No. 776,733. PATENTED DEC. 6, 1904.

H. FLYNT.

TINNER'S MANDREL.

APPLICATION FILED DEC. 15, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig 1

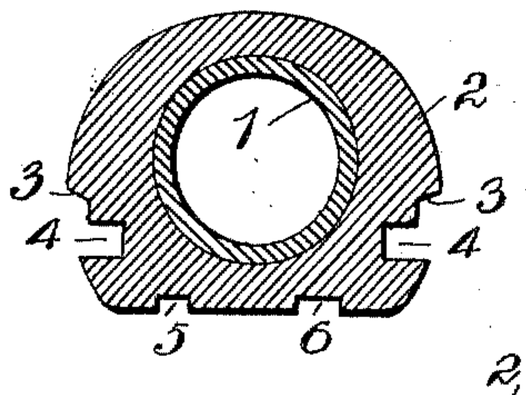


Fig 2

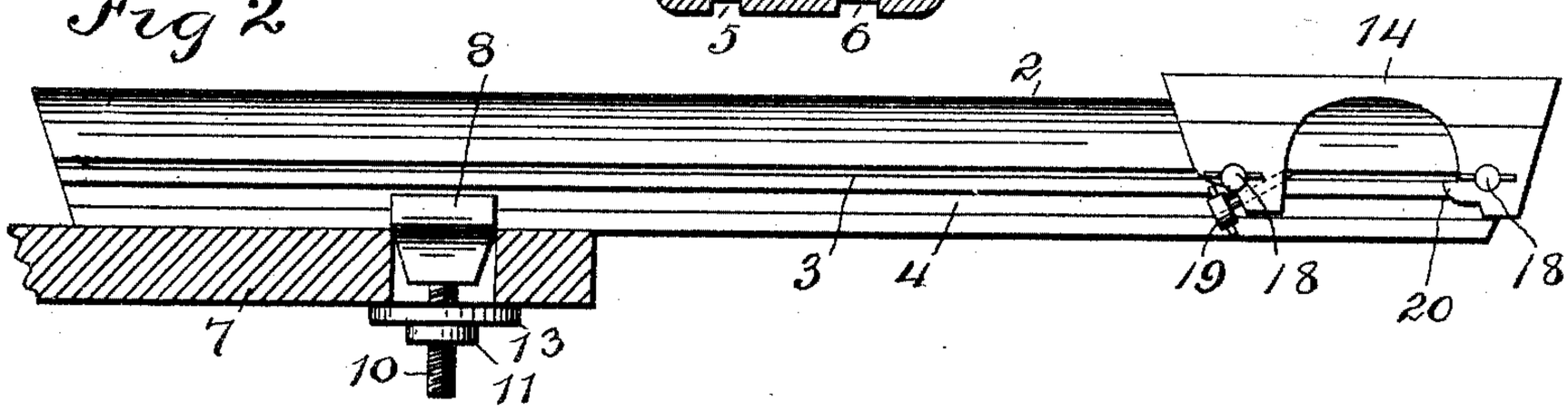


Fig 3

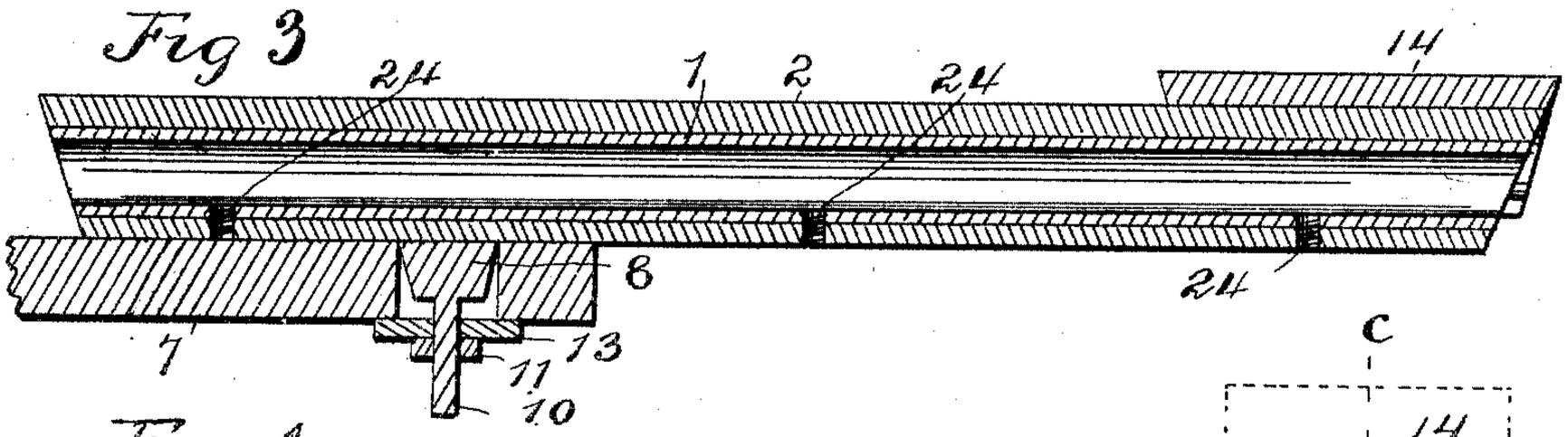


Fig 4

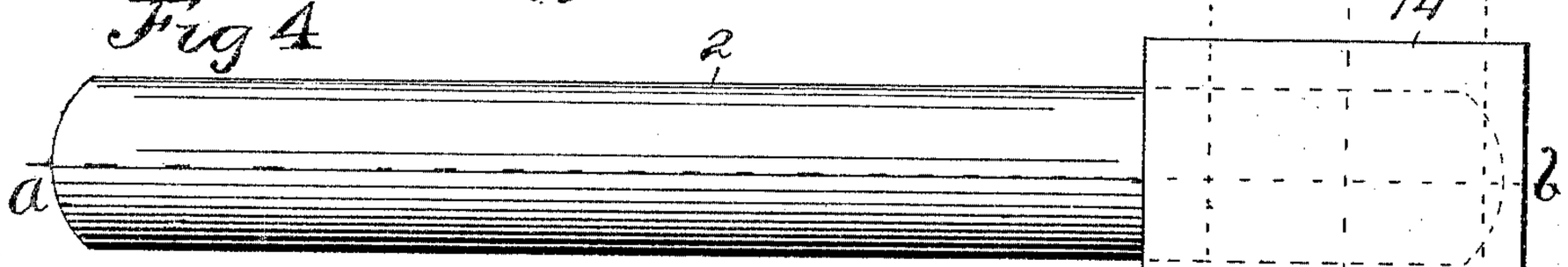


Fig 6

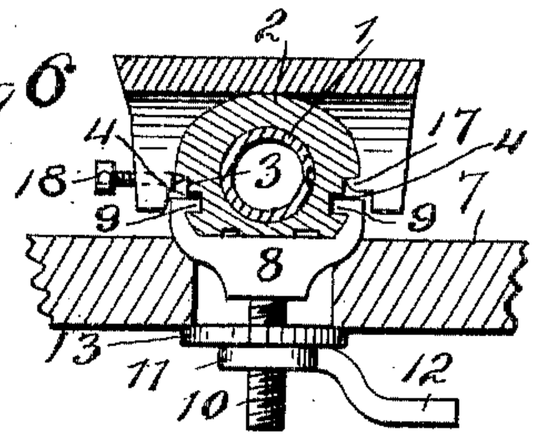
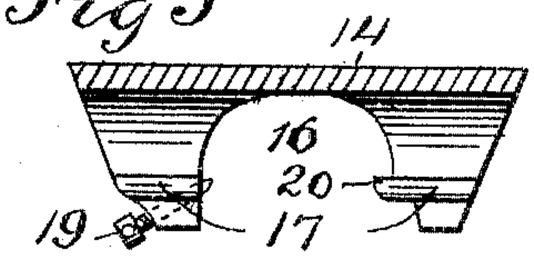


Fig 5



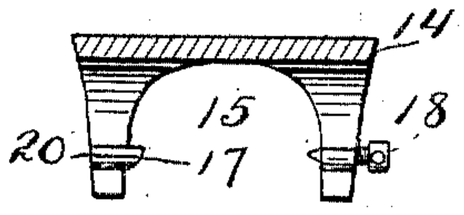
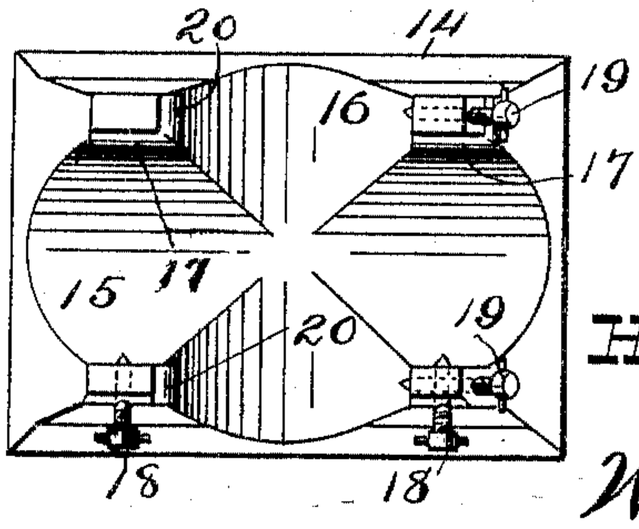


Fig 7

Fig 8



WITNESSES:

C. P. Calhoart.

P. L. Britain.

INVENTOR

Henry Flynt

BY

Warren D. House.

HIS ATTORNEY

No. 776,733. PATENTED DEC. 6, 1904.

H. FLYNT.

TINNER'S MANDREL.

APPLICATION FILED DEC. 15, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

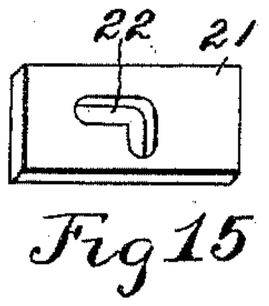


Fig 15

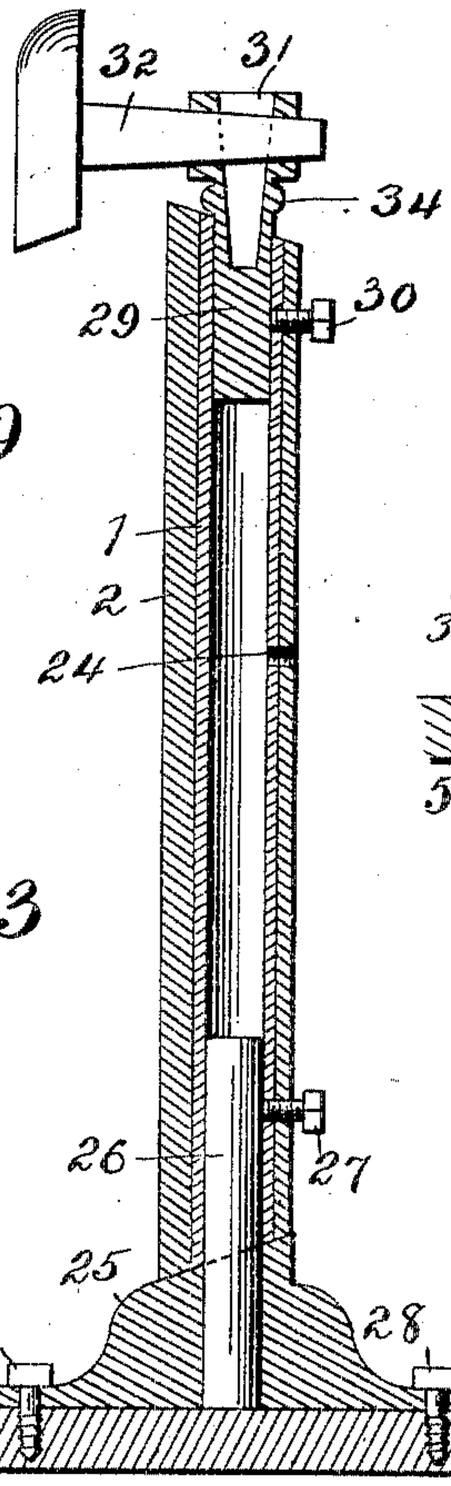


Fig 9

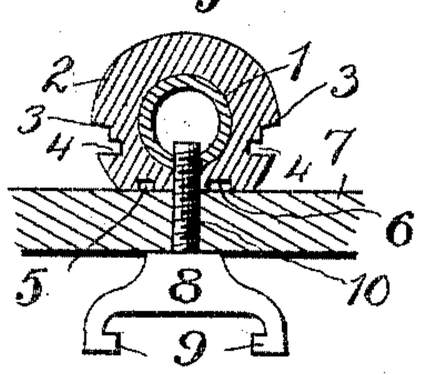


Fig 16

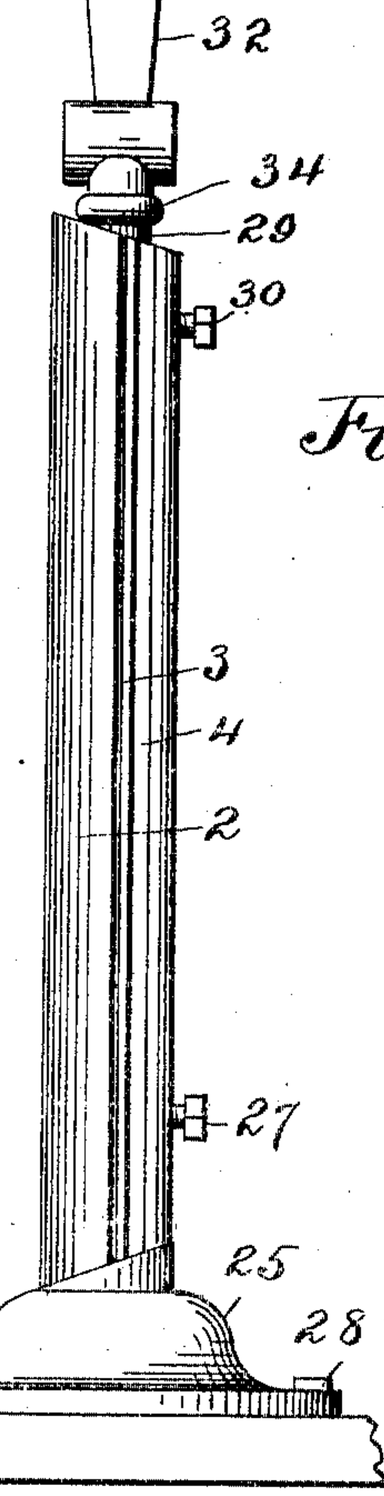


Fig 10

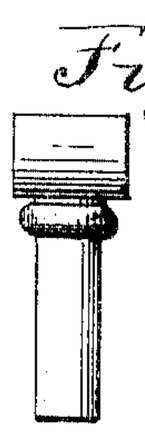


Fig 13

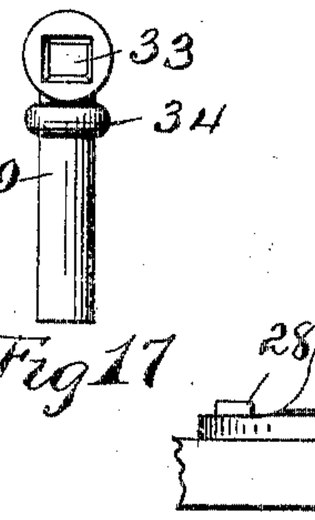


Fig 17

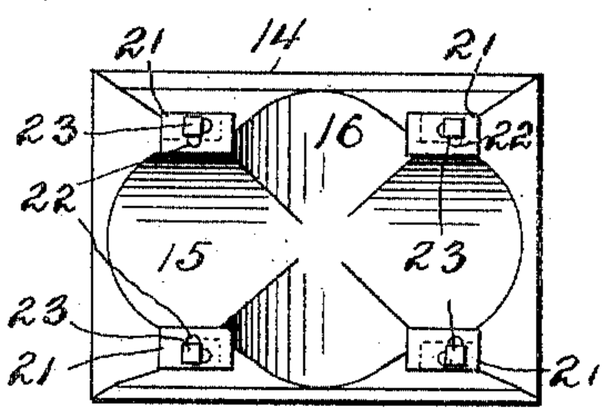


Fig 12

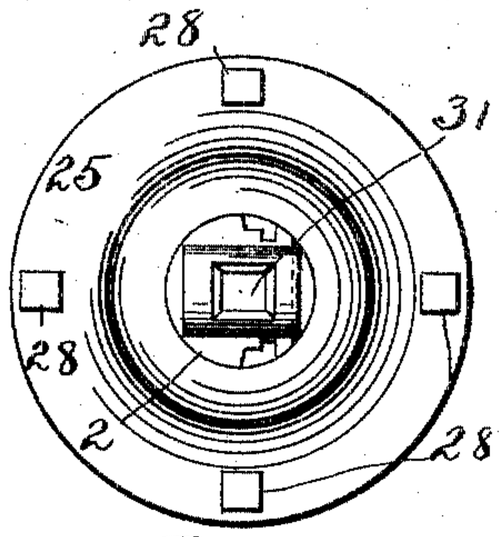


Fig 11

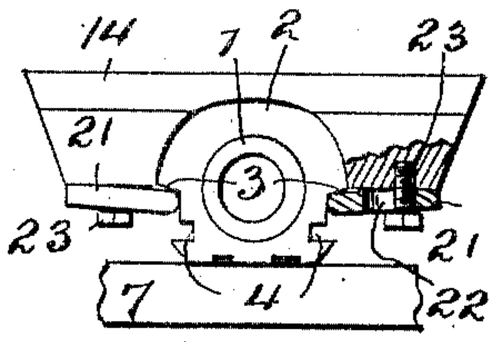


Fig 14

WITNESSES:

P L Britain

W. F. Wilkins.

INVENTOR

Henry Flynt

BY

Warren D. House.

His ATTORNEY

PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 776,733. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

HENRY FLYNT, OF KANSAS CITY, MISSOURI.

TINNER'S MANDREL.

SPECIFICATION forming part of Letters Patent No. 776,733, dated December 6, 1904.

Application filed December 15, 1902. Serial No. 135,185. (No model.)

776,733

all whom it may concern:

Be it known that I, HENRY FLYNT, a citizen of the United States of America, and a resident of Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Tinners' Mandrels, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in tinners' mandrels.

The object of my invention is to provide a mandrel of the kind described which will retain its original shape despite hard and long usage and will not be forced by continual pounding thereon from a straight to a curved form.

Another object is to provide a mandrel which by its peculiar form will present a stiff and unyielding support upon which hammering may be done.

A further object of my invention is to provide a detachable head which may be adjusted longitudinally on the mandrel and also adjusted thereon to two positions at right angles to each other.

My invention provides further novel means for locking the head to the mandrel.

My invention provides further means by which the tubular mandrel may be employed as a support for a tool-holding device.

Other novel features are hereinafter fully described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a cross-section of the mandrel. Fig. 2 is a side elevation view showing the head mounted on the mandrel in one position, a portion of the supporting-bench being shown in vertical section. Fig. 3 is a vertical longitudinal sectional view taken on the dotted line *a b* of Fig. 4. Fig. 4 is a top view with the head mounted on the mandrel. In this view the second position of the head is shown in dotted lines. Fig. 5 is a central vertical sectional view of the detachable head. Fig. 6 is a cross-section taken on the dotted line *c d* of Fig. 4. Fig. 7 is a central vertical cross-section view of the head. Fig. 8 is an under view of the head shown in Figs. 2, 3, 4, 5, 6, and 7. Fig. 9 is a central vertical sectional view of the mandrel mounted vertically on a base and showing a tool mounted in a tool-holder, which in turn is mounted in the upper end of the mandrel. Fig. 10 is a side elevation view of the parts shown in Fig. 9, the tool in this view being shown in the vertical socket of the tool-holder. Fig. 11 is a plan view of what is shown in Fig. 10, the tool being removed from the tool-holder. Fig. 12 is a bottom view of a modified form of head. Fig. 13 is a side elevation view of the tool-holder. Fig. 14 is a front end view of the mandrel, having mounted thereon the modified form of head, a portion of which is shown in section, so as to disclose the construction of clamping mechanism. Fig. 15 is a perspective view of one of the securing-plates of the modified form of head shown in Figs. 12 and 14. Fig. 16 is a vertical sectional view of the mandrel and showing a different manner of applying the clutch thereto than the manner shown in Fig. 6. Fig. 17 is a side elevation view of the tool-holder, taken at right angles to the position shown in Fig. 13.

Similar characters of reference indicate similar parts.

The mandrel comprises a cylindrical tubular core 1, preferably of wrought-iron, around which is cast an iron covering 2, provided with four slideways or grooves 3 and 4, disposed longitudinally two at each side of the mandrel and extending the full length thereof and having the slideways 3 disposed above the slideways 4. The upper side of the mandrel is convexly curved, and the under side is preferably flat and provided its full length with two parallel grooves 5 and 6 of different widths for grooving together lap-joints.

7 indicates the bench, provided with a vertical hole therethrough in which is mounted a clutch 8, having oppositely-disposed inwardly-extending arms 9 adapted to enter, respectively, the grooves 4 of the mandrel. The clutch 8 is provided at its lower end with a vertical screw-threaded shank 10, on which is mounted a nut 11, having an operating-arm 12. A washer 13 may be mounted on the

shank 10 to clamp against the under side of the bench 7, as shown in Fig. 2.

An adjustable detachable head 14 is provided on its under side with two intersecting grooves 15 and 16, respectively disposed, preferably, at right angles to each other and fitted to the upper side of the mandrel-covering 2. The head may thus be adjusted to two positions on the mandrel at right angles to each other, thus enabling the workmen to have the side of the head desired disposed at the front. Upon one side of the groove 15 in the head are provided two projections 17, which extend inwardly and are adapted to enter one of the upper grooves 3 in the mandrel. Extending inwardly through screw-threaded holes provided in the head upon the other side of groove 15 are two screws 18, so disposed as to be adapted to enter the opposite groove 3 in the mandrel. Similar screws 19 are similarly mounted in the head upon one side of the groove 16 of the head, and opposite the said screws 19 are provided projections 20. The screws 19 and projections 20 are so disposed as to engage the upper grooves 3, respectively, of the mandrel when the head is in the position shown in Fig. 4 in dotted lines.

In assembling the parts in the positions shown in Figs. 2, 3, and 4 the clutch 8 is slipped onto the mandrel, with the arms 9 engaging the lower grooves 4. The shank 10 is then thrust through the hole in the bench, after which the washer 13 and nut 11 are placed on the shank, the nut being turned until the washer bears upon the under side of the bench. The head is then placed on the mandrel, with the groove 15 fitted thereto and the projections 17 mounted in the right groove 3, as viewed in Fig. 6. The screws 18 are then turned so as to enter the upper left groove 3, thus securely locking the head on the mandrel. If it is desired to change the head to the position shown in Fig. 4 in dotted lines, the screws 18 are loosened and the head removed and turned so that the groove 16 is fitted to the top of the mandrel, the projections 20 being first entered into the right groove 3, after which the screws 19 are so turned as to enter the left groove 3.

In placing the head on or taking it off the mandrel it is not necessary to slide it to the end of the mandrel; but it can be removed by first loosening the set-screws and lifting it upwardly and to the right, and by reversing this operation it may be replaced on the mandrel.

In Figs. 12 and 14 I have shown a modified form of securing device for the head. In this form upon each side of the grooves 15 and 16 are mounted the plates 21, each provided with a screw-hole 22, having, preferably, the form of a right angle. Through each screw-hole 22 is a screw 23, which is fitted to a hole in the under side of the head. By reason of the shape of the hole 22 the plates 21 may be adjusted toward and from the grooves 15 and 16, respectively, and then locked in position by properly turning the screws 23 so that the heads will bear against the under sides of the plates 21. The disposition of the plates 21 on the head is such that the plates may be adjusted to engage the upper grooves 3 in the mandrel when the head is in either of the two positions in which it may be mounted on the mandrel. By releasing the screws 23 on one side of the head the plates 21 on that side may be pulled outwardly, thus releasing that side of the head from the mandrel, after which the head may be removed by upwardly turning the released side of the head. At different places along the mandrel may be provided a series of holes 24, which extend through the core 1 and are screw-threaded. As shown in Fig. 16, the shank 10 may be extended through the bench in a position the reverse of that shown in Fig. 2 and made to engage one of the holes 24, thus firmly securing the mandrel to the bench.

In Figs. 9, 10, and 11 I have shown how the mandrel may be employed to support a tool-holder. In so using the mandrel it is placed in a vertical position upon a base 25, which is provided with a vertical stud or shank 26, which enters the lower end of the core 1, to which it is secured by means of a set-screw 27, mounted in one of the holes 24. The base 25 may be secured to the floor by lag-screws 28, extending vertically therethrough. In the upper end of the core is placed the shank 29, which is held in place by a set-screw 30, mounted in one of the holes 24 in the mandrel. The upper end of the tool-holder is provided with a vertical socket 31, adapted to receive the shank of a tool 32, as shown in Fig. 10. In the head of the tool-holder at right angles to the socket 31 is a socket 33, in which may be placed the shank of a tool, as shown in Fig. 9. The tool-holder is preferably provided with an annular flange 34 to rest upon the upper end of the mandrel. As the two ends of the mandrel are preferably beveled the upper end of the base 25 may be correspondingly beveled, so that the lower end of the mandrel may have a broad surface to bear upon. If desired, the head 14 may be detached from the mandrel and used separately.

I have found that a mandrel constructed with a wrought-iron cylindrical tubular core having an iron covering cast about the core, so as to completely encircle the same, provides an extremely stiff unyielding support on which to hammer and one that will not be stretched or distorted by constant hammering upon it.

My invention may be modified in different ways without departing from its spirit.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A tinner's mandrel comprising a body having a tubular core of one metal and a covering encircling the same of another metal, the covering being provided with two slideways one at each side and having also a longitudinal groove in its under side, substantially as described.

2. A tinner's mandrel comprising a body having a tubular core and a cover encircling the same, the covering being provided with two slideways one at each side and having also a curved upper surface and a flat under side in which are two longitudinal grooves of different widths, substantially as described.

3. A tinner's mandrel comprising a body having a tubular core of one metal and a covering therefor of another metal, the covering being provided with two slideways one at each side and a clutch adapted to engage the said slideways and provided with means for locking the clutch to a support, substantially as described.

4. The combination with a mandrel, of a head provided on its under side with two grooves disposed transversely with respect to each other, and means for securing the mandrel to the head when it is placed in either of the said grooves, substantially as described.

5. The combination with a mandrel provided with two slideways, one at each side, of a head provided on its under side with two grooves disposed transversely with respect to each other, and means provided on the head for engaging the slideways when the mandrel is placed in either of said grooves, substantially as described.

6. The combination with a mandrel provided with four slideways disposed two at each side one above the other, of a head adjustable lengthwise on the mandrel and provided with means for engaging the upper slideways, and a clutch provided with means for engaging the lower slideways and provided with means for securing the clutch to a support, substantially as described.

7. The combination with a mandrel provided with two longitudinal grooves one at each side, of a head provided on its under side with two grooves disposed transversely with respect to each other, the head being provided on one side of each of said grooves therein with a projection adapted to enter one of the grooves in the mandrel, and a releasable locking device provided upon the opposite side of each of the grooves in the head and adapted to engage the groove in the mandrel opposite the groove which is engaged by the projections on the head, substantially as described.

8. The combination with a mandrel provided with four longitudinal slideways disposed two on each side one above the other, of a head provided on its under side with two grooves disposed transversely with respect to each other and adapted each to fit the upper surface of the mandrel, means by which the head engages the upper slideways, and a clutch provided with means for engaging the lower slideways, substantially as described.

9. The combination with a mandrel provided with four longitudinal grooves disposed two at each side of the mandrel one above the other, of a clutch provided with means for engaging the lower grooves and provided with means for locking the clutch to a support, and a head provided on its under side with two grooves disposed transversely with respect to each other and having four projections adapted to engage the grooves in the mandrel and disposed two at one side of each of the grooves in the head, and provided also with releasable locking devices for engaging the grooves in the mandrel and disposed respectively opposite the said projections on the head, substantially as described.

10. The combination with a tinner's mandrel comprising a tubular body, of a base provided with a stud adapted to be inserted in one end of the mandrel, and a tool-holding member provided with a stud adapted to enter the other end of the mandrel, the tool-holder being provided with a socket adapted to receive the shank of a tool, substantially as described.

11. The combination with a mandrel provided with two slideways disposed one at each side, of a head longitudinally adjustable on the mandrel and provided on one side with means for engaging the adjacent slideway, and provided on the other side with a releasable locking device for engaging the other slideway, substantially as described.

12. The combination with a mandrel provided with two slideways disposed one at each side of the mandrel, of a head longitudinally adjustable on the mandrel and adjustable to two positions on the mandrel respectively at right angles to each other and provided with means for engaging one of the slideways when in either of said two positions, and releasable locking means for engaging the other slideway when the head is in either of said positions, substantially as described.

13. The combination with a mandrel, of a head longitudinally adjustable thereon and provided with means for engaging one side of the mandrel, releasable locking means for engaging the other side of the mandrel, and a clutch provided with means for engaging the mandrel and a suitable support, substantially as described.

14. The combination with a mandrel provided with two slideways one at each side, of a head longitudinally movable thereon and provided with means for adjustment on the mandrel to two positions respectively at right angles to each other, and also provided with means for engaging the two slideways in the mandrel when in either of said two positions, and a clutch longitudinally adjustable on the

mandrel and provided with means for clamping the mandrel to a support, substantially as described.

15. The combination with a tubular mandrel provided with four grooves disposed two at each side one above the other, of a head longitudinally adjustable on the mandrel and provided with means for engaging the upper of said grooves the head being adjustable on the mandrel to two positions disposed at right angles to each other, and a securing device provided with means for engaging the lower of said grooves and having means for securing the said device to a suitable support, substantially as described.

16. A head for a mandrel provided on one side with two grooves disposed at right angles to and intersecting each other and adapted to receive therein at different times a supporting-mandrel, substantially as described.

17. A head for a mandrel provided on one side with two intersecting grooves and means for engaging a mandrel when the same is disposed in either of said grooves, substantially as described.

18. A head for a mandrel provided on one side with two intersecting grooves adapted to receive therein at different times a supporting-mandrel and having projections at each side of and extending inwardly beyond each of said grooves for engaging the supporting-mandrel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY FLYNT.

Witnesses:
WARREN D. HOUSE,
JESSIE R. COMSTOCK.

No. 776,733

Correction in Letters Patent No. 53.

It is hereby certified that Letters Patent No. 776,733, granted December 6, 1904, upon the application of Henry Flynt, of Kansas City, Missouri, for an improvement in "Tinners' Mandrels," was erroneously issued to said Flynt, whereas said Letters Patent should have been issued to *Laura W. Page, administratrix of said Henry Flynt, deceased*, as shown by the records of this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 3d day of January, A. D., 1905.

[SEAL.]

F. I. ALLEN,

Commissioner of Patents.