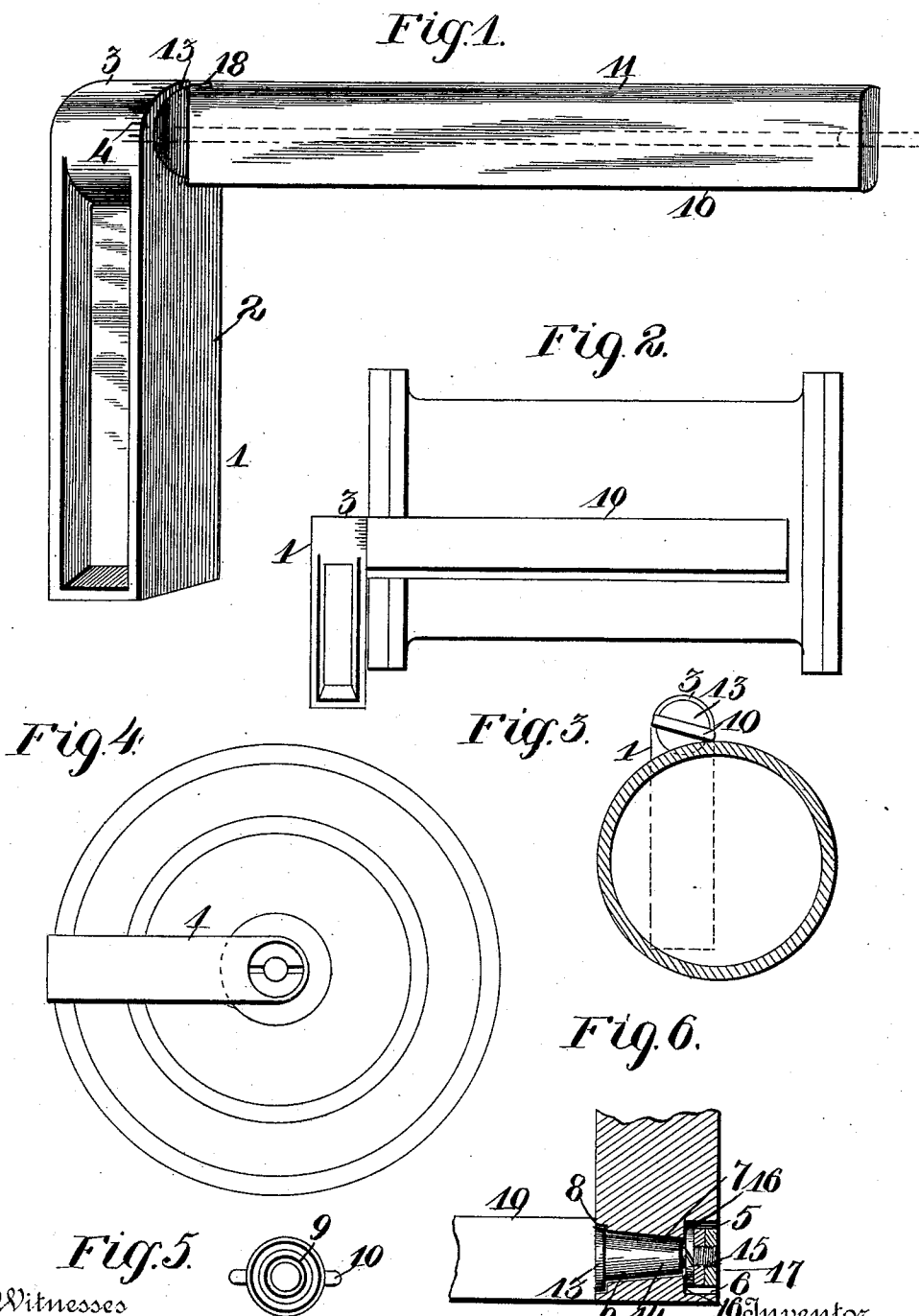


(No Model.)

E. WETTERHAHN.
MECHANIC'S SQUARE.

No. 484,575

Patented Oct. 18, 1892.



Witnesses
J. J. Walker.
H. E. Ryan

Inventor
Edward Wetterhahn.
By his Attorneys
Keller & Storer

UNITED STATES PATENT OFFICE.

EDUARD WETTERHAHN, OF ST. LOUIS, MISSOURI.

MECHANIC'S SQUARE.

SPECIFICATION forming part of Letters Patent No. 484,575, dated October 18, 1892.

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To all whom it may concern:

Be it known that I, EDUARD WETTERHAHN, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Mechanics' Squares, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in mechanics' squares; and it consists in the novel arrangement and combination of parts, as more fully described in the specification and set out in the claims.

In the drawings, Figure 1 is a perspective view of my complete invention. Fig. 2 is a plan view of my invention as applied to a cylinder. Fig. 3 is a transverse section of a cylinder, also showing my invention as applied thereto. Fig. 4 is a plan view of a wheel, showing my invention applied thereto for marking gear-lines. Fig. 5 is an end view of the blade, showing the construction of the same; and Fig. 6 is a longitudinal section of the back of my invention, showing the blade in movable connection therewith.

The object of my improvement is to devise a square which can be used in marking guide-lines on the surfaces of cylinders, as is customary in machine-shops to set true the slide-valve of such cylinder, and when the rule, or, rather, the back thereof, is once set to provide a rotating blade by which the guide-lines can be drawn from either edge thereof and at the same time insure a perfectly-true line.

The invention may be used in other connections—as, for example, in marking out certain gear-lines on bevel and other gear-wheels—and for a variety of other purposes.

Referring to the drawings, 1 represents the back of the square, which is made in any suitable manner and hollowed out in any suitable manner for the purpose of reducing the weight of the same, premising, however, that a flat surface 2 is left, which is brought in contact with the object to be operated upon. One end of the said back is rounded, as shown at 3, leaving a smooth surface, upon which a suitable graduated scale 4 is placed by marking or in any other way indicating the degrees thereon. This rounded end is provided with a transverse opening 5, constructed as follows: 6 represents a circular opening of

suitable size in diameter and of a depth to receive the nut and washer, hereinafter described. Leading from said opening 6 and in communication therewith is a conical-shaped opening 7, which leads to and is in communication with a conical-shaped depression 8, which is slightly larger in diameter and opens from the opposite side of the back 1. All of these openings are adapted to receive the bearing portion or shank 9, forming a part of the blade 10. The said blade is of suitable length and preferably rectangular in cross-section, the edges of which are rounded, as shown at 11, for convenience in ruling at any angle to which the blade is placed.

13 represents a circular conical-shaped flange, the shape of which conforms to that of the depression 8 and which is normally flush with the surface 2.

14 represents a conical-shaped stud, which fits the conical opening 7, and leading from said stud is a screw-threaded extension 15, which is normally located in the circular opening 6. When the parts are united as stated, a split washer is placed around the screw-threaded extension 15 and is placed against the annular shoulder 16, formed at the junction of the opening 6 and conical opening 7.

17 represents two nuts, which are screwed upon the screw-threaded extension 15, one of which is brought in contact with the split washer, and which are turned in the proper direction in order to effect a tight joint between the several parts. Thus it will be seen that a movable connection is made between the back 1 and the blade 10, allowing the said blade to be turned to any angle desired, as shown, for instance, in Figs. 2 and 3. The blade 10 is of such a width that the rounded edges 11 will always be parallel to and flush with the rounded end of the back 1.

18 represents an index formed on the rounded edge of the blade, registering with the scale 4 on the back to indicate the angle along the sides of which gear and other lines may be drawn, and as may be seen from an inspection of Fig. 4. In said figure it will be observed that the blade is used as the center about which the back revolves.

By the construction of the joint as hereinbefore described there is no lateral movement of the parts, making the device compact and

adapted for the purposes for which it is intended to be used and avoiding any wear from such movement.

It will be seen by an inspection of Figs. 2 and 3 that when the back of the square is once set the blade may be rotated and the opposite edges of the same brought in contact with the surface of the cylinder to be operated on, and thus the lines can be ruled perfectly true and straight by reason of the proximity of the blade to the cylinder-surface. It will be seen from an inspection of Fig. 1 that the edges of the blade extend slightly beyond the periphery of the flange 13. The purpose of this is obvious, it giving, as it does, sufficient bearing-surface to the blade at the end of the back of the square.

Having fully described my invention, what I claim is—

1. A mechanic's square having a back and a rotating blade located at one end thereof, substantially as described.

2. A mechanic's square having a back graduated at one end and a rotating index-blade co-operating with the scale on said back, substantially as described.

3. A mechanic's square comprising a back having a rounded end, a graduated scale on said rounded end, and an index-plate movably secured to said back and adapted to be

rotated to register with the scale on said back, substantially as described.

4. A mechanic's square comprising a back, an opening 5, formed in one end of the same, a portion of which is conical, a blade 10, having a conical shank adapted to fit the said opening, and a nut or nuts screwed upon said shank for securing the blade to said back, substantially as described.

5. A mechanic's square consisting of a back 1, having a flat surface 2, a rounded end 3, a graduated scale 4, formed on said end, an opening 5, formed in said rounded end of the back, a circular opening 6, forming a part of the said opening 5, a conical opening 7, in communication with the said opening 6, a depression 8, a rotating blade 10, having rounded edges 11, a shank 9, formed on one end of the same, having a conical portion or stud 14 and screw-threaded extension 15, a nut or nuts 17, and an index 18, formed on the edge of the blade, adapted to register with the scale on the back, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDUARD WETTERHAHN.

Witnesses:

D. IND. NEUDORF,

C. F. KELLER.