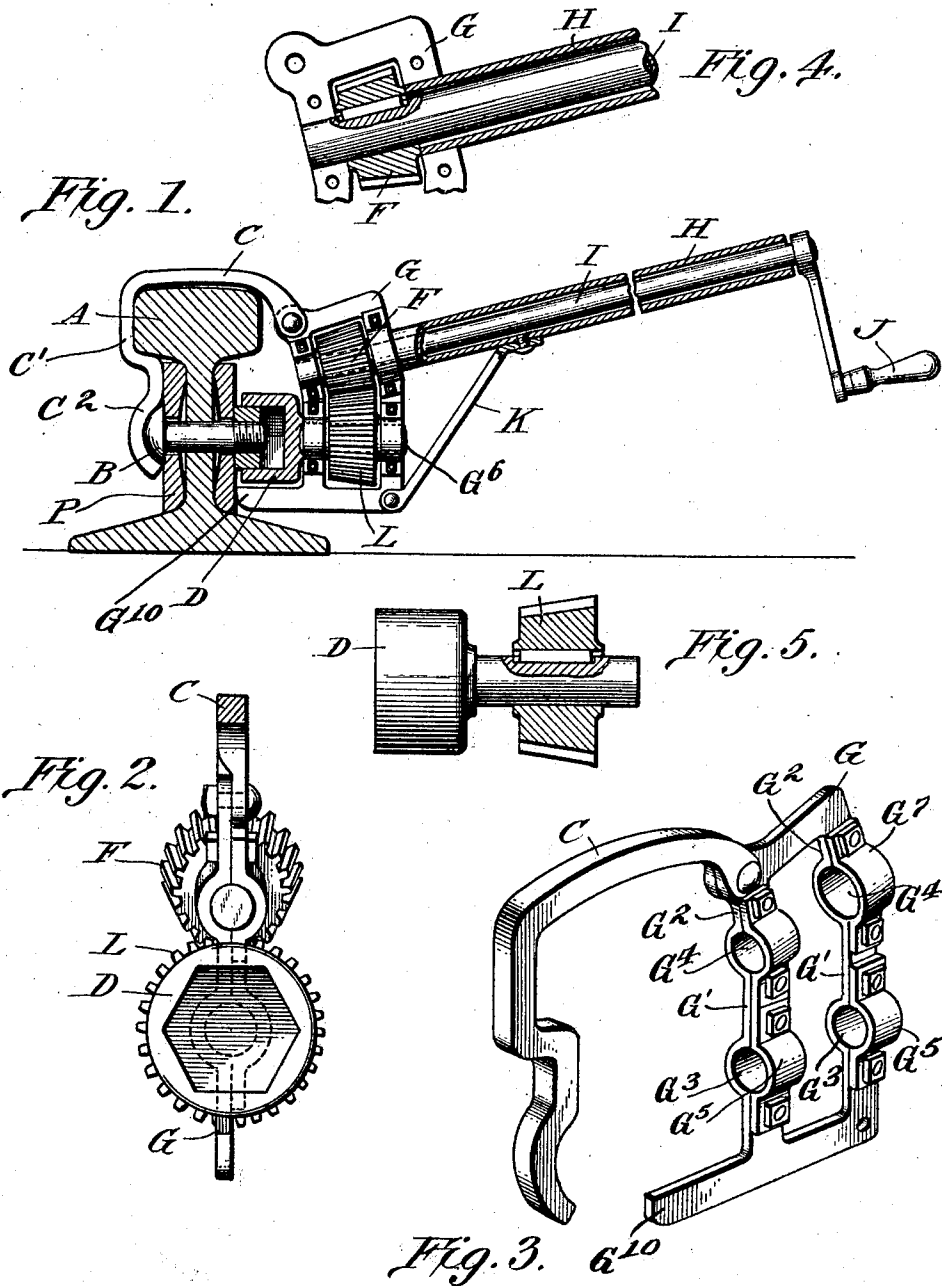


O. & C. H. EVANS.
BOLTING MACHINE.
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960,864.

Patented June 7, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

OLE EVANS AND CHARLES H. EVANS, OF STEAMBOAT SPRINGS, COLORADO.

BOLTING-MACHINE.

960,864.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, OLE EVANS and CHARLES H. EVANS, citizens of the United States of America, residing at Steamboat Springs, in the county of Routt and State of Colorado, have invented new and useful Improvements in Bolting-Machines, of which the following is a specification.

This invention relates to bolting machines and more particularly to one adapted for use in rail-road construction, and has for an object to provide a machine of this character having means adapted to be effectively and conveniently clamped to the rails and further provided with means for holding in an operative position the bolt upon which is adapted to be connected in a novel manner the retaining nut.

Other objects and advantages will be apparent as the nature of the invention is better disclosed and it will of course be understood that changes within the specific scope of the claim can be made without departing from the spirit of the invention.

In the drawings forming a portion of this specification and in which like numerals of reference indicate like parts in the several views: Figure 1 is a transverse section through a rail, showing the manner of connecting the clamping bolt. Fig. 2 is a front elevation with parts broken away to more clearly illustrate the invention. Fig. 3 is a detail perspective view of the frame and rail clamping member. Fig. 4 is a detail section through a portion of the frame. Fig. 5 is a detail section of the socket member and driven shaft therefor.

Referring now more particularly to the drawings, there is shown a bolting machine comprising a frame G, embodying parallel spaced arms G', having angularly extending portions G². The arms G' are provided with alining socket portions G³ and with similar portions G⁴ disposed immediately above the portions G³, as clearly illustrated in Fig. 3 of the drawing. The socket portions G³ are provided with removable box forming elements G⁵, and between these elements and between the portions G³ is revolvably mounted a driven shaft G⁶ having splined thereon a bevel gear L. The said shaft has also secured thereto a socket member D, for a purpose to be hereinafter more fully described. The portions G² have also removably secured thereto box forming elements G⁷, and these elements are arranged

to retain in the socket portions G⁴ a driving shaft I, which extends upwardly through a tubular bearing member H, carried by the frame G and secured thereto in any suitable manner. As illustrated in Fig. 1, the said bearing member H is preferably braced to the frame G by means of an arm K connected at one end to the member H and at its other end to the frame G. The shaft carries at one end a fixed crank handle J adapted to be manually operated to revolve the shaft, as will be readily understood. The shaft I has secured thereto a bevel gear F, which meshes with the bevel gear L; previously described.

The frame G has pivotally secured thereto a rail clamping member C, provided with a downwardly extending portion C', which carries a bolt-head engaging socket portion C². The said frame is formed at its lower end with a leg member G¹⁰, whose extremity bears against one of the fish plates P when the machine is operatively associated with the rail ends. The leg member just described is so positioned with respect to the socket portion C² that it acts to hold the fish plates operatively positioned at the sides of the rail ends, whereby a rapid adjustment of the retaining bolts can be made. It is obvious that the member C will yield to an extent when the apparatus is placed in its operative position with respect to the rail A, and the socket portion C² is so disposed that it will receive the head of the clamping bolt, which latter is adapted, as in the usual manner, to retain the well known fish plates of the meeting ends of two rails at the joint thereof.

In operation, when it is desired to operate the machine or apparatus herein described, the frame G is arranged at one side of the rail and the clamping member C is swung so that a portion lies transversely of the rail and a portion downwardly at one side thereof, so as to bring the socket portion C² directly in line with the bolt-head and hold the bolt in its operative position. The portion C² of the member C, when the apparatus is in its operative position, lies approximately in line with the socket member D, and assuming the nut to be engaged with the clamping bolt it is obvious that by actuating the crank J of the shaft I the latter may be revolved to impart to the driven shaft rotary motion, and effectively rotate in the desired manner the socket member D.

An apparatus as herein described is extremely simple in construction, may be manufactured at a relatively low cost, and effectively affords means for connecting in a rapid manner the retaining nuts for the clamping bolts herein referred to. While the apparatus is described as being particularly useful in connection with rails of the character set forth, it will be appreciated that the machine can be used for various other purposes when it is desired to manipulate the nuts of clamping bolts or the like.

We claim:—

A machine of the class described comprising a rail clamping member, a frame pivotally supported upon the said clamping member and provided with a fish plate engaging

leg, said rail clamping member having a bolt head receiving socket formed therein, a bearing member extending from the said pivoted frame, a shaft revolubly mounted in said bearing member, a gear mounted on the shaft, a gear meshing with the said first named gear, a shaft supporting the second named gear and revolubly mounted in the said pivoted frame, and a nut engaging socket member mounted on the last named shaft and disposed immediately above the said fish plate engaging leg.

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