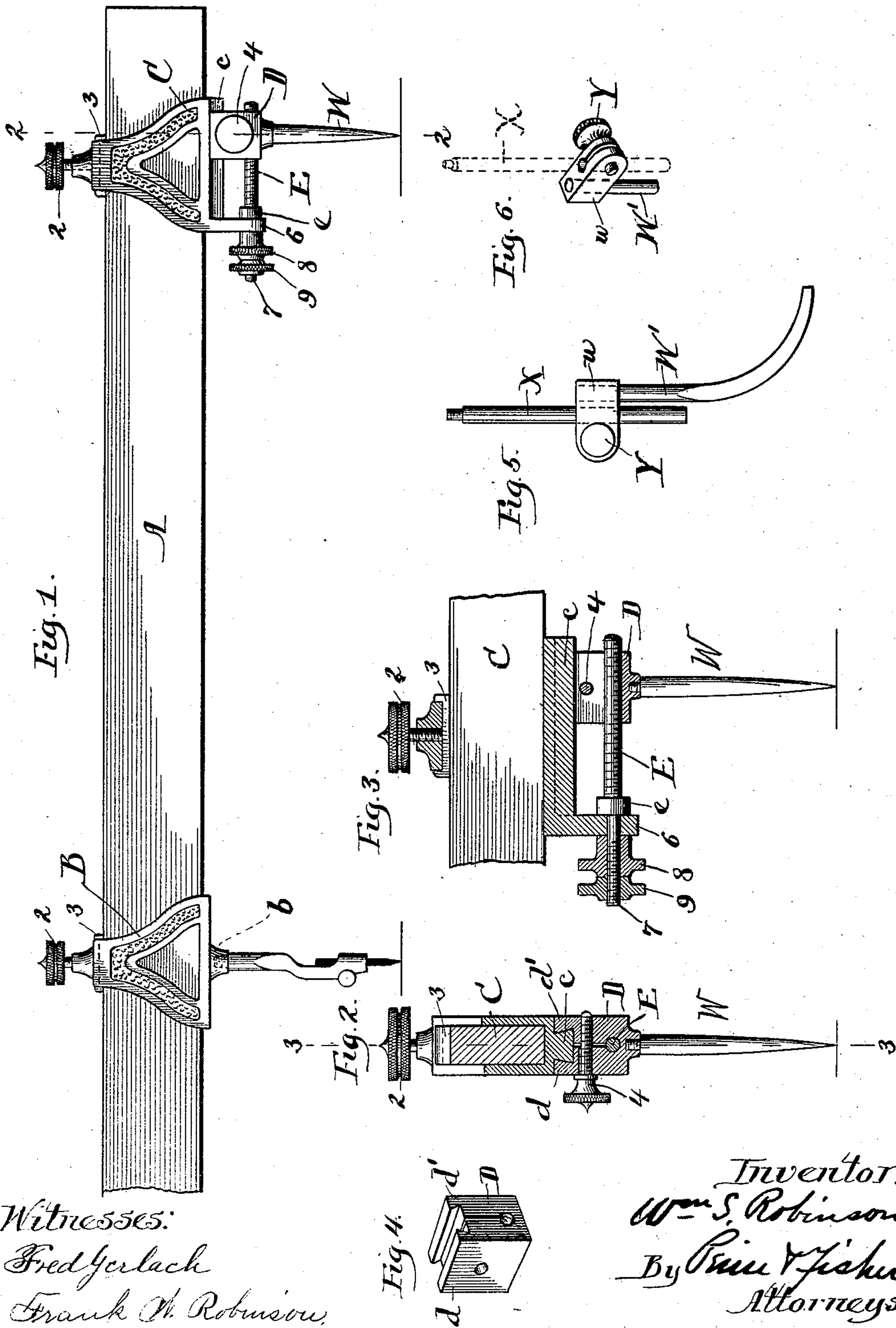


(No Model.)

W. S. ROBINSON.  
BEAM COMPASSES.

No. 487,892.

Patented Dec. 13, 1892.



Witnesses:  
Fred Gerlach  
Frank W. Robinson.

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# UNITED STATES PATENT OFFICE.

WILLIAM S. ROBINSON, OF CHICAGO, ILLINOIS.

## BEAM-COMPASSES.

SPECIFICATION forming part of Letters Patent No. 487,892, dated December 13, 1892.

Application filed August 23, 1892. Serial No. 443,847. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. ROBINSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful

5 Improvements in Trammels or Beam-Compasses, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 My present invention has for its object to provide an improved construction of trammel or beam-compass whereby a more ready and accurate adjustment of the steel-point, pencil, caliper-point, or like part carried by the

15 trammel head or slide is secured, and whereby provision is made for quickly and effectively compensating for wear between the working parts. This object of invention I have accomplished by the novel features of

20 construction hereinafter described, and illustrated in the accompanying drawings, and particularly defined in the claims at the end of this specification.

Figure 1 is a view in side elevation of a

25 trammel embodying my invention. Fig. 2 is a view in vertical section on line 2 2 of Fig. 1. Fig. 3 is a view in vertical longitudinal section on line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the carrier-slide. Fig. 5

30 is a detail view in side elevation of one of the caliper-points and its sustaining rod or bar. Fig. 6 is a perspective view showing more particularly the adjustable slide whereby the caliper-point is carried.

35 A designates the beam or bar upon which are adjustably mounted the trammel-heads B and C, each of these heads being furnished with a thumb-screw 2 and a gib 3, whereby its position upon the bar can be determined,

40 as is well understood by those familiar with this class of instruments. The trammel-head B is formed with a threaded socket *b*, into which will fit the threaded end of a steel-point, caliper-point, pencil-holder, or the like.

45 The trammel-head C has its lower edge provided with a rib *c*, preferably of dovetailed shape, upon which rib is mounted the carrier-slide D, the arms *d* and *d'* of which embrace the rib *c*, as shown in Fig. 2. The arms

50 *d* and *d'* of the carrier-slide D are adjustable

and their adjustments are effected by means of a thumb-screw 4, that passes through a plain perforation in the arm *d* and through the threaded perforation of the arm *d'*. By these means the carrier-slide can be held in

55 accurate bearing upon the rib *c* of the trammel-head, and any wear between the parts can be readily taken up. To effect the movement of the carrier-slide upon the trammel-head, I employ the adjusting-screw E, one end

60 of which passes through a threaded perforation formed in the carrier-slide D, while its opposite end passes through a projection or arm 6 at the end of the trammel-head C. Preferably the adjusting-screw E is formed

65 with a shoulder *e*, bearing against the projection 6, and that part of the screw E passing through said projection is plain or without thread, and upon the threaded portion 7 of the screw are placed the nuts 8 and 9, by

70 which the turning of the screw E is effected to adjust the carrier-slide D back and forth. By the construction of the screw and employment of the nuts 8 and 9, as above defined, I am enabled, also, to compensate for any wear

75 at the points of bearing of the screw E and projection 6, as the nut 8 serves to lock the nut 9 at any point on the thread 7. The carrier-slide D is formed with a screw-threaded socket, into which will enter the correspond-

80 ingly-threaded end of a steel-point W or of a caliper-point, or the like.

From the foregoing description it will be seen that in the use of my improved trammel the trammel-heads B and C will be set at

85 the desired points upon the beam A, after which the minor adjustments of the point or pencil will be effected by the operation of the adjusting-screw E. When it becomes necessary to compensate for wear between

90 the working parts, this can be accomplished by the thumb-screw 4 and the screw-nuts 8 and 9 in manner above defined, or if it is desired to fix the carrier-slide at any desired point this can be done by tightening the

95 screw 4.

In the use of the trammel with caliper-points it is frequently desirable to place the points within a deep cylinder or other position where it would be impossible to place the

100



beam itself—for example, in noting the diameter of a variable cylinder. I have therefore provided the caliper-points *W'* with slides *w*, that are adjustably mounted upon the carrier rods or bars *X*, the inner ends of which are threaded to enter the sockets in the trammel-head *B* and carrier-slide *D*. The adjustment of the slide *w* up and down upon the rod *X* is effected by the clamping-screw *Y*, that passes through the arms of the slide *w*, as shown in Figs. 5 and 6.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

- 15 1. A trammel-head provided with a rib and with a grooved carrier-slide mounted upon and interlocking with said rib and a screw for adjusting said carrier-slide back and forth upon said rib, substantially as described.
- 20 2. A trammel-head provided with a rib and with a carrier-slide movably mounted upon said rib and having adjustable arms embrac-

ing said rib and a screw for adjusting said arms, substantially as described.

3. The combination, with the beam *A*, of the trammel head or slide *C*, having a rib *c* and a projection or arm 6, a carrier-slide *D*, having adjustable arms embracing said rib, a screw *E* for adjusting said carrier-slide, and a thumb-screw for adjusting the arms of said carrier-slide, substantially as described.

4. A trammel-head provided with a rib and with a carrier-slide mounted upon said rib and with a projection or arm 6 and screw for adjusting said carrier-slide, said screw having a plain portion passing through said projection or arm and a shoulder and provided with a threaded end and two nuts thereon, substantially as described.

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