(No Model.)

A. D'YOCHET.

EXPANDING BLOCK.

No. 497,854. Patented May 23, 1893.

fig. 2.

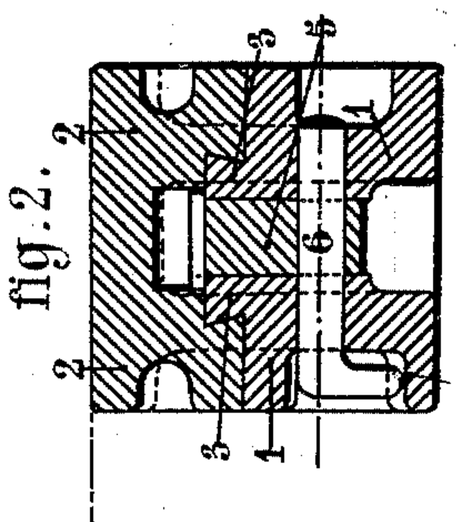


fig. 1.

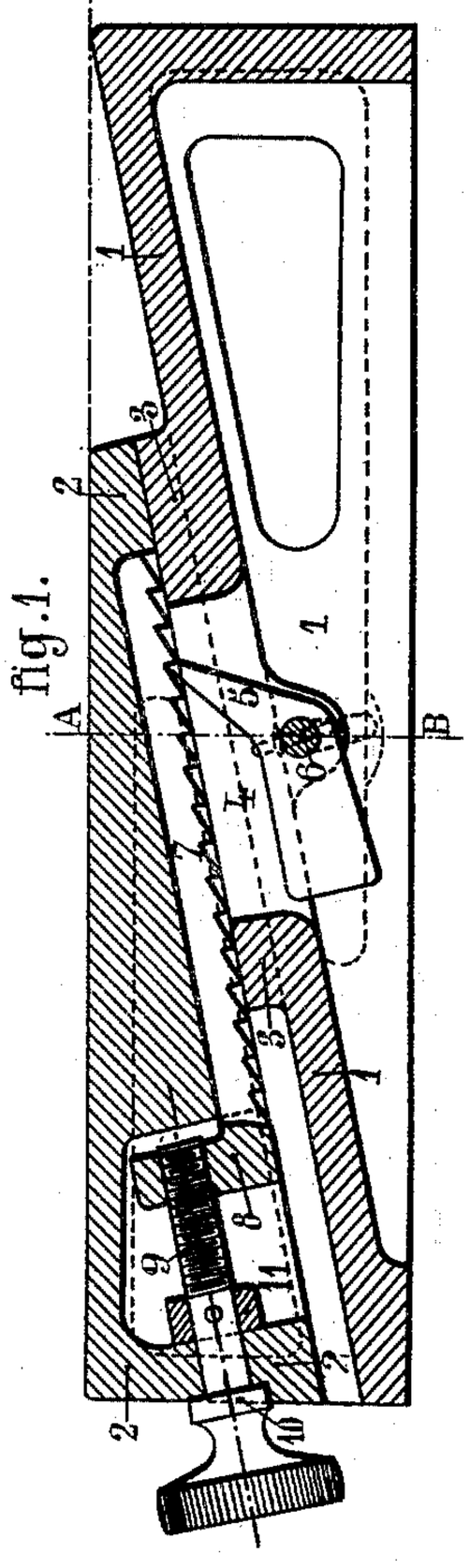
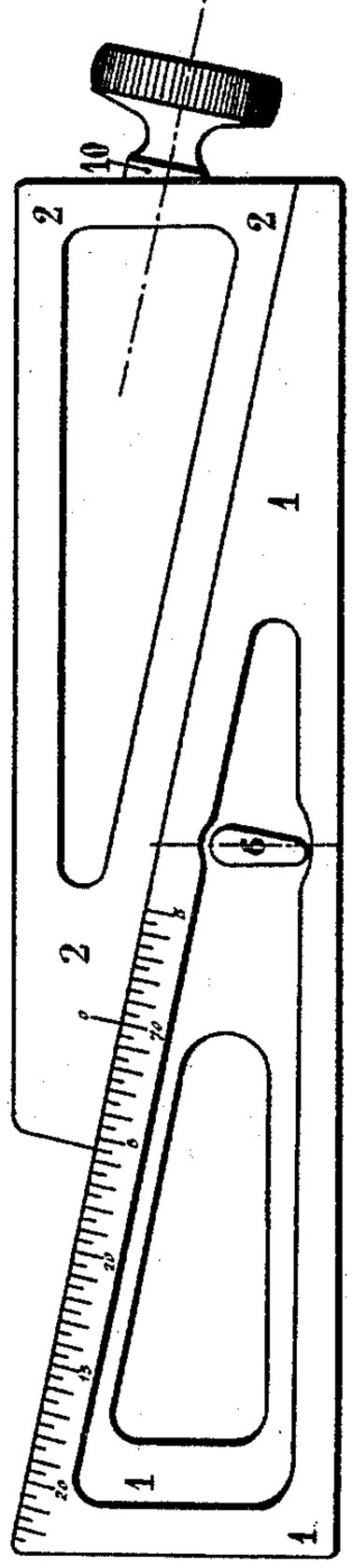


fig. 3.



Witnesses
Geo. W. Rea.
Robert Ernest.

Inventor
Alfred d'Yochet
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

ALFRED D'YOCHET, OF PARIS, FRANCE, ASSIGNOR TO THE SOCIÉTÉ ALSACIENNE DES CONSTRUCTIONS MÉCANIQUES, OF BELFORT.

EXPANDING BLOCK.

SPECIFICATION forming part of Letters Patent No. 497,854, dated May 23, 1893.

Application filed November 17, 1892. Serial No. 452,323. (No model.)

To all whom it may concern:

Be it known that I, ALFRED D'YOCHET, a citizen of France, and a resident of Paris, in the Department of the Seine, France, have invented a new and useful Improvement in Expanding Blocks, of which the following is a specification.

My invention relates to an improvement in that class of supporting blocks generally used in engineering shops for securing the work on the tables or plates of machine-tools. Solid wrought or cast iron liners have been heretofore employed for supporting the work, the height to be filled being completed with small iron or copper-plate wedges. This supporting process is very unsatisfactory while the strong pressure of the clamping dogs which secure the work to the table, causes these small wedges, (on which the clamping dog bears merely by its edge,) to be collapsed, so that the finished and unclamped work has a curved or twisted face, instead of a straight or true one. This inconvenience will be absolutely avoided by employing, for the same purposes the expanding block, which is the object of my invention, as it will be hereinafter more substantially set forth.

In order that my said invention may be readily understood, I will now proceed more particularly to describe the most convenient means, whereby the same is to be carried out into practical effect, reference being had to the accompanying drawings, in which—

Figure 1 is an axial longitudinal section of an expanding block designed according to my invention. Fig. 2 is a transverse section of the same, upon line A B of Fig. 1, and Fig. 3 an external view of the rear side of the block, showing the measuring or recording graduation.

My expanding block comprises two superposed metallic hollow wedges or inclines, 1, 2, accurately fitted for sliding freely on each other. The lower wedge 1 is provided with a longitudinally extending rib 3, the transverse section of which is dove-tailed or T-shaped and which acts as a guide-way for the upper or sliding wedge 2, by its engagement with a correspondingly-shaped slot in the latter. The said rib is bored out with a rectangular opening 4 in which works loosely a counterbalanced ratchet or catch 5 arranged for swinging loosely on or together with a removable spindle 6. The nose of the ratchet 5 projects above the upper face of the rib 3, so, as to engage with a rack f^7, the lower end 8 of which is bent upwardly and serves as a nut for the adjusting screw g^9. This screw passes through and rotates freely in the end of the upper wedge, but is prevented from any longitudinal movement by means of a shoulder 10 and collar 11 locked on the screw-spindle.

The working of this device is as follows: Supposing that a long and flexible work, such as a coupling bar for locomotive-wheels, is to be secured on the table of a grinding or milling machine. This coupling bar rests upon its two heads, but the middle part thereof must be supported in several points; otherwise it would sink under the pressure of the working tool. In order to avoid this inconvenience, the hereinbefore described expanding-block is set under the middle part of the bar. The upper wedge is pushed upward and thus caused to slide upon the lower wedge until it has been brought into contact with the under side of the work, the nose of the ratchet, during this movement, jumping over the teeth of the rack. Then by rotating the screw g^9 in the suitable direction, the rack is drawn downward, until the tooth thereof, which was the closest to the nose of the ratchet, has been brought to rest upon it, whereby the upper wedge is prevented from recoiling downward, the expanded block acting then absolutely like a solid block of the same height. The graduation on the lower wedge and index on the upper one enable the height of the block or relative position of the two wedges to be measured and recorded with the utmost accuracy.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An expanding block consisting of two superposed hollow wedges, connected together by means of a rib formed in one wedge with a dovetailed or T-shaped transverse section and engaging a correspondingly shaped slot in the other wedge, a counter balanced and

freely rotating ratchet located in the lower wedge, a rack carried by and movable independent of the upper wedge, engaging the nose of said ratchet and an adjusting screw, prevented from any longitudinal movement by a shoulder and collar locked thereon, for working and controlling said rack, substantially as and for the purpose set forth.

2. An expanding block, consisting of two superposed wedges, a ratchet or pawl carried by one wedge, a rack carried by and slidable independent of the other wedge, and means for moving the rack independent of any movement of the wedge which carries the same, substantially as described.

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

ALFRED D'YOCHET.

Witnesses:
W. JOUE,
G. DELONG.