

(No Model.)

E. M. MARSTON.
Shank Making Machine.
No. 229,438. Patented June 29, 1880.

Fig. 1.

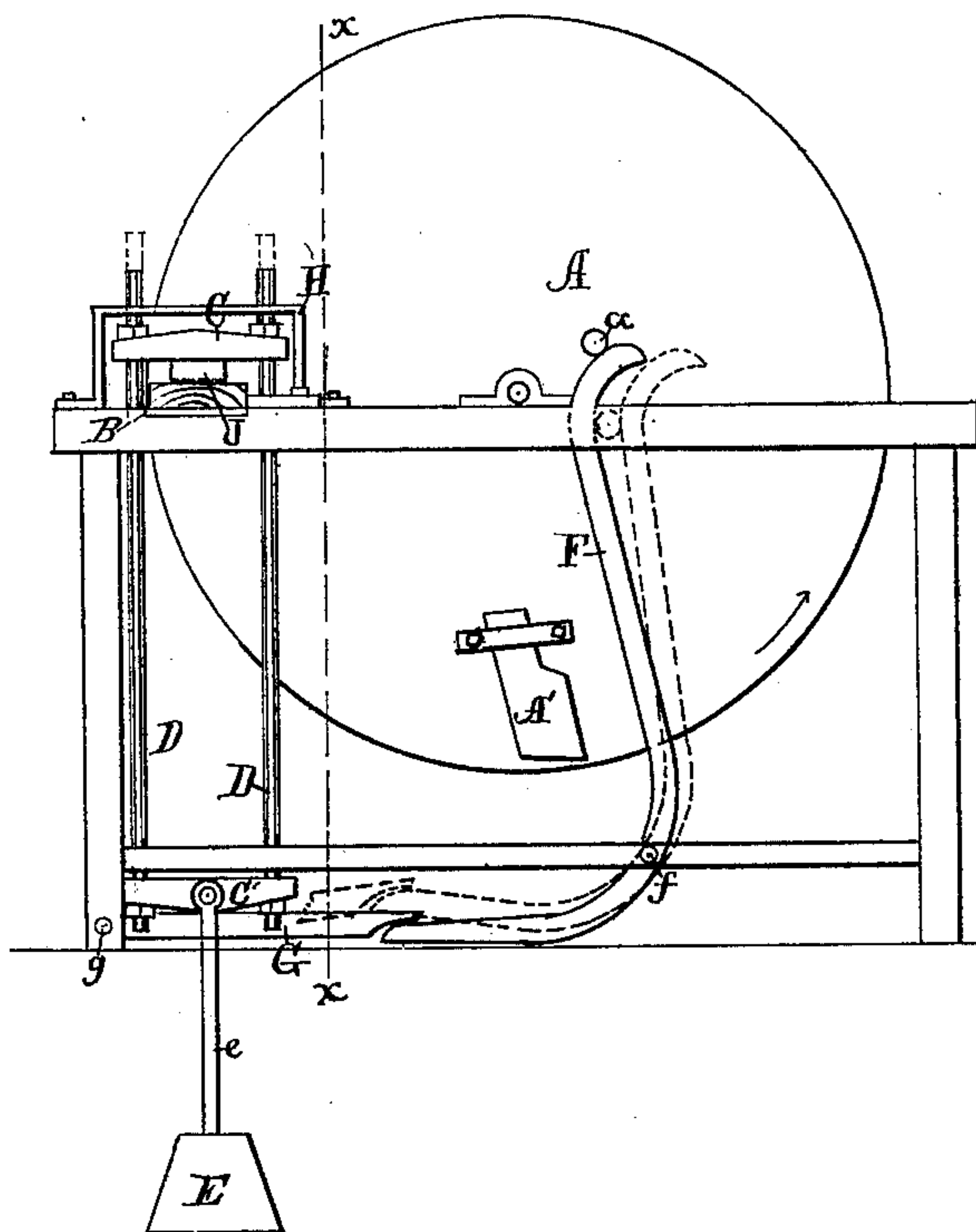


Fig. 2.

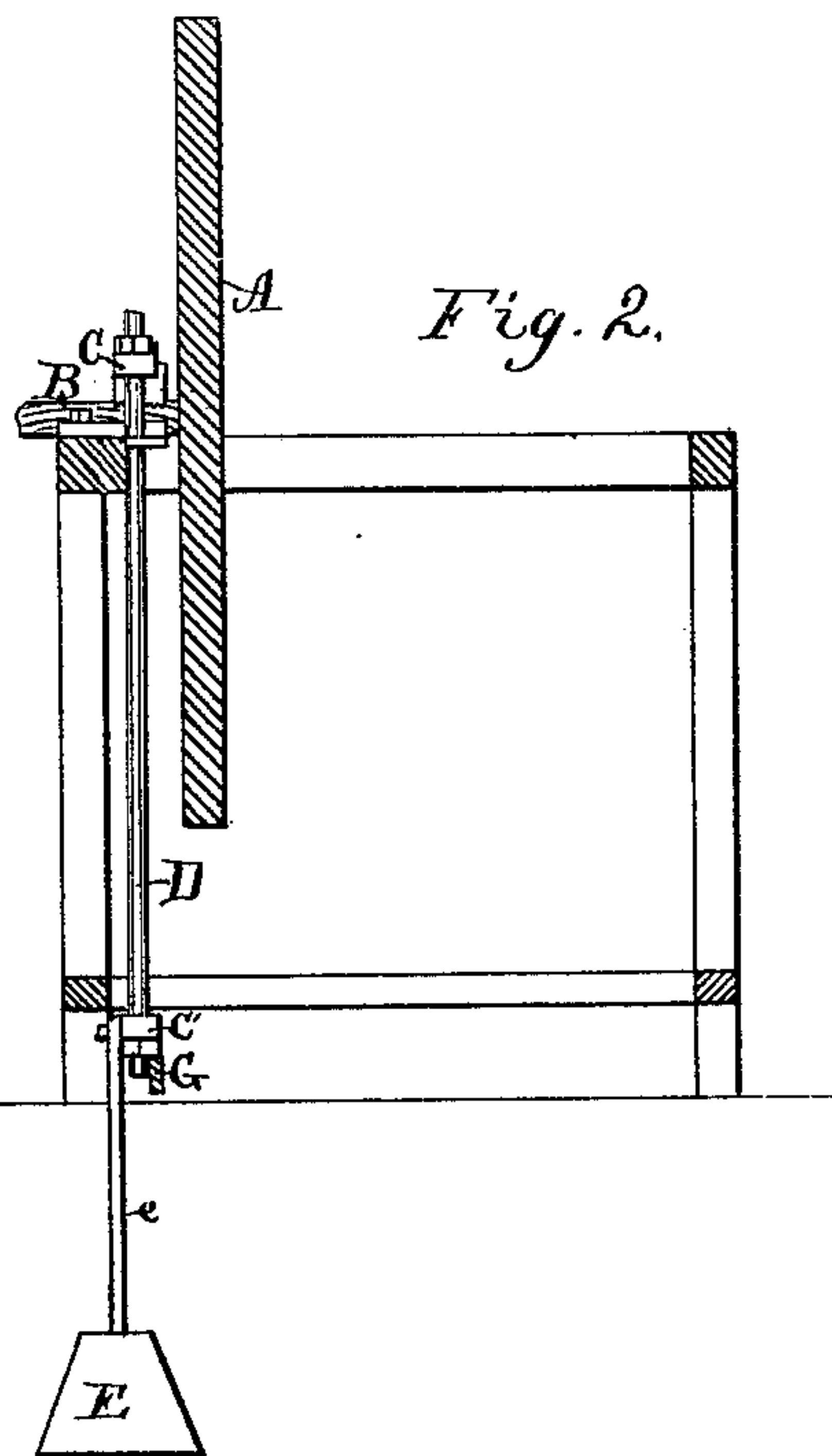
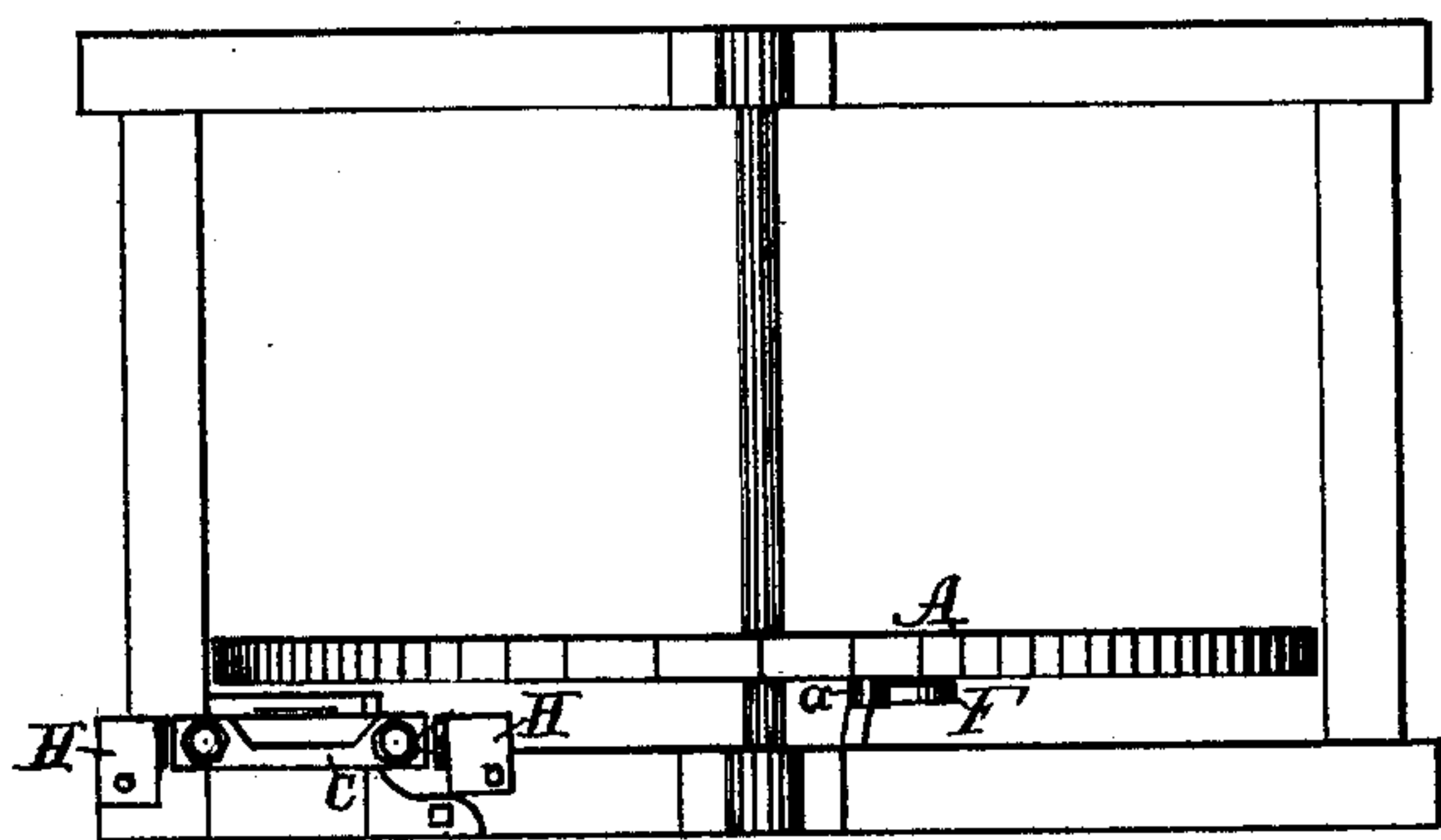


Fig. 3.



Witnesses:
W. H. Plaisted
M. E. Ellis

Inventor:
Edward M. Marston
by *S. W. Bates Atty*

UNITED STATES PATENT OFFICE.

EDWARD M. MARSTON, OF WATERVILLE, MAINE.

SHANK-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 229,438, dated June 29, 1880.

Application filed April 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. MARSTON, of Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Shank-Making Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for making wooden shanks for boots and shoes in which a block of wood is fed against a revolving wheel or face-plate armed with knives which cut the shank from the block; and the object of my improvement is to provide means of holding the block firmly in place while being acted upon by the various knives which cut the shank from it.

My invention is especially designed as an improvement on the shank-machine invented by J. M. Watson and patented.

I attain the object of my invention by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the machine, showing a block in position. Fig. 2 is a section through *xx* of Fig. 1. Fig. 3 is a plan or top view, with certain parts cut away.

A is a face-plate of a shank-machine having one or more knives A'. B is a block of wood in position to be cut by the knives on the face-plate and by certain other knives. (Not shown.)

J is a block, of metal or other suitable material, resting on the block B, and having its lower surface roughened or toothed. The block J is secured to the under side of the cross-bar C, which is connected by vertical rods D D with the cross-bar C'. Suspended from the cross-bar C' is the weight E. The rods D D pass through guides H, and are free to move up and down, bearing the cross-bars C C', weight E, and block J.

G is a lever pivoted at *g*, and so hung that when its end is raised the cross-bar C' is raised also. F is a bent lever, pivoted at *f*, one end acting under the end of lever G, and the other end, which is suitably curved, being near the

surface of the face-plate A. A pin or roller, *a*, projects from the face-plate A in such a position that as the face-plate revolves the pin forces back the lever F.

Having thus described the manner of constructing my invention, I now proceed to show its mode of operation.

The face-plate A revolves in the direction indicated by the arrow, and every time the knife A' comes around it cuts a shank from the block B, which is fed against it. At each revolution of the face-plate the pin *a* comes against lever F, forcing it backward, as shown by the dotted lines. This movement of lever F raises its lower end, which, being under the end of lever G, lifts it, and with it the cross-bar C'. C' in turn raises weight E, cross-bar C, and block J, thus releasing the latter from its bearing on block B, which is now free to be fed against the face-plate.

When the pin *a* passes the lever-arm F this latter is allowed to drop forward, which allows the weight E to pull down the block J until it rests on block B, thus holding the latter securely in place while the shank is being cut from its edge. The relative positions of the pin *a* and knife A' are such that while the knife A' is cutting the block B the pin *a* is away from lever F, and consequently the weight E holds down the block B; but immediately after the knife A' has cut the block B the pin *a* comes against the lever F, raising the weight E and releasing the block B, as described, and allowing it to be fed in for another stroke of the knife.

In cutting shanks from blocks of hard wood a number of powerful knives are used, and it is evident that a great strain is exerted on the block B. It is also plain that if the knives striking block B produce any movement of the block the shanks will not be uniform in size and shape. Hence the importance of holding the block steadily while it is being cut.

Hitherto the block B has been held in place by a long lever extending over it, and at the end of which was fixed a powerful spring, pulling it down. This long lever was raised automatically, and then suddenly pulled down upon the block by the action of the spring. It has been found that when the lever came down upon the block there was a certain

amount of rebound, which displaced the block, thus producing shanks not of a uniform size and shape. Moreover, the blows of this powerful lever, delivered on the frame-work of the machine as it rose and fell, produced a loud noise which could be heard for a great distance; and, also, these heavy blows racked the machines in a damaging manner, rendering necessary much costly repairing.

By the use of my holding device it is only necessary to raise the weight just sufficient to allow the block B to be pushed under. The motion being thus slight the device works with great ease and smoothness, creating no perceptible jar or rebound, however heavy the weight E, and holding the block B steadily in place, thus overcoming the difficulties pointed out.

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

1. In a shank-cutting machine, the combination of the revolving face-plate A, having

knife A' secured to it and pin *a* projecting from it, with the lever F, pivoted to the frame and operating the weighted cross-bars C C', substantially in the manner and for the purposes set forth.

2. The cross-bar C, having secured to its under side the bearing-block J, with its under face roughened to gripe the block to be cut, and connected with bar C' by rods D, which move in guide H, and are operated by weight E and levers G and F, combined with the revolving face-plate A, having a knife, A', secured to it and a trip-pin, *a*, projecting from it to actuate said lever F, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWARD M. MARSTON.

Witnesses:

S. W. BATES,
A. H. PLAISTED.