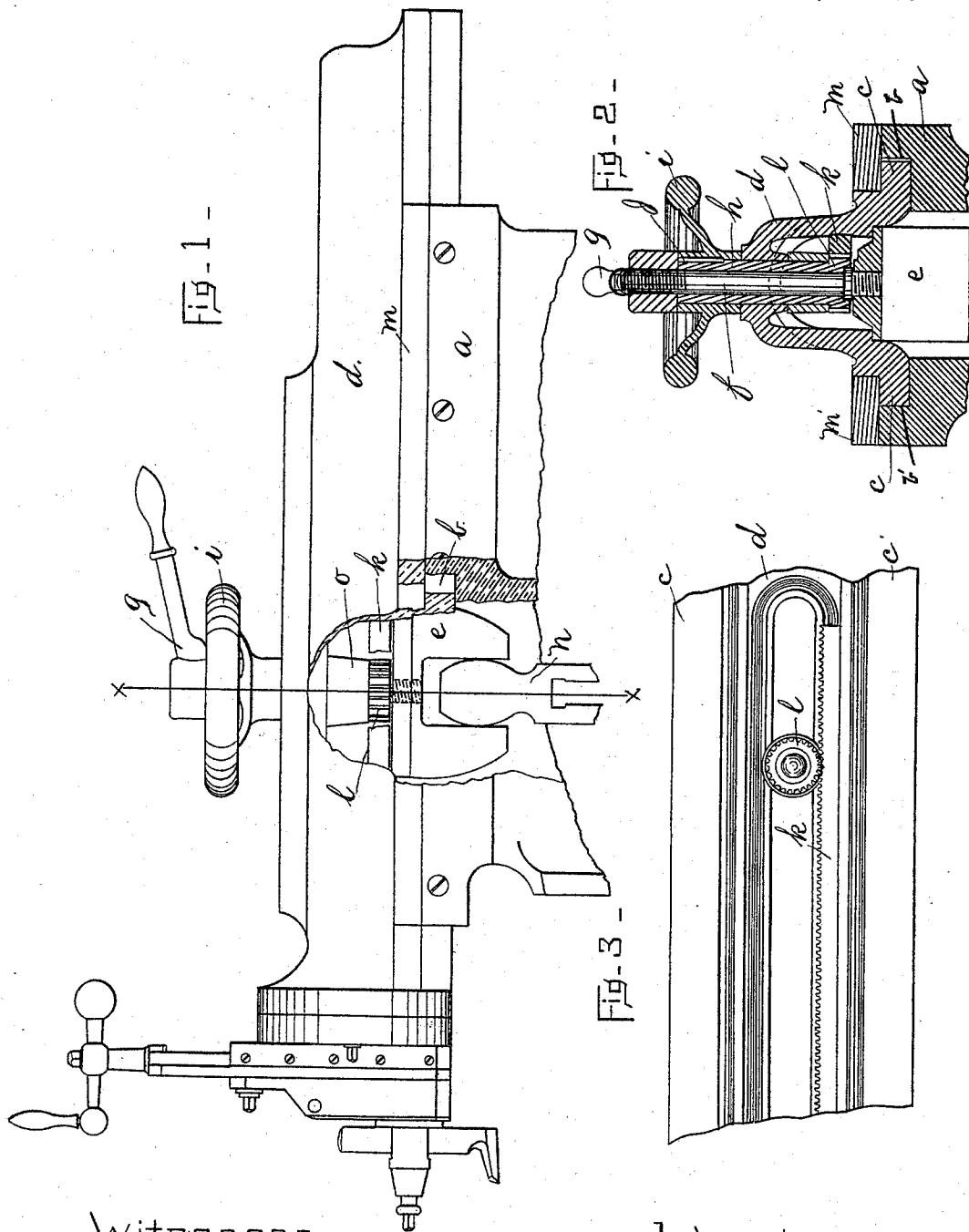


(No Model.)

M. FLATHER.
SHAPER OR METAL PLANER.

No. 535,895.

Patented Mar. 19, 1895.



Witnesses :

W. J. Elliott.
H. A. Taylor

Inventor :
Mark Flather
by his Attorney
R. P. Elliott

UNITED STATES PATENT OFFICE.

MARK FLATHER, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF
TO THE MARK FLATHER PLANER COMPANY, OF SAME PLACE.

SHAPER OR METAL-PLANER.

SPECIFICATION forming part of Letters Patent No. 535,895, dated March 19, 1895.

Application filed May 16, 1894. Serial No. 511,398. (No model.)

To all whom it may concern:

Be it known that I, MARK FLATHER, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Shapers or Metal-Planers, of which the following is a specification.

My invention relates to shaping machines, and to an improved method of adjusting the cutting tool which is attached to the ram of a shaping machine, by a device for adjusting said ram.

The object of my improvement is to provide means whereby the ram may be quickly and accurately adjusted from the front of the shaping machine, and while the same is in motion and the tool cutting. Heretofore it has been necessary to stop the operating parts of the shaping machine while adjusting the ram, and where a screw revolving in bearings attached to the ram and operating in a threaded hole in pitman block is used, it has been necessary to adjust the ram from the back of shaping machine, thereby causing the operator to stand in a position at the back of the machine where he could not see his work, which entails a considerable loss of time, all of which is eliminated by the improved device herein shown.

In the drawings which accompany and form a part of these specifications:—Figure 1, is a side elevation of a section of the bed of a shaping machine, the ram with tool head attached, with a portion of the bed and ram cut away, showing the pitman block and upper end of pitman. Fig. 2, is a cross section through line $x-x$, in Fig. 1. Fig. 3, represents a view of the bottom of ram with pitman block removed, showing the gear and rack used to adjust the ram.

Similar letters and symbols refer to similar parts throughout the several views.

a —, designates the bed or frame of shaping machine, in the top of which are the ways b —, b' —, adapted to receive the guides c —, c —, of ram d —, in which said ram d —, has a free longitudinal movement.

e —, is the pitman block the corners of which slide in longitudinal grooves in the under side of ram d —, and is frictionally held in the desired position by means of the bolt f —, one

end of which is secured in the pitman block e —, and its other threaded to receive the lever g —, which has a threaded hole in one of its ends, said bolt f —, is surrounded by the sleeve h —, which has gear teeth cut in its lower end, passes up through a longitudinal slot in the top of the ram d —, and its other end secured in the hub of the hand wheel i —, by means of the key j —. The hub of said hand wheel i —, acts as a collar between the upper edges of slot in ram d —, and the threaded portion of lever g —. It will be readily seen that by turning the lever g —, down upon the bolt f —, the pitman block e —, will be drawn tightly against the upper face of grooves in under side of ram d —, and thereby frictionally held in position desired.

k —, represents a rack which is secured to the inside of the ram d —, and is adapted to enmesh with the gear l —, on sleeve h —, and is so arranged that when lever g —, is loosened, by turning the hand wheel i —, it will cause the pitman block e —, to slide longitudinally in the groove in the bottom of ram d —, after which the same is tightened by turning the lever g —.

m —, m —, represent the gibs attached to the upper edges of the bed or frame, which operate to prevent the ram d —, from being lifted out of the ways in which it runs.

n —, represents the upper end of pitman which operates upon the inner faces of the two projecting members of the pitman block e —, and imparts a reciprocating motion to the ram d —.

o —, is a collar on sleeve, surrounding and retaining the same in position when bolt f —, is removed.

The operation of my improved device is as follows:—When the operator wishes to change the position of the tool which is secured in the tool head, horizontally with reference to the work, he first loosens the pitman block e —, by means of the lever g —. Then if he wishes to move the ram d —, forward, (in the construction shown,) he will turn the hand wheel to the left, but if the ram d —, is to be moved backward, the hand wheel will be turned to the right.

Should I find it more convenient to secure the rack on the opposite side of the ram d —,

from that shown in the drawings, then the movements of the hand wheel would be exactly opposite from that described above.

What I claim is—

5 1. A ram adjusting device for shaping machines, consisting of a hand wheel operating on the top of ram, and secured to the upper end of a sleeve, said sleeve operating in a longitudinal slot in the upper side of ram, and
10 being provided with gear teeth on its lower end, which mesh into a rack secured to the inside of the ram, substantially as and for the purpose set forth.

2. In a ram adjusting device for shaping
15 machines, the combination with the ram, of a pitman block capable of being adjusted in grooves in the underside of said ram, a bolt fit-

ting loosely in a sleeve which passes through a slot in the top of said ram, one end of said bolt being secured to the said pitman block, and 20 the other end threaded to run in a threaded hole in a lever, said sleeve having a hand wheel keyed to its upper end, and gear teeth on its lower end, said gear teeth meshing into a rack secured to the inside of the ram, all as 25 and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 8th day of May, A. D. 1894.

MARK FLATHER.

Witnesses:

R. P. ELLIOTT,
H. H. JEWELL.