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54 Clamping device for clamping the end of a printing plate.

57 Clamping device for clamping the end of a pressure plate to a pressure drum comprising a supporting fillet coupled with the drum and a clamping fillet fastened to the supporting fillet, a second clamping fillet being provided which together with the first clamping fillet rigidly fastened to the supporting fillet bounds a gap for receiving the end of the pressure plate to be clamped, whilst the second clamping fillet is movable transversely of its direction of length towards and from the first clamping fillet with the aid of a rod slidable in the direction of length of the second fillet, on which rod bears the side of the second clamping fillet remote from the first clamping fillet, whilst contacting faces of the slidable rod and the second clamping fillet are at an angle to the direction of displacement of the slidable rod.

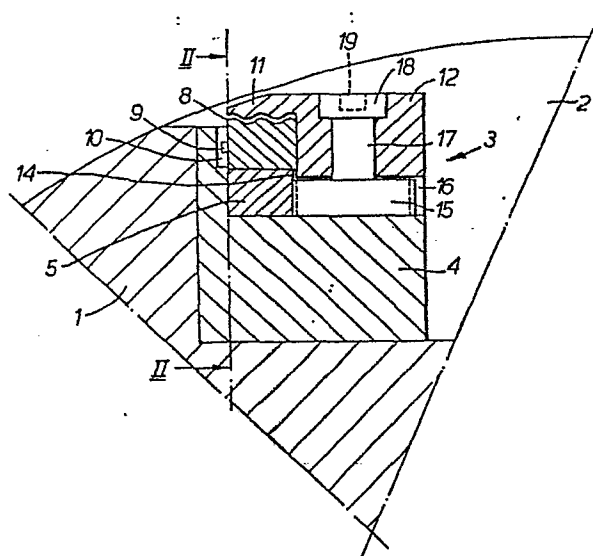


Fig. 1.

TITLE MODIFIED

see front page

CLAMPING DEVICE FOR CLAMPING THE END OF A PRESSURE PLATE.

The invention relates to a clamping device for clamping the end of a pressure plate to a pressure drum comprising a supporting fillet coupled with said drum and a clamping fillet fastened to the supporting fillet.

In conventional constructions of the kind set forth the clamping fillet bearing on the end of a pressure plate is clamped by bolts to the supporting fillet for fixing said end. Apart from 10 the fact that this is a time-consuming operation, it appears that after some time the clamping is not satisfying because due to wear the fastening bolts of the clamping fillet located at the side of the end of the pressure plate to be clamped cause the clamping fillet to tilt, when the clamping fillet is being clamped so that the part 15 of the clamping fillet bearing on the end of the pressure plate is no longer sufficiently pressed against said end of the pressure plate.

The invention has for its object to provide a clamping device of the kind set forth above in which the end of the pressure plate can be readily clamped tight and released respectively, whilst even 20 after longer use an effective clamping of said end of the pressure plate can be ensured.

According to the invention this can be achieved in that a second clamping fillet is provided, which together with the first clamping fillet rigidly secured to the supporting fillet bounds a 25 gap for receiving the end of the pressure plate to be clamped, whilst the second clamping fillet is movable transversely of its direction of length towards and away from the first clamping fillet with the aid of a rod slidable in the direction of length of the second clamping fillet, on which rod is bearing the side of the second clamping 30 fillet remote from the first clamping fillet whilst contacting faces

of the slidable rod and of the second clamping fillet are at an angle to the direction of displacement of the slidable rod.

Since the contacting faces of the slidable rod and of the second clamping fillet are at an angle to the direction of displacement of the slidable rod, the second clamping fillet will be displaced transversely of its direction of length, when said rod is slid to and fro, in a direction towards the first, stationary clamping fillet or in a direction remote from the first stationary clamping fillet. Such a displacement of the slidable rod can be carried out in a simple manner, whilst with such a displacement a heavy clamping force can be produced. In the case of wear it is only required to displace the slidable rod over a slightly larger distance, but the clamping force to be exerted will not be affected by wear. A further advantage of the construction embodying the invention is that the second clamping fillet can be supported along substantially its whole length so that undesirable deformations of the clamping fillet are avoided, which contributes to the production of an effective clamping force.

The invention will be described more fully hereinafter with reference to an embodiment of the construction in accordance with the invention schematically shown in the accompanying drawing.

Fig. 1 is a schematic sectional view of part of a pressure drum comprising a clamping device embodying the invention.

Fig. 2 is a sectional view of the clamping device shown in Fig. 1 taken on the line II-II in Fig. 1.

Fig. 1 schematically shows part of a pressure drum 1, in which a recess 2 extending in the direction of length of the drum is provided in a conventional manner near the outer circumference for receiving clamping devices 3 (only one is shown), with the aid of which the ends of a pressure plate surrounding the drum can be clamped tight.

The clamping device 3 comprises a supporting fillet 4 located in the recess 2 and connected with the drum 1 in a manner not shown in detail. This supporting fillet 4 has a groove extending in the direction of length of the supporting fillet for receiving a rod 5 so that this rod 5 is slidable in its direction of length in the groove of the supporting fillet 4.

From Fig. 2 it is apparent that the top face of the slidable rod 5 has a sawtooth-shaped structure so that the top face has a

plurality of wedge faces 6 being at an angle to the direction of length of the rod, the ends of said faces 6 being interconnected with the aid of connecting faces 7 being at right angles to the direction of length of the slidable rod 5.

5 On the rod 5 slidable in its direction of length is bearing a clamping fillet 8, whose lower face bearing on the top face of the rod 5 has a sawtooth-shaped structure like the top face of the rod 5, as will be apparent from Fig. 2. Fig. 1 furthermore shows that the top face of the clamping fillet 8 has a few grooves extending
0 in the direction of length of the clamping fillet 8, which is conventional for clamping fillets of such a clamping device.

To a side face of the clamping fillet 8 are fastened at equal intervals a few pins 9 at right angles to the direction of length of the clamping fillet. The ends of said pins 9 are located in vertical
5 grooves 10 in the supporting fillet 4 (Fig. 1). It will be obvious that when the rod 5 is displaced in its direction of length, the result will be an upward and downward movement of the clamping fillet 8, since the wedge faces 6 of the rod 5 will shift with respect to the wedge faces of the clamping fillet 8 bearing on the same. The
0 clamping fillet 8 can only be displaced at right angles to its direction of length because of the position of the pins 9 in the grooves 10.

Above the clamping fillet 8, as is shown in Fig. 1, a protruding nose 11 of a second clamping fillet 12 is clamped tight to the supporting fillet 4 by bolts (not shown). From Fig. 1 it will be seen
15 that the protruding nose 11 of the clamping fillet also has, on its side facing the top face of the clamping fillet 8, grooves extending in the direction of length of the clamping fillet 12.

The slidable rod 5 is furthermore provided over part of its length with tothing 14, which is in engagement with a gear wheel
30 15 located below the clamping fillet 12 in a recess 16 provided for this purpose in the supporting fillet 4. To the gear wheel 15 is fastened a shaft 17 journaled in the clamping fillet 12. At the top end the shaft 17 has a head 18 having a recess 19, into which a key can be inserted for turning the head 18 with the shaft 17 and the gear wheel
35 15. It will be obvious that such a turn results in a displacement of the elongate rod 5 in its direction of length so that the clamping fillet 8 will move up and down as will be seen from the Figures. When the end of a pressure plate is inserted into the gap defined by the

clamping fillet 8 and the part 11 of the clamping fillet 12, the clamping fillet 8 can be forced upwards towards the projecting part 11 of the clamping fillet 12 by turning the gear wheel 15 whilst the end concerned of the plate is clamped tight. By designing the transmission formed by the toothing 14 on the slidable rod and the gear wheel 15 so as to be self-braking, the slidable rod will remain in the position set. However, there may be added a guard member (not shown) for blocking the gear wheel 15 against a turn in the set position.

10 Since the clamping fillet 8 can be in contact with the slidable rod 5 substantially throughout its length, which rod in turn is supported throughout its length, deformation of the clamping fillet 8 due to forces exerted on the clamping fillet 8 is practically excluded.

15 In order to release the clamped plate it is only necessary to turn the gear wheel 15 in the opposite direction so that the clamping fillet 8 will move downwards.

 If desired the slidable rod 5 and/or the clamping fillet 8 may integrally cover the whole length of the drum or they may be
20 composed of a plurality of parts.

 The reference numerals in the Claims should not have a limiting effect on the interpretation of the Claims and are only given for the sake of clarity.

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CLAIMS

1. A clamping device for clamping the end of a pressure plate to a pressure drum comprising a supporting fillet coupled with said
5 drum and a clamping fillet fastened to the supporting fillet characterized in that a second clamping fillet is provided, which together with the first clamping fillet fastened to the supporting fillet defines a gap for receiving the end of the pressure plate to be clamped, whilst the second clamping fillet is displaceable transversely of
10 its direction of length towards and away from the first clamping fillet with the aid of a rod slidable in the direction of length of the second clamping fillet, on which rod is bearing the side of the second clamping fillet remote from the first clamping fillet, whilst contacting faces of the slidable rod and of the second clamping fillet are at
15 an angle to the direction of displacement of the slidable rod.
2. A clamping device as claimed in Claim 1 characterized in that the contacting faces of the second clamping fillet and of the slidable rod have a more or less sawtooth-like profile.
3. A clamping device as claimed in Claim 1 or 2 characterized
20 in that the slidable rod is provided over at least part of its length on one side with a toothing which is in engagement with a gear wheel journaled in the supporting fillet with the aid of which the slidable rod can be displaced.
4. A clamping device as claimed in anyone of Claims 1 to 3
25 characterized in that guide members are provided for the second clamping fillet so that this fillet can exclusively be displaced at right angles to its direction of length.

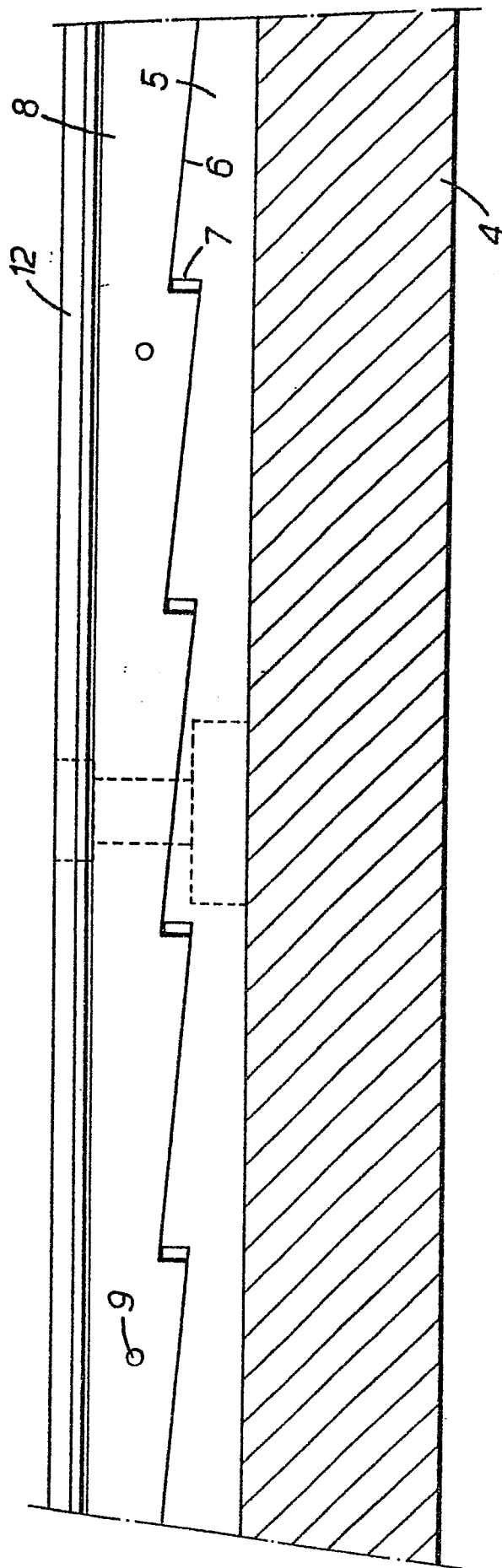


FIG. 2.