

No. 771,500.

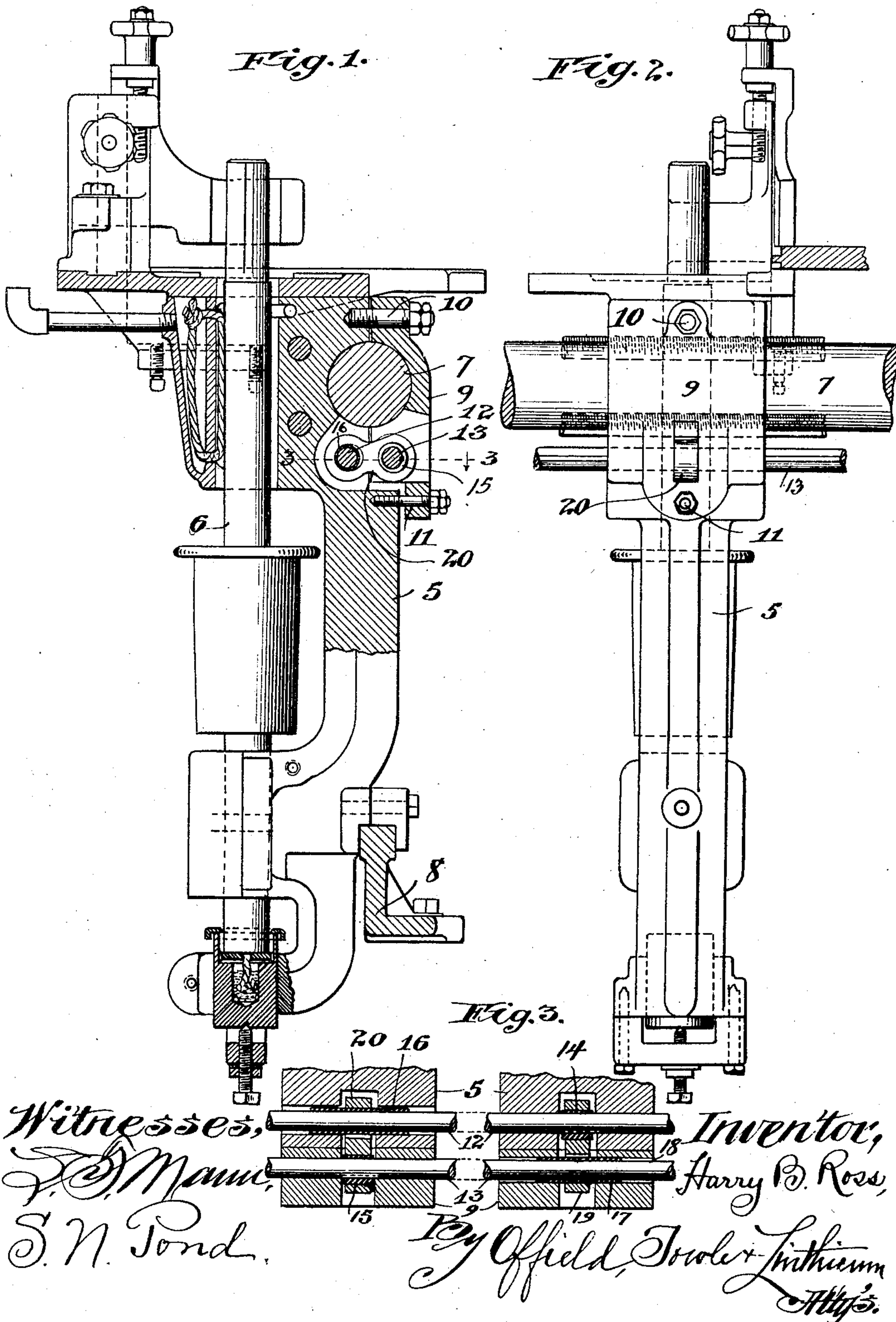
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H. B. ROSS.

LOCKING DEVICE FOR PLANING MACHINES.

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NO MODEL.



UNITED STATES PATENT OFFICE.

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LOCKING DEVICE FOR PLANING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 771,500, dated October 4, 1904.

Application filed June 10, 1903. Serial No. 160,900. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. ROSS, a citizen of the United States, residing at Beloit, in the county of Rock, in the State of Wisconsin, have invented certain new and useful Improvements in Locking Devices for Planing-Machines, of which the following is a specification.

This invention relates to a locking device for the side heads of a planing or matching machine, and has for its object to provide a simple and effective locking mechanism of such construction that the side heads, which are usually arranged in pairs, can be unlocked or readjusted independently of each other. These side heads are ordinarily clamped to a bar along which they may be adjusted, and usually they are also supported and guided upon a second bar.

My invention relates more particularly to a mechanism for clamping the side heads to the first-mentioned bar or "top slide," as it is called.

In the accompanying drawings, Figure 1 is a side elevation of the head, partly in vertical section, showing it clamped to a round bar or top slide, also in section. Fig. 2 is a view at right angles to that shown in Fig. 1, some of the parts broken away. Fig. 3 is a sectional plan view on line 3 3 of Fig. 1.

As my invention relates only to the locking or clamping mechanism for securing the heads to the top slide, I will only mention such parts of the apparatus as are necessary to be described for an understanding of my invention.

In the drawings, 5 represents the yoke of the head which affords the bearings for the spindle 6 of the operating-tool. 7 represents a round bar to which the head is to be clamped and which is usually called the "top slide," and 8 represents the bottom slide. 9 represents a clamping member, which is connected to the yoke 5 by tap-bolts 10 and 11. The bolt 10 acts to clamp or bind the clamping member 9 to the yoke and aids in the adjustment, it being set or positioned so as to afford a fulcrum for the application of power in tightening the adjusting mechanism, while the lower tap-bolt

11 simply serves to limit the outward movement of the clamping member 9 in the release position. The clamping is accomplished through the instrumentality of the rods 12 13 and eccentrics 14 15. The rods 12 13 are carried at one end in sleeves 16 17, fitted to bore-holes 18 in the yoke 5, and at their other ends pass through apertures in said yoke. Straps 19 20 connect the eccentrics 14 15 with the operating-rods 12 13, the eccentrics being keyed to their respective rods and surrounded by the eye of the strap, while the eye of the strap at the opposite end encircles the tube, being slightly elliptical to permit of the throw of the eccentrics. The relation of the rods to each other is indicated in the sectional plan view, Fig. 3, the shafts 12 13 being broken away. It will be understood that these heads are mounted in the usual relation to each other and clamp upon the same top slides 7.

The clamp member 9 being suitably positioned by means of the tap-bolt 10 and confined by the limiting-bolt 11, on which it may slide when it is desired to adjust the head along the top slide, one of the rods 12 or 13, carrying the eccentric connected with said head, will be turned in the proper direction to move the lower end of the clamp member outwardly, when the head may be adjusted and tightened in the adjusted position by the reverse movement of said rod. The other head of the pair may be likewise adjusted by operating its eccentric in a similar manner. It will be observed that while the straps are common to both rods either eccentric may be operated independently of the other, so that if it be desired only to adjust one of said heads this may be accomplished without disturbing the adjustment of the other. The necessity for such an adjustment frequently arises, owing to the variations in the materials being operated upon and to maladjustment in the original setting up of the machine, and it is quite important to be able to effect the proper adjustment of each head independently of the other, and this is accomplished by my invention in a simple and effective manner.

While I have shown the clamping member

anchored to the yoke by means of tap-bolts, it is obvious that other means of adjustably securing said clamping member to the yoke may be adopted, and the limit-bolt 11 might
5 be entirely dispensed with. The advantage of employing the tap-bolt 10 is that the clamp may be adjustably connected with the yoke, so as to take up wear and provide for any inaccuracies in fit.

10 While I prefer to employ sleeve-bearings for the eccentric-straps, those are not essential to the operation of the adjusting mechanism, the object of the sleeve being to relieve the strain on the operating-rod.

15 It is not essential that the operating-rods shall pass through the eye of one strap and carry the eccentric of the other, the described relation of the two eccentrics being a substantial and novel feature of the invention and
20 effecting the desirable result of enabling the independent adjustment to be made.

Furthermore, the combination of the clamping member adjustably connected to the yoke and operated by the eccentric strap and rod
25 in the manner described is likewise novel, and in the broader aspect of the invention, therefore, it is not limited to the alternated disposition of the eccentrics, since both may be mounted upon the same rod and the straps at their
30 other ends upon pins or in other equivalent manner.

While I have described my invention in connection with a planer and for the specific purpose of clamping the side head to the top
35 slide, still it is obvious that the invention might be employed to equal advantage in connection with the similar parts of other and analogous machines.

I claim—

40 1. In a clamping mechanism for planer-heads, the combination with the yoke and top slide of a clamping member adapted to be secured to the yoke and embracing the slide and means for locking the parts together comprising
45 an eccentric carried by one of said parts

and a strap or link connecting the eccentric with the other part and means for throwing the eccentric, substantially as described.

2. In a clamping mechanism for planer-heads, the combination with the yoke and top
50 slide of a clamping member connected to the yoke at one side of the top slide, an eccentric connected with the clamping member on the opposite side of the slide, a link connecting the eccentric and the other member of the
55 clamp, and means for throwing the eccentric, substantially as described.

3. In a planing-machine, the combination with the side heads and top slide of means for clamping said heads to the slide comprising a
60 yoke and clamping member for each head, two operating-rods, one extending through the yokes and the other through the clamping members, an eccentric carried by each of said rods, and a link connecting each said eccentric
65 with the opposite member, substantially as described.

4. In a planing-machine, a clamping mechanism for the side heads thereof comprising,
70 in combination with the yokes of said heads, a clamping member for each yoke, an operating-rod carried by the yokes, and an operating-rod carried by the clamping members, an eccentric on each of said rods and a strap or link connecting each said eccentric with
75 the opposite rod whereby each of the clamping members may be locked independently of the other, substantially as described.

5. In a clamping mechanism for planer-heads, the combination with a yoke and top
80 slide of a clamping member adjustably connected to the yoke at one side of the top slide, an eccentric and link connecting the yoke to the clamping member, and means for throwing the eccentric, substantially as described.
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Witnesses:

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