

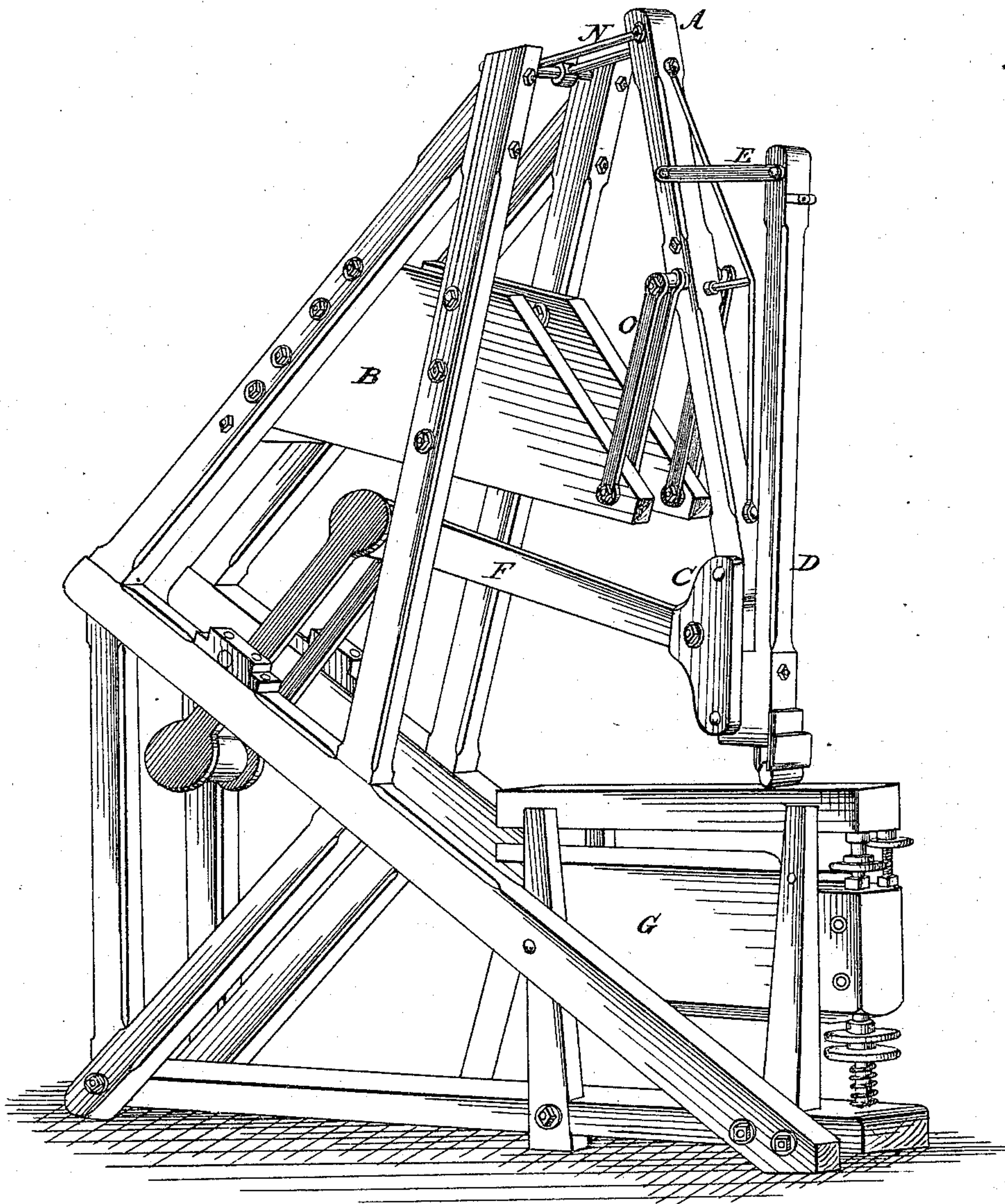
J. P. FRIEND.

Machine for Finishing Leather.

No. 163,063.

Patented May 11, 1875.

*Fig. 1.*



Witnesses:

A. Moore  
Alonzo Hughes

Inventor:

John P. Friend  
by J. A. Bassett  
Atty.

# UNITED STATES PATENT OFFICE.

JOHN P. FRIEND, OF PEABODY, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR FINISHING LEATHER.

Specification forming part of Letters Patent No. **163,063**, dated May 11, 1875; application filed February 2, 1875.

*To all whom it may concern:*

Be it known that I, JOHN P. FRIEND, of Peabody, in the county of Essex and State of Massachusetts, have invented certain Improvements in Machines for Finishing Leather, of which the following is a specification:

My invention may be regarded as an improvement with reference to the subject-matter of the patent granted to me August 8, 1871—machine for finishing leather—No. 117,877—that is to say, to so much of said patent as relates to the matter of hanging the pendulous arm. In this patent a slightly-curved bed is used, but in the present application the pendulous arm is so suspended that the bed may be made perfectly straight.

The drawing represents a perspective view of my machine.

The pendulous arm A is pivoted to the frame B by the links or connecting-bars N and O, which suspend and guide the vibrating arm, and by which its vertical and vibratory move-

ment is limited. The lower end of the arm A is connected with the foot C, and carries, with the foot C, the tool-bar D, which is connected at the upper end with the pendulous arm by the link E. A connecting-rod, F, is attached to the foot C and to a crank or crank-wheel, by which a vibratory movement is given to the machine. G represents the bed, and, except that the surface of the bed is perfectly straight, it does not differ from the bed described in the patent before mentioned; and the other motions of the machine correspond generally with the description therein given.

I claim as my invention—

In a machine for finishing leather, the combination and arrangement of the links or connecting-bars N and O with the vibrating arm A, substantially as set forth and shown.

JOHN P. FRIEND.

Witnesses:

J. A. BASSETT,  
J. R. NICHOLS.