

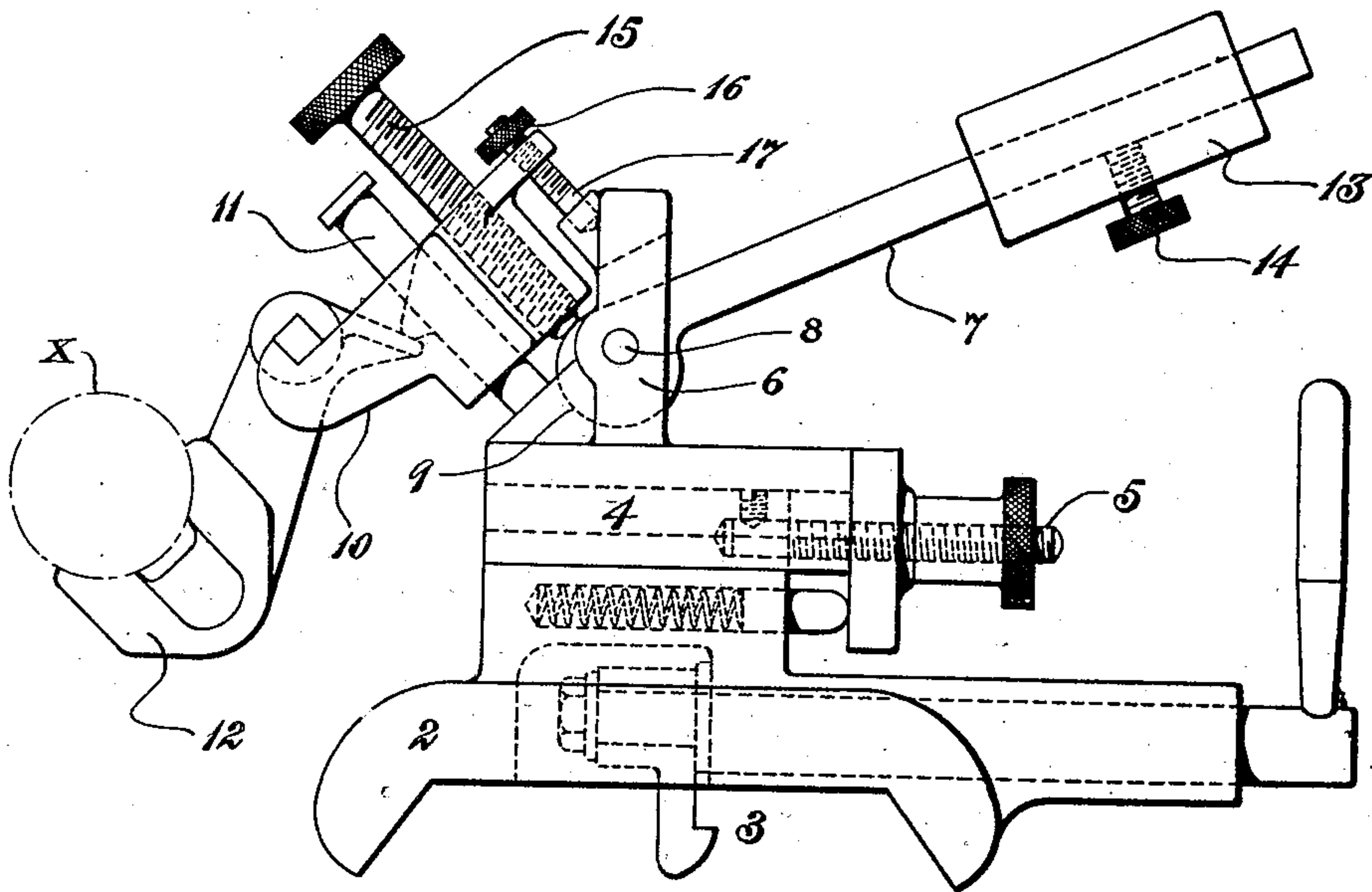
B. M. W. HANSON.

STEADY REST.

APPLICATION FILED JUNE 27, 1908.

952,193.

Patented Mar. 15, 1910.



Witnesses:

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UNITED STATES PATENT OFFICE.

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STEADY-REST.

952,193.

Specification of Letters Patent. Patented Mar. 15, 1910.

Original application filed March 23, 1908, Serial No. 422,805. Divided and this application filed June 27, 1908. Serial No. 440,754.

To all whom it may concern:

Be it known that I, BENGT M. W. HANSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Steady-Rests, of which the following is a specification.

This invention relates to steady-rests.

The present application is a division of my co-pending application for patent for steady-rests filed March 23, 1908 and Serial No. 422,805. It therefore follows that the present steady-rest possesses all the advantages and is capable of all the uses set forth in the parent application.

In the drawings I have shown in side elevation a steady-rest and its adjuncts comprising my invention, and referring to said drawing the numeral 2 denotes a slide which may be mounted for movement longitudinally of the bed or equivalent part of a metal-reducing or other machine with which said steady-rest may be employed. There may be coöperative with said slide 2 means for holding the same in a desired adjusted position and for this purpose clamping-means such as that denoted in a general way by 3 may be provided. The slide 2 in turn supports a second slide as 4 the latter in practice moving transversely of the lower slide 3 and it may be operated by a nut on a screw as 5. I have set forth in a brief manner two slides which are found in certain known metal-reducing or grinding machines. It is not essential that I employ my steady-rest and its associated parts with said slides for I may use them, if desired, in other ways.

I have illustrated as rising from the upper slide 4 a standard or post 6 which constitutes a convenient supporting device for a lever as 7 shown as pivoted by a pin as 8 to said standard or post. Said lever 7 is represented as equipped with a cam-portion as 9 constituting really the head of said lever and the purpose of which will be hereinafter set forth. It might be stated at this time, however, that the active face of the cam 9 is of exterior thereof and that such face is of progressively-increasing radius so that it can exert a powerful effect upon a steady-rest carrier as 10.

The steady-rest carrier 10 in the form

shown consists of a block which is preferably bodily movable along a straight path the latter being diagonal or at an angle to the work. (Illustrated by the dotted circle X.) As a means for guiding the steady-rest carrier 10, a pin or stud as 11 may be utilized, the said pin or stud being rigidly connected in some suitable way to the slide 4 and extending at an angle therefrom corresponding to that at which it is intended the carrier 10 should move during its advance. The pin or stud 11 preferably extends through a perforation in the carrier or block 10.

The steady-rest shown is designated by 12 and it is preferably removably mounted upon the carrier therefor whereby it may be taken from place and one of a different character substituted therefor. The connection between the steady-rest and its carrier, however, is preferably a rigid one.

The cam-lever is preferably automatically-operable and for this purpose it is shown as provided on its long outer arm with an adjustable weight as 13 and which may be held in its different adjusted positions by a screw as 14 tapped therethrough and adapted to engage said long outer arm, the weight being adapted to exert a constant downward swing to or pull upon said arm the force thus developed being applied to the cam whereby the latter can advance the steady-rest carrier 10 and in addition to this cam unyieldingly prevent retractive movement of said carrier by virtue of which said steady-rest will be caused to not only follow up the work as the grinding or other operation progresses but will engage the work at all times in a solid, substantial manner and eliminate all possibility of lateral movement of the work.

The cam 9 preferably directly operates the carrier 10; by this I do not mean that the cam necessarily has to directly engage the carrier but that its force is applied directly to the carrier or to some relatively rigid part thereof as the screw 15. This screw which constitutes a convenient adjustable stop is tapped through the carrier or block 10 and its inner end or tip is engaged by the active face of the cam 9. It is clear that by the operation of the screw 15 the amount of advancing movement of the carrier 10 can be regulated. The advancing movement of

said carrier can be arrested at a predetermined point by a stop as 16 shown as a nut threaded onto a screw as 17 suitably connected with the standard or post 6, such nut 5 constituting an adjustable stop.

At the commencement of operation the long arm of the cam-lever 7 will be up and the low part of the cam 9 will be against the inner end of the screw 15 so that as said 10 long arm moves downward the active face of the cam 9 will be caused to ride over the said screw 15 to advance the carrier 10. The 15 difference between the point at which the power is applied by the cam 9 to the carrier 10 and the axis or center of motion of said lever 7 is so much greater than the distance 20 between said axis and the place at which the operating force is applied to the lever 7 that this alone would prevent unyieldingly backward movement of said carrier.

It will be apparent that the steady-rest 12 25 is rigidly but removably supported by its carrier 10. Said steady-rest so engages the work as to permit the operation of a tool along said work and also opposite said steady-rest.

What I claim is:

1. The combination of a steady-rest carrier having an adjustable stop, and an automatically-operative cam lever, the cam of 30 which is adapted to engage said stop to advance said carrier and unyieldingly prevent its retractive movement.

2. The combination of a bodily-movable steady-rest carrier, a screw tapped through 35 the same, a cam for engaging said screw, to unyieldingly advance said steady-rest carrier, and a second screw for limiting the movement of said carrier.

3. The combination of a bodily-movable 40 steady-rest carrier having an opening extending entirely through the same from top to bottom thereof, a relatively-fixed guide pin extending entirely through said opening 45 the pin and opening being at an angle to the vertical, and a cam for applying its effect directly to said carrier to unyieldingly advance the same.

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

BENGT M. W. HANSON.

Witnesses:

W. M. STORRS,

H. W. KILBOURNE.