Oct. 23, 1928. 1,688,913

H. T. AHRENDT

COPE HEAD FOR TENONERS AND THE LIKE

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Fig. 1.

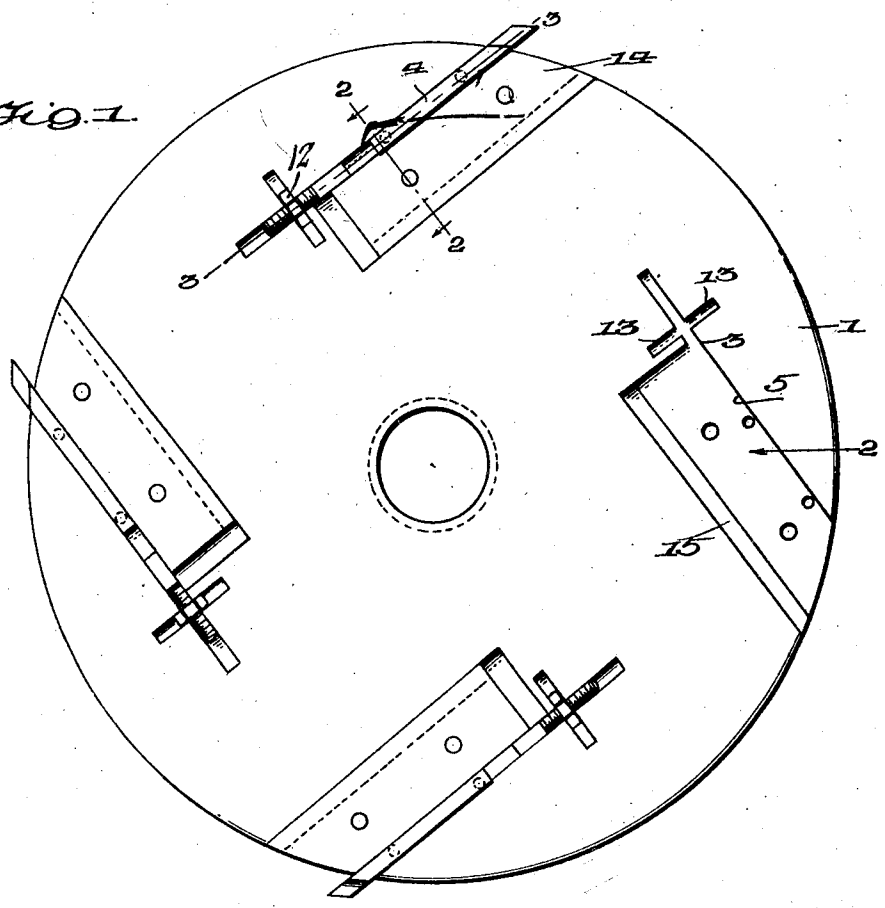


Fig. 3.

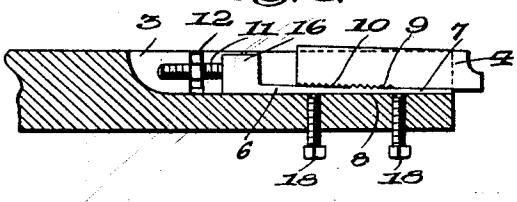
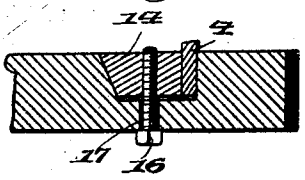


Fig. 2.



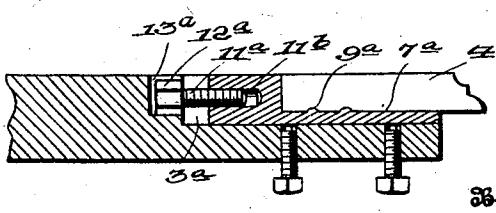


Fig. 4.

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Fig. 5.

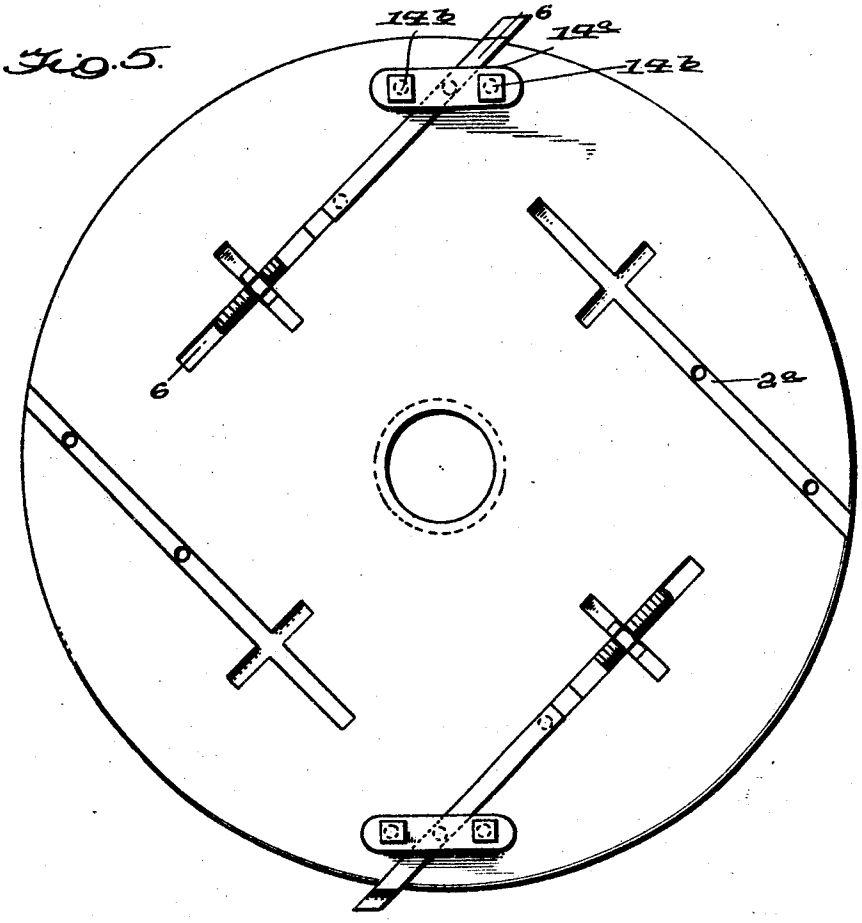


Fig. 6.

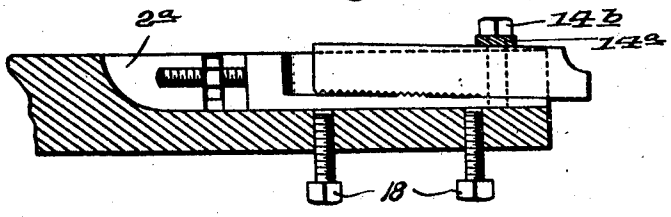
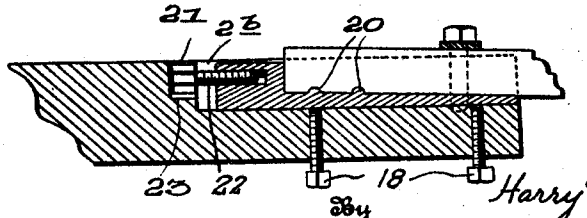


Fig. 7.



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UNITED STATES PATENT OFFICE.

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COPE HEAD FOR TENONERS AND THE LIKE.

Application filed May 11, 1927. Serial No. 190,471.

This invention relates to improvements in cope heads for tenoners or other machines where the same can be used, and more particularly to means for adjustably securing the knives to a cope head.

In cope heads of the type now generally used with tenoners and like machines, the knives are adjusted forwards or backwards by striking against the knife with a hammer or wrench. This not only damages the knives, but it is a crude way of accomplishing the desired result, and it is difficult by such method to accurately position the knives.

The primary object of the present invention is to provide a cope head with improved means for securing the knives in position, and for adjusting the knives to accurately position the same.

A further object is to furnish a cope head with means for positively locking the knives in position, so there is no liability of the knives flying off the head, due to centrifugal force.

A still further object is to provide a cope head knife adjusting means adapted to adjust the knife lengthwise, and also in a direction perpendicular to its length.

With the foregoing objects outlined and with other objects in view which will appear as the description proceeds, my invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

Referring to the drawings,

Fig. 1 is a top plan view of a cope head constructed in accordance with my invention, and showing two knives and their adjusting means connected to the head.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is a view similar to Fig. 3 but illustrating a modification.

Fig. 5 is a plan view of another form of cope head with modified means for adjustably securing the knives in position, two knives and their adjusting means only being shown in this figure.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 5.

Fig. 7 is a view similar to Fig. 6, but showing a modification.

In Figs. 1 to 3 inclusive of the drawings, 1 designates a cope head provided in one of its side faces with a number of recesses or cavities 2 arranged tangentially of the head, and merging at its inner end into a cross-shaped recess 3.

A knife 4 may be arranged in each recess 2 with one of its side surfaces bearing against the plane surface 5 of the recess. The knife rests on a gib 6 having a wedge-shaped extension 7 that rests on the plane surface 8 of the bottom of the recess, and is provided with upwardly extending transversely disposed teeth 9 which interlock with complementary teeth 10 on the under side of the knife.

The gib is provided with an integral threaded stem 11 which projects into the cross-shaped slot 3, and engages a nut 12 which projects into the arms 13 of said slot.

The knife is locked in position by a wedge 14 which has an inclined surface at one side to engage the inclined surface 15 of the recess 2. Cap screws 16 extend through holes 17 in the cope head, and engage threaded apertures in the wedge block, and these cap screws secure the assembly in position.

Other cap screws 18 extend through the cope head and abut against the bottom of the gib extension 7.

From Fig. 3, it may be seen that the parts are so arranged that the knife is inclined relatively to the plane of the cope head, and that the interlocked teeth 9 and 10 function to prevent the knife from flying out, due to centrifugal force.

When the wedge block 14 is loosened by turning the screws 16, the knife may be adjusted inwardly or outwardly by turning the nut 12.

At this time, the gib 6 and knife, may also be be adjusted in the direction of the axis of the cope head, by turning the screws 18, and when this is done, the nut 12 slides in the arms 13 of the cross-shaped slot, and functions as a guide.

After the parts have been adjusted, as desired, the screws 16 may be tightened, and the wedge block 14 will then lock the parts in position.

In the modification shown in Fig. 4, the parts accomplish the same results as the structure shown in Figs. 1 to 3 inclusive, but in the modification, the knife 4^a lies in the same plane as the cope head, and the extension 7^a of the gib has a straight upper surface instead of an inclined one. Furthermore, in this case, the gib has a pair of projections 9^a to engage spaced recesses on the under side of the knife.

The screw 11^a in this form extends into a threaded hole 11^b in the gib, and the head 12^a of the screw fits in the cross arms 13^a of the slot 3^a. The latter may be made T-shaped in this form, instead of cross-shaped, as the threaded stem 11^a does not travel axially as it does in the other structure.

In the embodiment of the invention illustrated in Figs. 5 and 6, the parts are similar to those shown in Figs. 1 to 3, with the exception that the recess 2^a is simply of cruciform configuration, instead of in the form of the recesses 2 and 3 shown in Fig. 1, and in this modification, the knife is locked in position by a bridge plate 14^a secured by cap screws 14^b.

Referring now to the form of the invention illustrated in Fig. 7, it may be stated that this is somewhat similar to the form shown in Fig. 6, but in this instance, the gib has the projections 20 which engage recesses on the under side of the cutter, and the recess 2^b in this instance is of T-shape in plan, with the head 21 of the threaded stem 22 engaging the cross arms or head 23 of the T-shaped recess.

With either form of my invention, the knife may be adjusted inwardly and outwardly by means of the threaded stem connected to the gib, and the knife may be adjusted in the direction of the axis of the cope head, by means of the screws 18. Such adjusting means will permit the blade to be accurately positioned, and after it is in proper position, it will be anchored there by the locking means.

From the foregoing, it is believed that the construction, operation and advantages of the invention may be readily understood, and it is apparent that changes may be made in the details disclosed, without departing from the spirit of the invention as expressed in the claims.

What I claim and desire to secure by Letters Patent is:

1. A cope head having an elongated channel shaped recess in one of its faces, a gib slidably seated in the bottom of the recess, a knife resting on the gib and guided by a wall of the recess, means for simultaneously adjusting the gib and knife lengthwise inwardly and outwardly, and means for locking the knife and gib in the recess.

2. A cope head as claimed in claim 1, including means for adjusting the gib and knife in the direction of the axis of the cope head.

3. A cope head as claimed in claim 1, including interlocking means on the gib and knife for connecting them together.

4. A cope head as claimed in claim 1, in which the means for adjusting the knife and gib lengthwise inwardly and outwardly includes a threaded stem.

5. A cope head having a channel shaped recess in one of its side surfaces, a gib slidably arranged in said recess, threaded means interlocked with a wall of the recess and functioning to adjust the gib lengthwise of the recess, a knife in the recess interlocked with said gib, and means for locking the knife and gib in the recess.

6. A cope head as claimed in claim 5, including means for adjusting the gib and knife axially of the cope head.

7. A cope head having a recess in one of its side surfaces provided with oppositely extending arms, a member turnably arranged in the arm portions of the recess, a threaded stem connected to said member, a gib in the recess connected to the stem and adapted to be moved lengthwise of the recess when said member is turned, a knife resting on said gib, means for locking the knife and gib in said recess, and means for simultaneously adjusting the knife and gib axially of the cope head.

8. A cope head having a recess in one of its side surfaces provided with oppositely extending arms, a member turnably arranged in the arm portions of the recess, a threaded stem operatively connected to the said member and adapted to be moved lengthwise of the recess when said member is turned, a gib located in the recess and movable with said stem, a knife interlocked with said gib, and means for locking the knife and gib in said recess.

9. A cope head having a channel shaped recess in one of its side surfaces, provided with oppositely extending arms, a member turnably arranged in the arm portions of the recess, a threaded stem connected to said member, a gib in the recess, connected to the stem and adapted to be moved lengthwise of the recess when said member is turned, said gib having a reduced forwardly extending portion, a knife resting on and interlocked with the reduced portion of the gib, and means for locking the knife and gib in said recess.

In testimony whereof I affix my signature.

HARRY T. AHRENDT.