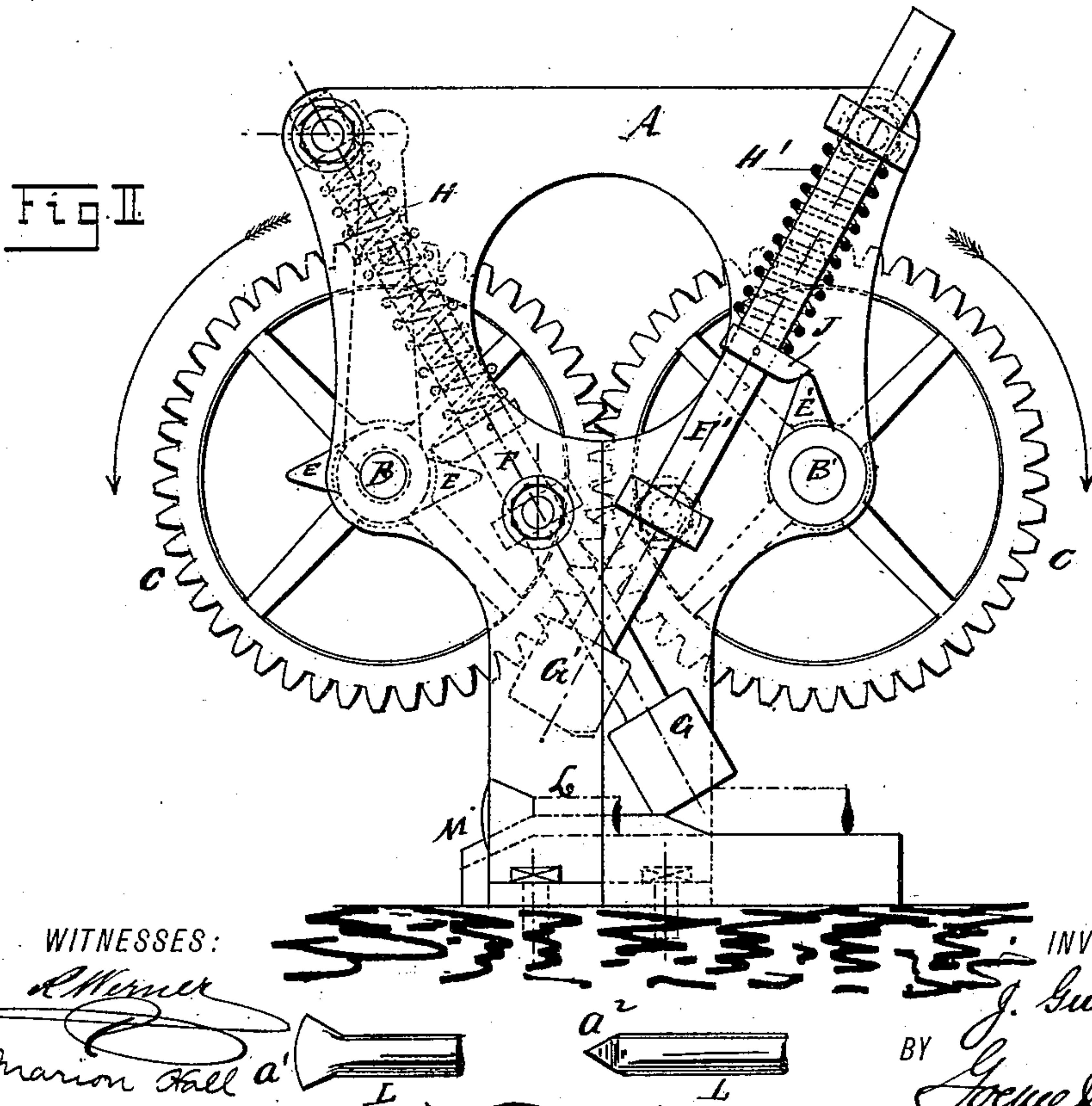
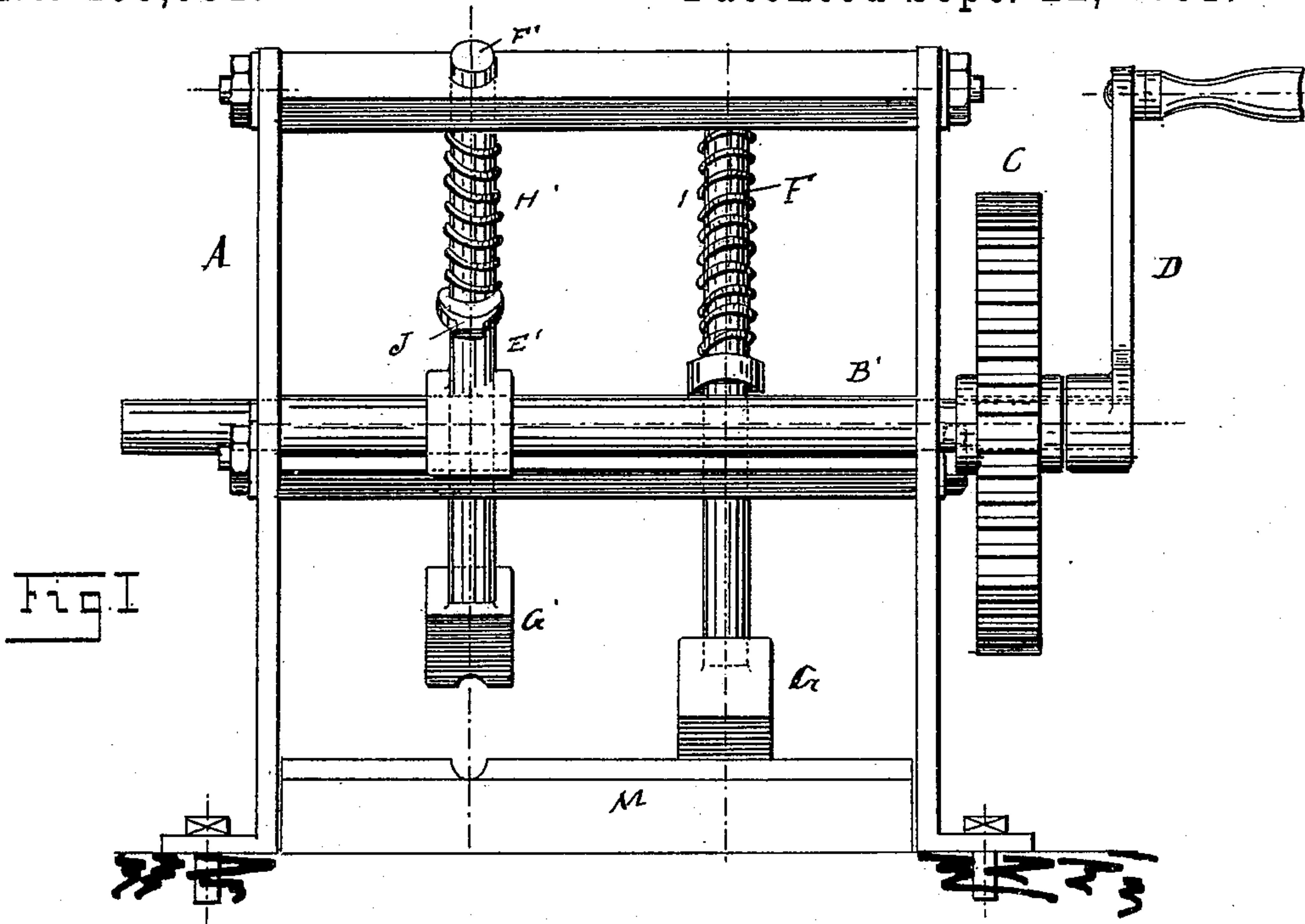


(No Model.)

J. GUTBERLET.  
MACHINE FOR SHARPENING DRILLS.

No. 459,931.

Patented Sept. 22, 1891.



WITNESSES:  
*R. Werner*  
*Marion Hall*

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ATTORNEYS

Fig. III.



# UNITED STATES PATENT OFFICE.

JOHANNES GUTBERLET, OF JERSEY CITY, NEW JERSEY.

## MACHINE FOR SHARPENING DRILLS.

SPECIFICATION forming part of Letters Patent No. 459,931, dated September 22, 1891.

Application filed March 24, 1891. Serial No. 386,221. (No model.) Patented in Germany February 27, 1884, No. 28,939.

*To all whom it may concern:*

Be it known that I, JOHANNES GUTBERLET, a citizen of the German Empire, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Machines for Forging and Sharpening the Cutters of Rock-Drills, (which was patented to me in Germany by Letters Patent No. 28,939, dated February 27, 1884,) of which the following is a specification.

This invention relates to an improved machine for forging and sharpening the cutters of rock-drills; and the object of my invention is to provide a machine of this kind by means of which the cutter-tools of rock-drills can be sharpened very rapidly.

The invention consists in the combination, with a suitable frame, of two reciprocating spring-hammers provided with tappets and two shafts provided with cams adapted to act on the tappets for the purpose of withdrawing the hammers to permit the springs to throw them forcibly against the tools resting on suitable anvils.

The invention also consists in the construction and combination of parts and details, which will be fully described hereinafter, and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a side view of my improved machine for forging and sharpening the cutters of rock-drills. Fig. 2 is an end elevation of the same, and Fig. 3 is a face and side view of one of the tools.

Similar letters of reference indicate corresponding parts.

In the frame A the two shafts B B' are mounted and are provided on their ends with the two cog-wheels C C', engaged with each other, one of the shafts being provided with a crank-handle D for turning it, or it may be provided with a belt-pulley for applying power. The shaft B carries two cams E E, and the shaft B' a single cam E'.

In suitable bearings or guides in the frame the two hammer-rods F F' are arranged at an inclination to each other and are provided at their lower ends with the hammer-heads G G', respectively. Springs H H', surrounding the hammer-rods and resting against the guides of the frame and the tappets J J' on the ham-

mer-rods, serve to press said hammer-rods downward. The tappets J J' are so arranged that the cams E E' can act on the same and draw the hammer-rods and hammer-heads upward until said tappets are released by the cams, when the expanding springs H H' throw the hammer-rods downward forcibly and the hammer-heads G G' strike the tool K, placed on the anvil M. The hammer-head G is used to flatten and widen the end of the tool L, as shown at a', Fig. 3, and the hammer-head G' serves to bevel and finish the ends of the said flattened and widened part a', as shown at a<sup>2</sup>, Fig. 3. As more strokes are required to flatten and widen the end of the tool, the shaft B is provided with two cams E in contradistinction to the shaft B', which has only one cam E', so that the hammer-head G makes twice as many strokes as the hammer-head G'.

The machine is operated by turning the cam-shafts in any suitable manner, and if the machine is speeded sufficiently from sixty to one hundred and twenty strokes can be made in a minute.

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

In a machine for forging and sharpening the cutters of rock-drills, the combination, with a frame, of two hammer-rods arranged and guided in said frame and inclined toward each other, a tappet on each hammer-rod, a spring surrounding each hammer-rod and adapted to press the same downward, a head on the lower end of each hammer-rod, an anvil below the hammer-heads, which anvil has two inclinations adapted to receive the ends of the tool while the same is being acted on by the hammer-heads, two cam-shafts having cams adapted to act on the tappets, a gear-wheel on each cam-shaft, which gear-wheels are engaged, and means applied on one of the cam-shafts for turning it, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHANNES GUTBERLET.

Witnesses:

PAUL GOEPEL,  
A. M. BAKER.