B. M. W. HANSON.

STOP FOR CARRIAGES OF METAL WORKING MACHINES.

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938,483. Patented Nov. 2, 1909.

Fig. 1.

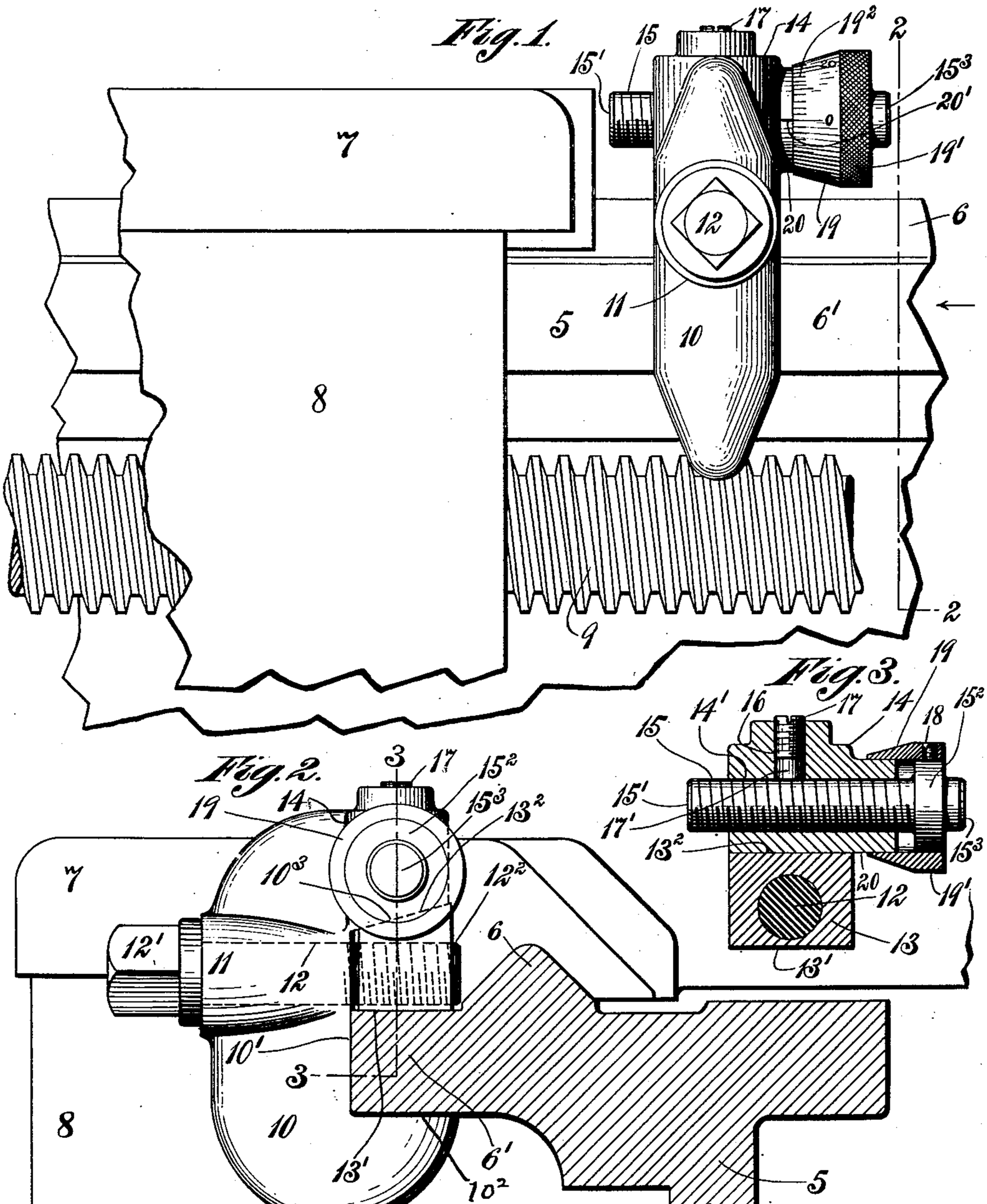

Fig. 2.

Fig. 3.

Witnesses:

F. E. Anderson.

F. E. Blodgett.

Inventor:

B. M. W. Hanson,

By his Attorney,

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UNITED STATES PATENT OFFICE.

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STOP FOR CARRIAGES OF METAL-WORKING MACHINES.

938,483. Specification of Letters Patent. **Patented Nov. 2, 1909.**

Application filed November 23, 1905. Serial No. 288,650.

To all whom it may concern:

Be it known that I, BENGT M. W. HANSON, a citizen of Sweden, (who have declared my intention of becoming 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 Stops for Carriages of Metal-Working Machines, of which the following is a specification.

This invention relates to stops for the carriages of lathes, milling-machines and other metal-working apparatus, and it has for its object the provision of improvements in such devices, whereby they are rendered more reliable in operation, and may be readily applied to, adjusted on, and withdrawn from the ways or shears of the bed.

Further objects of the invention are the provision of a stop of peculiar form, of improved means for clamping said stop in place, and of means for effecting a fine or micrometric adjustment of the stop-proper, as will be hereinafter explained.

In the accompanying drawings, Figure 1 is a side elevation of part of the machine-bed and carriage, showing the improved stop in place on said bed. Fig. 2 is a transverse section on line 2—2 of Fig. 1; and Fig. 3 is a partial longitudinal section on line 3—3 of Fig. 2.

Like numerals designate similar parts in the several views.

Referring to the drawings the numeral 5 designates a bed of a machine, provided with a way 6 upon which the carriage 7 travels, said carriage having an apron 8, and being actuated, in the exemplification given, by a lead-screw 9, although it may be operated by any desired means, so far as the present invention is concerned.

Designated by the numeral 10 is the improved stop. This stop consists of a body of oblong and substantially yoke form, said body being provided with a chamber 10′ in its side to receive a flange 6′ of the way 6. At its lower wall the chamber is provided with a flat surface 10^2 on one branch of said yoke-like body to fit against the under side of said flange 6′, while the upper wall of said chamber is inclined at 10^3 on the other branch of said yoke-like body for a purpose hereinafter stated.

In a tubular boss 11 of the stop-body is fitted a bolt 12 having an angular head 12′ for the reception of a wrench, and a threaded end 12^2. A rectangular nut or block 13 having a flat end surface 13′ and an inclined upper surface 13^2 is fitted in the chamber of the stop-body and serves when the bolt is actuated to clamp said stop-body firmly to the flange 6′ of the bed. It will be evident that the body of the stop has a relatively fixed jaw and a movable jaw the latter consisting in the present case of a nut or block such as 13 provided with a beveled surface to engage a corresponding surface on the relatively fixed body to cause the active or under surface 13′ of said jaw or nut to approach the coöperating surface when said jaw 13 is moved in the proper direction which by the construction shown is inwardly with respect to said body. In its upper end the stop-body has a cylindrical extension 14 internally threaded at 14′ to receive a stop member such as the screw 15, the end 15′ of said screw constituting the stop-proper. At right-angles to the threaded bore 14′ the extension 14 is provided with a passage 16 in which is inserted a screw 17, and a clamp-shoe 17′, by means of which the stop-proper may be clamped firmly in position after it is adjusted, if desired. This passage may serve either as a lubricating-passage, or as the internally-threaded seat for the screw 17, which after the stop-proper has been adjusted may be run down to force the shoe heretofore described to clamp said stop-proper firmly in position.

At its end opposite the extremity 15′ the screw is provided with a collar 15^2, and upon this collar is secured by means of a screw 18 or otherwise a sleeve 19 having a knurled-surface 19′ and a graduated-surface 19^2. Laterally projecting from the cylindrical portion 14 of the stop is a perforated boss or shoulder 20, provided with an indicating-mark 20′. By grasping the knurled-surface 19′ of the sleeve 19 the screw 15 may be turned in its seat to afford the fine or micrometric adjustment, such adjustment being indicated by the scale 19^2 and the indicating-mark or pointer 20′.

In the operation of the invention the lead-screw 9 is driven in any of the usual ways to actuate the carriage, and the limit of either stroke of said carriage is determined by the position either of the stop 10 along

the way of the bed, or of the screw or stop-proper 15 adjusted in the manner described. Beyond the collar 15^2 the screw 15 is provided with an extension 15^3, so that either end of said screw may be employed as a stop to limit the movement of the carriage. In applying the stop to the way of the bed it is slipped over the flange thereof, as illustrated in Fig. 2, and the screw 12 is then turned in a direction to force the inclined wall 13^2 of the nut or block 13 against the inclined surface 10^2 of the wall of the chamber in which said block is fitted.

As shown in the drawings, the stop is employed to limit the return movement of the carriage, but when it is desired to use said stop for arresting the forward movement of said carriage, it is removed from the way and again clamped thereto at a point in advance of the carriage when the end 15^3 of said stop will serve the purpose described. In this way a single stop may be employed for arresting the movement of the carriage in either direction, and said stop may be accurately adjusted in the manner described to arrest the carriage at any desired point of its stroke. A strong and rigid construction is thus provided for the purpose described, and the stop-proper carried by said construction is capable of micrometric adjustment as above stated.

Changes may be made in the form and various details of the invention without departure therefrom, the invention not being limited to the precise construction illustrated and described.

Having thus described my invention, what I claim is—

1. An article of manufacture consisting of a stop for carriages of metal-working machines, comprising a yoke like body one branch of which constitutes a fixed jaw and the other branch of which has a beveled surface, a movable jaw located between the said branches and having a beveled surface coöperative with said other beveled surface, means for operating said movable jaw to cause the same to move toward or from said fixed jaw, and a stop member supported by said body.

2. An article of manufacture consisting of a stop for carriages of metal working machines, comprising a yoke-like body one branch of which constitutes a fixed jaw and the other of which has a beveled surface, a movable jaw located between said branches and having a beveled surface coöperative with said other beveled surface, a bolt for operating the movable jaw to thereby through said beveled surfaces cause said movable jaw to move toward and from the fixed jaw, and a screw extending transversely to said bolt, carried by the body and constituting a stop member.

In testimony whereof I affix my signature in presence of two witnesses, this 21st. day of November 1905.

B. M. W. HANSON.

Witnesses:
F. E. Anderson,
Wm. H. Blodgett.