific embodiment

herein illustrated I preferably make use of adjusting elements 25 which slide through the wall 11 of the machine and threadedly connected with the plate 24 as shown. Manifestly, the pressure plate can be adjusted by a slight pressure of the hand on the elements 25, which would of course compensate for any variation in the size of the work passing through the machine.

While it is believed that from the foregoing description the nature of the invention will be readily understood, I desire to have it known that I do not limit myself to what is herein illustrated or described, and that such changes in construction may be resorted to when desired as fall within the scope of what is claimed.

What I claim is:

1. A machine of the character described, including a base, spaced parallel stationary side walls defining a channel through which the work passes, a plurality of spaced superimposed knives extending across one end of said channel for cutting the work into strips of predetermined size, an adjustable pressure plate supported by said base and movable in said channel said pressure plate being disposed parallel to the side walls for clamping the work between itself and one of said side walls, and means for operating said plate to exert a pressure against the work to prevent buckling thereof during the cutting operation.

2. A machine of the character described, including a base, spaced stationary parallel side walls defining a channel through which the work passes, said walls at one and corresponding ends having spaced superimposed slots arranged in transversely aligned pairs, knives removably positioned in the respective pairs of said slots and extending across one end of said channel for cutting the work into strips of predetermined size, means for holding said knives fixed relatively to the machine, an adjustable pressure plate supported on the base and movable in said channel said pressure plate being disposed parallel to the side walls for clamping the work between itself and one of said side walls, and means for operating said plate to exert a pressure against the work to prevent buckling thereof during the cutting operation.

3. A machine of the character described including a base, stationary parallel side walls defining a channel through which the work passes, said walls at one and corresponding ends having spaced superimposed transversely aligned slots arranged in pairs, separate knives adapted to be removably received by one or more pairs of slots and extending across one end of the channel for cutting the work into strips of predetermined size, means for holding the knives fixed in position for use, one of said side walls being reduced in thickness to define a recess and a vertical shoulder, an adjustable pressure plate operating in said recess and guided by said shoulder, and means for operating said plate to exert a pressure against the work to prevent buckling thereof during the cutting operation.

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