

(No Model.)

2 Sheets—Sheet 1.

W. VOLLMER.  
BOLT ROLLING MACHINE.

No. 503,393.

Patented Aug. 15, 1893.

FIG. 1.

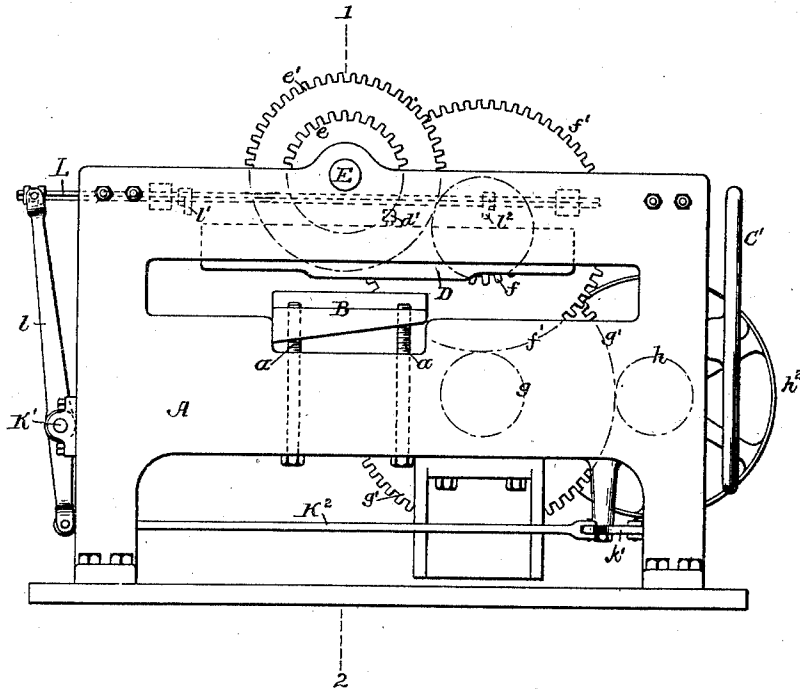
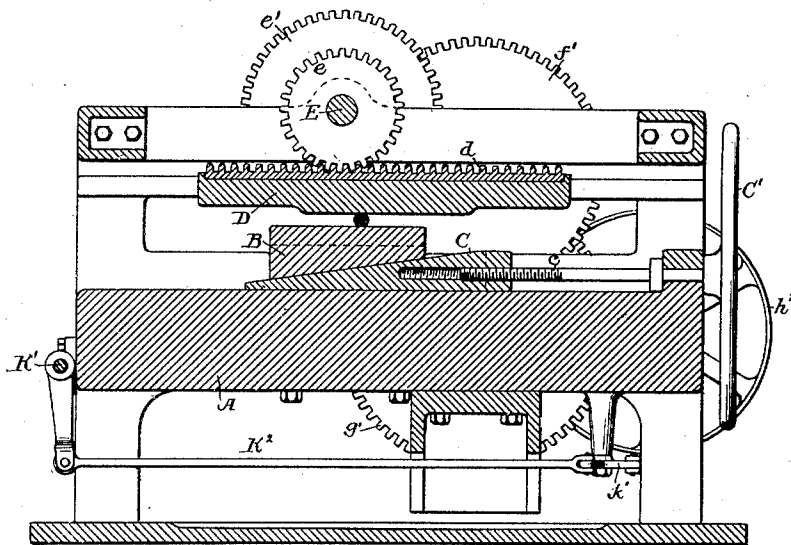


FIG. 2.



Witnesses:

V.D. Goodwin  
R. Schleicher

Inventor:

William Vollmer  
by his Attorneys  
Hartman & Horn

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FIG. 3.

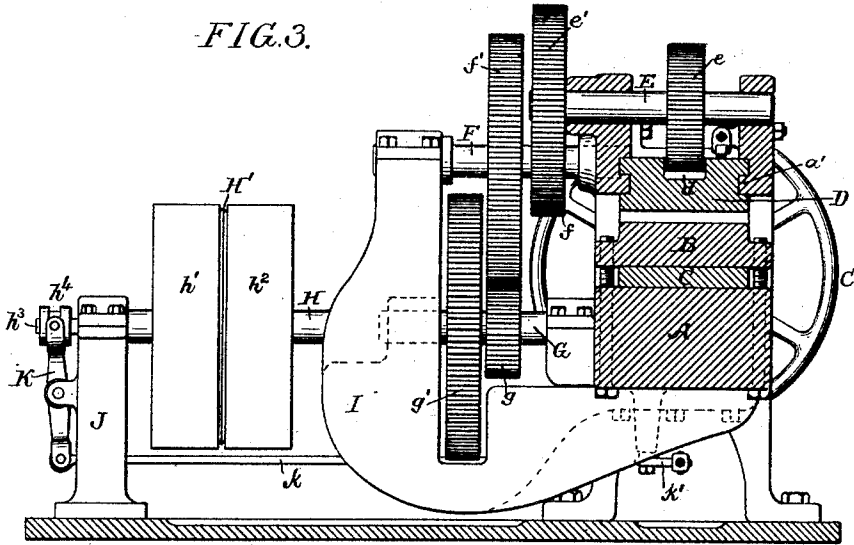


FIG. 4.

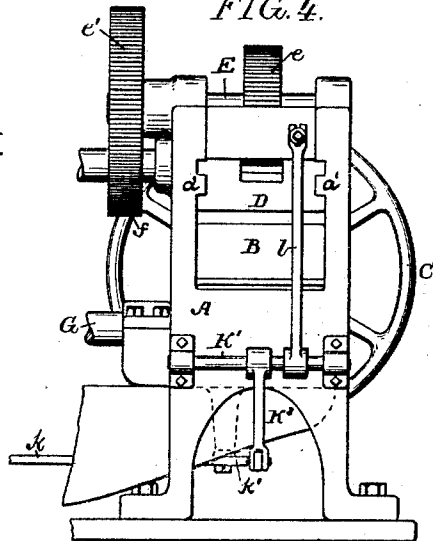


FIG. 5.

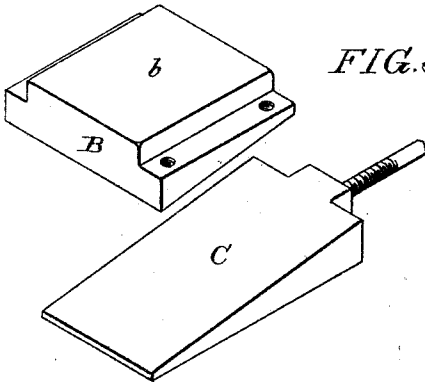


FIG. 6.



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Inventor:  
William Vollmer  
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# UNITED STATES PATENT OFFICE.

WILLIAM VOLLMER, OF PHILADELPHIA, PENNSYLVANIA.

## BOLT-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,393, dated August 15, 1893.

Application filed April 28, 1893. Serial No. 472,171. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM VOLLMER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Bolt-Rolling Machines, of which the following is a specification.

The object of my invention is to construct a machine for straightening bolts after they are headed and prior to finishing.

In the accompanying drawings:—Figure 1, is a side view of my improved bolt straightening machine. Fig. 2, is a longitudinal sectional view. Fig. 3, is a transverse section on the line 1—2, Fig. 1. Fig. 4, is an end view. Fig. 5, is a detached perspective view showing the bed and adjusting wedge detached; and Fig. 6, is a view of a bolt prior to being straightened.

During the process of heading a bolt the body of a bolt is bent out of shape. The view, Fig. 6, illustrates a bent bolt which is to be straightened before finishing and it is to straighten bolts of this character that my invention relates.

A is the frame of the machine on which is mounted the bed B, shown clearly in Fig. 5. This bed has a flat surface *b* upon which the bolt is rolled, and the under side of the bed is inclined and rests directly upon the wedge block C which in turn rests upon the frame A. In the wedge block is a screw threaded orifice and adapted to the screw threads is an adjusting screw *c* provided with a hand wheel C'.

Passing through openings on each side of the frame A are bolts *a a*, which, in the present instance, are adapted to threaded openings in the side flanges of the bed B. On turning these bolts the bed is released and can be raised or lowered by the wedge block C. By reversing the movement of the hand wheel C' the bed can be lowered and secured by the bolts *a*. Thus the bed is kept at all times rigid in respect to the frame and at the proper distance from the movable platen D; this platen D is adapted to slide on tongues *a'* on the frame A, the tongues entering grooves in the sides of the platen so that the platen will always remain in the fixed position vertically but can be moved over the bed by mechanism which I will now proceed to describe.

In the upper portion of the platen D is cut

or secured a rack *d* to which is adapted a pinion *e* on the shaft E mounted in bearings in the frame A. This shaft has a gear wheel *e'* which meshes with the pinion *f* on the shaft F and on this shaft is a gear wheel *f'* meshing with a pinion *g* on the shaft G. A gear wheel *g'* on this shaft meshes with a pinion *h* on the driving shaft H. The several shafts are mounted in suitable bearings, the shafts F and G being mounted in a bracket I secured to the inside of the frame A while the shaft H is mounted in a bearing on the standard J.

It will be understood that in some instances the reducing gear may be modified, the train depending altogether on the class of work to which the machine is applied; for very heavy work I prefer to use the construction shown and for very light work one set of reducing gears may be omitted.

On the shaft H are two loose belt pulleys *h'*, *h''* adapted to be clutched to the shaft by a friction clutch H' of the ordinary construction. This clutch is operated by a rod *h''* passing into the shaft H and on this rod is a collar *h''* with which engages one arm of a lever K, the other arm of said lever being connected to a rod *k* extending to a bell crank lever *k'* pivoted on the stud on the frame A and this bell crank lever is connected by a rod *k''* to an arm *k'''* mounted on the rock shaft K' and also mounted on this rock shaft is an arm *l* engaging with a reversing rod L mounted in bearings on the frame A and having two tappets *l'*, *l''* against which strikes a pin *d'* on the movable platen D. Thus the platen is automatically reversed when it reaches its extreme positions as will be readily understood.

The bolt is placed in the machine when the platen is at one of its extreme positions and the platen engages the bolt and rolls it over the bed discharging it at the opposite end of the bed. The bolt thus rolled will be straightened and will be so shaped as to be readily finished.

I have found that very crooked bolts can be accurately straightened by this machine and that bolts that heretofore would have to be straightened by hand with considerable trouble can be accurately straightened by the use of this machine.

The design of the frame may be modified without departing from my invention and the shifting mechanism can be altered without departing from my invention.

5 I claim as my invention—

1. The combination of the vertically adjustable bed, a movable platen mounted above said bed and adapted to a fixed bearing, a rack on said platen, a shaft, a pinion on said shaft engaging with said rack and gearing by which the said shaft is driven, substantially as described.

2. The combination of the frame A, the bed having a plain upper surface and an inclined under surface, a wedge mounted between the bed and the frame of the machine, a hand wheel and a screw shaft for moving the wedge under the bed, side bolts for retaining the bed in the adjusted position, a movable platen adapted to fixed bearings mounted above the bed, a rack on said platen, a pinion gearing with said rack and mechanism for driving said pinion, substantially as described.

3. The combination of the frame A, the vertically movable bed B, a wedge on which the bed rests and by which it is adjusted, securing bolts for locking the bed in its adjusted position, a movable platen adapted to traverse the bolt over the bed, a rack on said platen,

a pinion meshing with the rack and reducing gear by which the platen is driven, a driving shaft, loose belt pulleys on said shaft, a clutch for throwing one or the other of said pulleys in gear with the shaft, with automatic shifting mechanism controlling the clutch and actuated by the platen, substantially as described.

4. The combination of the frame A, the vertically adjustable bed B, a wedge for adjusting said bed and bolts for locking the bed in the adjustable position, a movable platen mounted above the bed and between which and the bed the bolt is rolled, a rack on the upper portion of the platen, a shaft E, a pinion on said shaft engaging with the rack, the shafts F, G and H geared together and to the said shaft E, loose pulleys on the shaft H, a clutch on the shaft engaging one or the other of said loose pulleys and automatic shifting mechanism controlled by the platen for shifting the clutch, substantially as described.

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

WILLIAM VOLLMER.

Witnesses:

HENRY M. WORRALL,  
THEO. F. SCOTT.