A. Judson,

Shaping Metals.

No. 107,502. Patented Sept. 20. 1870.

Fig. 4

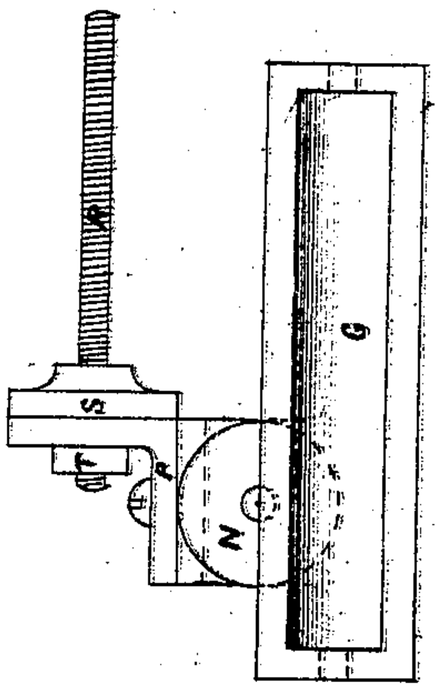

Fig. 3

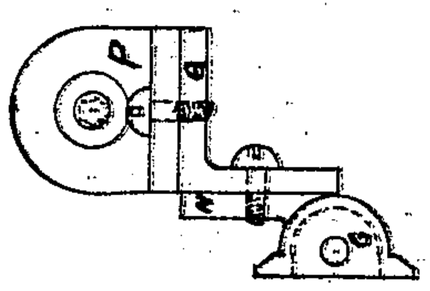

Fig. 2

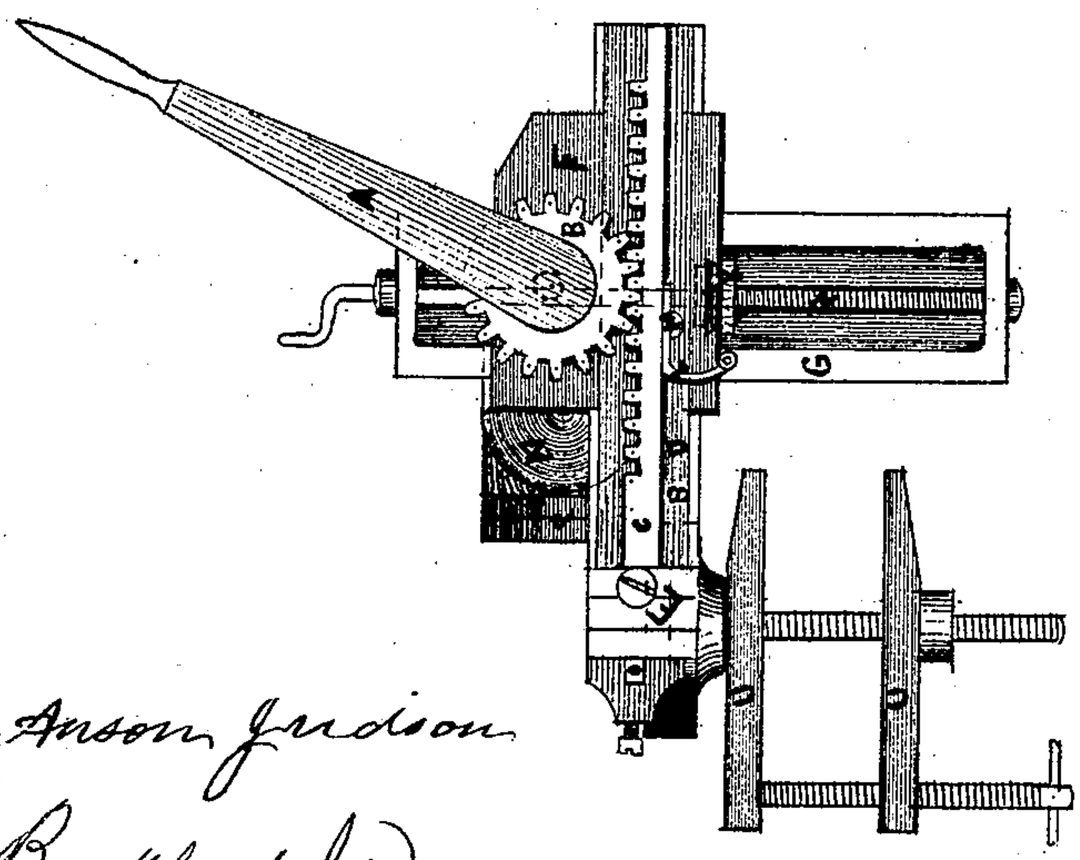

Fig. 1

Witnesses

Anson Judson

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UNITED STATES PATENT OFFICE.

ANSON JUDSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. **107,502**, dated September 20, 1870.

To all whom it may concern:

Be it known that I, ANSON JUDSON, of the city of Brooklyn, and county of Kings and State of New York, have invented a new and useful Improvement in Machines for Planing and Shaping Metal; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, with letters of reference marked thereon.

My invention consists of a machine which can readily be attached to the work-bench, and, in some cases, to the work to be operated upon, and any number of angles planed without detaching the machine from its original position; or it may be attached to the common vise, while the work is held in the jaws of the same, as in the way in chipping and filing. It is designed for use in places that cannot be reached by a file, or where the work or piece is too heavy to carry to the planers in common use, as in the case of architectural and engine work, cutting keyways in shafts or hubs of wheels, die-sinking, and a variety of work. It is so constructed that it can be easily attached to any form by the person using it by simply turning one screw, and, after it is set in the proper angle, it is worked by the lever, as hereinafter described.

Figure 1 is a general plan, showing the joints and also the sliding cutter-bar and feed arrangement. Fig. 2 is a side and end view of the ratchet-nut. Fig. 3 is an end elevation, showing the position and arrangements of the universal joint. Fig. 4 is a plan of the same.

A is a lever attached to a gear-wheel, B.

C is a rack, made fast to the cutter-bar D, which carries at its front end a head, E, made in the ordinary form, with a swinging joint and down feed.

F is a sliding carriage, which carries the cutter-bar D with the head E. The carriage F is gibbed down to the bed G, but is free to move in a longitudinal direction on the bed G.

H is a feed-screw, which carries the carriage F upon the bed G. The screw H has the ratchet-nut K, which is connected to the carriage by means of a groove turned in the outside of the ratchet-nut K, and into which a slide, I, is placed. The ratchet-nut K is operated by a spring-pawl projecting downward from the bracket L, which latter is adjustable, and may be attached to the cutter-bar D at any point by means of the screw M.

The bed G has on its lower side an ear, N, projecting horizontally from one side, and of sufficient strength to bear the thrust of the tool O when the machine is in use.

P is formed of two similar ears, attached so as to stand at right angles with each other.

Q is a similar piece, formed in all respects the same as P.

R is a screw, which has a collar, S, firmly attached to the screw R, at a distance from the end sufficient to receive one of the ears of the angular piece P and nut T, by which it is firmly fastened, when the machine is in use.

U U are two jaws or clamps, made in the ordinary form, and of strength sufficient to stand the strain, which would vary in proportion to the size of the machine.

In using the machine, it is first clamped to the work, or any convenient piece or place, at a distance within reach of the tool, regardless of the position, after it is thus clamped. It is then set in its proper angle by the universal joints, which are then securely fastened by the binding-screws passing through each pair of ears. The tool is then set the same as in the ordinary power-planer. The hand is then applied to the lever A, and causing it to work the necessary arc of a circle to give the stroke of the tool the amount required, the ratchet L is carried over the ratchet-nut K, which causes it to revolve on the screw H by means of the slide set in the groove, and made fast to the sliding carriage, carries the whole in a longitudinal direction, thus giving the proper feed to the tool when the machine is at work.

Having thus, I believe, fully described my invention and its operation, I now set forth my claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the ear N, bed G, carriage F, screw H, toothed cutter-bar D, and lever and pinion A B.

2. The combination, with the subject-matter of the foregoing claim, of the joint-pieces Q and P, and the screw R.

3. The combination, with the subject-matter of the first claim, of the clamping device U, or its equivalent.

4. The combination, with the reciprocating cutter-bar and feed-screw H, of the ratchet-nut K, adjustable bracket L, and the spring-pawl.

ANSON JUDSON.

Witnesses:

CHAS. H. BOOKHOUT,

E. BOOKHOUT, Jr.