Jan. 12, 1937. C. A. MEISEL 2,067,456

CUTTER HEAD

Filed May 4, 1934

Fig. 1.
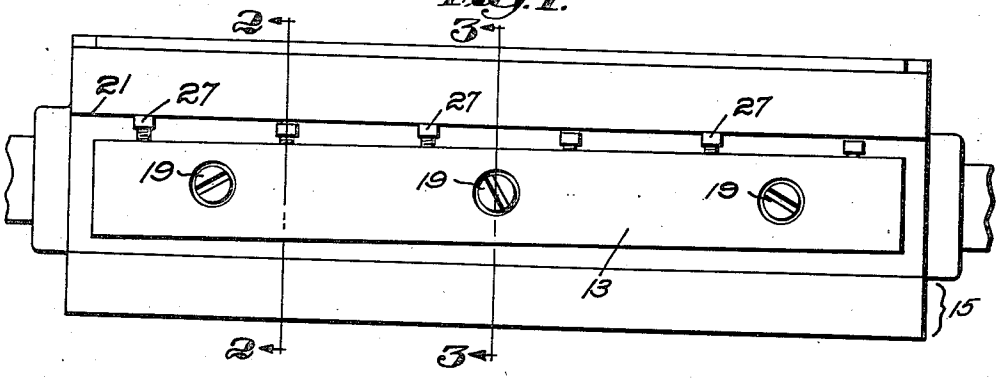


Fig. 2.

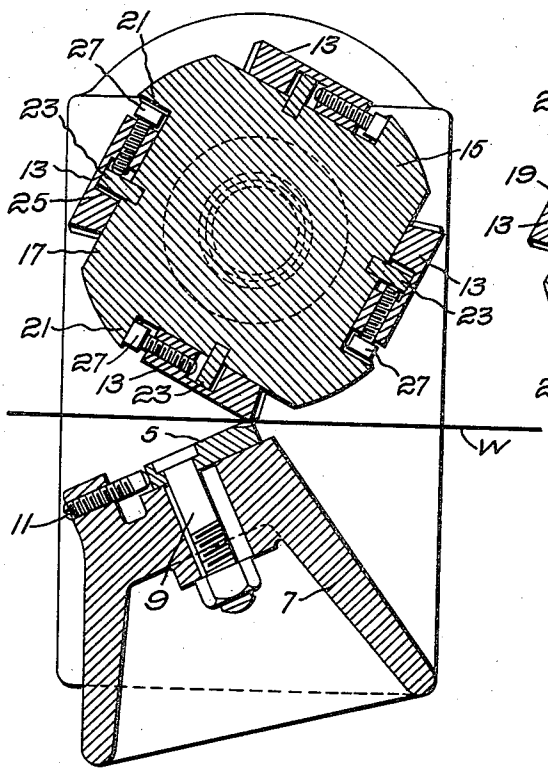
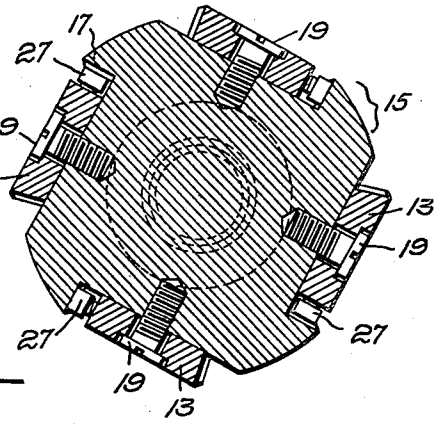


Fig. 3.



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Patented Jan. 12, 1937 2,067,456

UNITED STATES PATENT OFFICE

2,067,456

CUTTER HEAD

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Application May 4, 1934, Serial No. 723,849

3 Claims. (Cl. 164—70)

This invention relates to cutter heads and the object is to provide a construction embodying improved means for adjusting the knives of the head.

My invention will be well understood by reference to the following description of an illustrative embodiment thereof shown by way of example in the accompanying drawing, wherein:—

Fig. 1 is a front elevation of a cutter head of the type adapted for perforating paper;

Fig. 2 is a section on the line 2—2 of Fig. 1 showing in section also a cooperating element of the perforating mechanism; and

Fig. 3 is a section on the line 3—3 of Fig. 1.

I have here shown as an example of my invention a cutter mechanism as utilized in perforating paper, as, for example, in the production of labels or stamps in a printing press. Such a mechanism may, as best seen in Fig. 2, comprise a fixed knife 5 disposed at an angle to the web *w* of paper and presenting its serrated edge beneath the same. The knife is here shown as supported on a suitable seat on a frame member 7 by means of clamping screws 9 and adjusting screws 11. The edges of knives 13, carried by the rotary cutter head 15 disposed at the other side of the paper web, cooperate with the edge of knife 5. In a device of this type a nice adjustment of the edge of the knives is required to permit a clean and uniform perforation, and in accordance with my invention I provide efficient and simple means for effecting such adjustment.

The knives 13 here rest on the cutter head 15 on suitable seats 17 corresponding to chords of the cylinder and are secured, as best seen in Fig. 3, by substantially radial clamping screws 19, the openings in the knives which receive these screws being larger than the screws themselves to permit of desired variation in position of the knives. The rear of the seat may present a flange 21 forming an abutment opposing the rear of the knife for a purpose to be described. At suitable intervals along the seat keys 23 let into the body of the head project from the same, the knife having recesses 25 loosely receiving the keys.

Adjusting screws 27 are tapped into the rear of the knife through openings intersecting the recesses 25 and have heads opposing the flange 21. In one use of these adjusting screws they are backed out to engage the flange to adjust the knife outwardly from the latter. Such a position is shown in the case of the upper and lower knives in Fig. 2. Alternatively, if in use it appears that a knife apparently perfectly adjusted does not cut uniformly cleanly along its length, an opposed localized adjustment may be effected by turning a screw in the opposite direction so that its end engages a key 23, tending to pull the knife inwardly. This position is shown in the case of the laterally disposed knives in Fig. 2 and in the case of alternate screws seen in Fig. 1. Thus, referring to the left-hand portion of Fig. 1 indicating what may be considered a normal use of this adjustment, the screw intersected by the section line 2—2 tends to push outwardly the portion of the blade between the two adjusting screws at either side thereof which are in engagement with the flange 21. Presumably the effect of such an adjustment is a minute localized springing of the knife edge, but it has been found in practice effective to obtain a desired uniformity of cut.

It will be noted that I provide in the screws 27 a single set of devices having a double or alternative function. The adjusting means is simple and effective and provides for adjustment of the knife as a whole and a local correction of inaccuracies arising from such adjustment.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A cutter head having a knife seat presenting an abutment at the rear thereof and projections therefrom, a knife resting on the seat having recesses freely receiving the projections, adjusting screws threaded in the knife and adapted alternatively to contact said abutment or said projections, and means for clamping the knife to the seat.

2. A cutter head having a knife seat corresponding substantially to a chord of a cylinder, a knife, substantially radial screws for securing the knife to its seat, and devices physically connected with the knife and cooperating with the cutter head alternatively to move the knife in or out on seat.

3. A cutter head having a knife seat corresponding substantially to a chord of a cylinder and presenting opposed abutments along the length thereon, a knife, adjusting screws physically connected with the knife to be received between said abutments for alternative engagement therwith, and means for clamping the knife to the seat.

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