

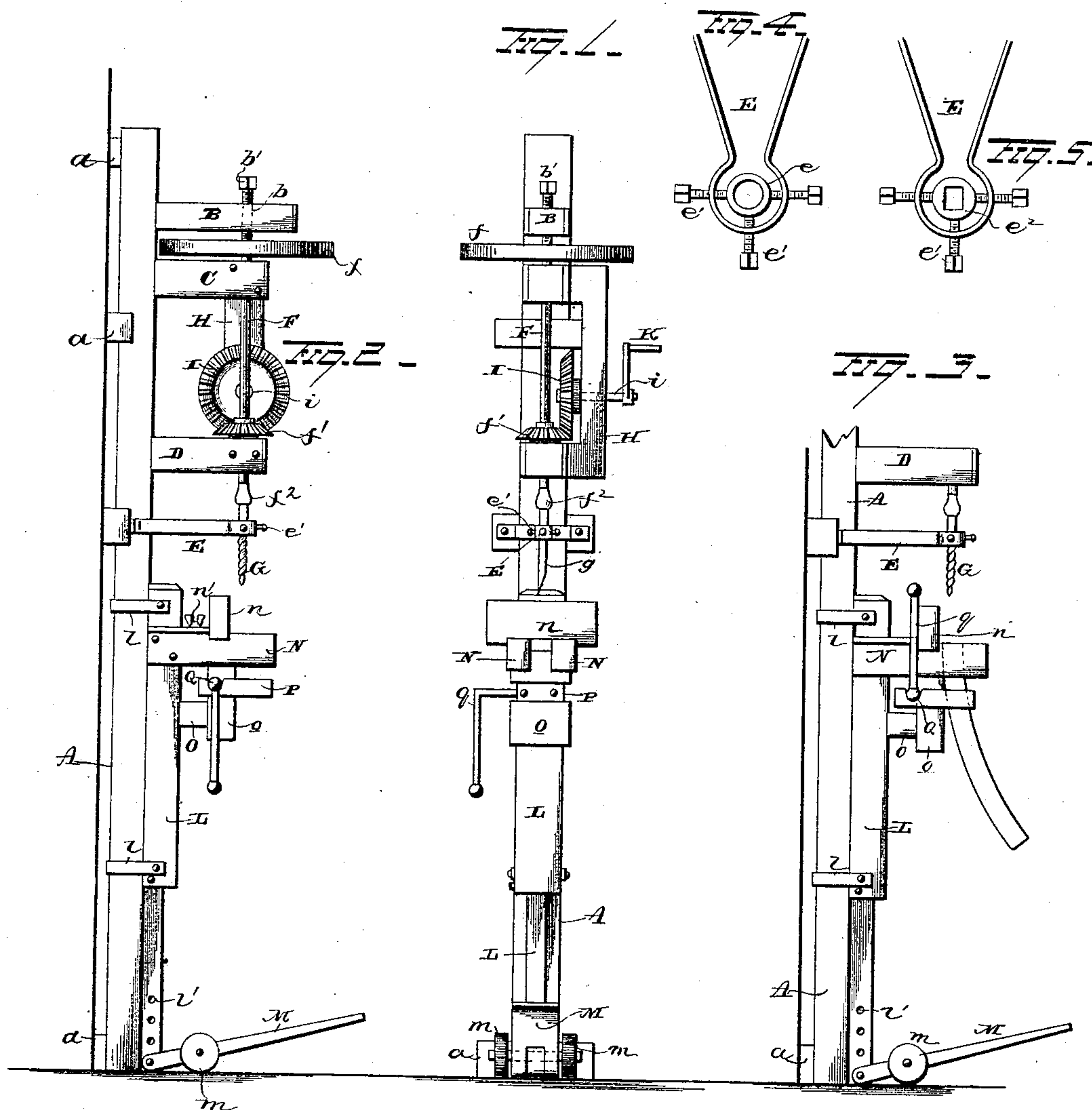
(No Model.)

P. PETERSEN.

## HELLY BORING AND MORTISING MACHINE COMBINED.

No. 328,806.

Patented Oct. 20, 1885.



WITNESSES

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# UNITED STATES PATENT OFFICE.

PETER PETERSEN, OF FREMONT, NEBRASKA.

## FELLY BORING AND MORTISING MACHINE COMBINED.

SPECIFICATION forming part of Letters Patent No. 328,806, dated October 20, 1885.

Application filed July 3, 1885. Serial No. 170,581. (No model.)

*To all whom it may concern:*

Be it known that I, PETER PETERSEN, of Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Felly Boring and Mortising Machines Combined; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in felly boring and mortising machines, the object of the same being to provide a compact, convenient, and effective machine especially adapted to use in the wagon and carriage shops of ordinary size and working capacity, but also well adapted to use in connection with the more pretentious concerns, where steam or water power is used; and with these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the machine in end or front elevation. Fig. 2 is a view of the same in side elevation. Fig. 3 shows a felly in position for end boring, and Figs. 4 and 5 are detached views of the bit and chisel guides.

A represents an upright post, forming the backbone of the machine-frame, firmly secured to the side of the building, to one of its pillars, or to any other suitable support, and held a short distance therefrom by means of intervening blocks, *a*. A forwardly-extending arm, B, is firmly secured to the post A, near its upper end, and is provided with a suitable bearing, *b*, in which the upper end of the spindle F is journaled. A set-screw, *b'*, is used to determine the vertical play of the spindle in the bearing *b*.

A pair of forwardly-extending arms, C and D, are also firmly secured to the post A, and are provided near their outer ends with sockets *c* and *d*, through which the spindle F passes and in which it has a free rotary motion. A balance-wheel, *f*, is secured on the spindle between the arms B and C, and a bevel-faced pinion, *f'*, is secured on the said spindle just above the upper side of the arm D. The spindle is further provided at its lower end with a grip-socket, *f*<sup>2</sup>, of any approved con-

struction, adapted to receive and retain the shank of a bit, G, or chisel *g*.

The outer ends of the arms C and D are united on one side by an upright brace, H, to which is secured a suitable bearing or suitable bearings for the axle *i* of the drive-wheel I. The wheel I has beveled gear on its face which meshes with the pinion *f'*. The axle *i* is fitted with an operating-crank, K.

To steady the bit or chisel while at work, I provide another forwardly-extending arm, E, firmly secured to the part A, and provided at its outer end with a bore, in which a guide-ring, *e*, is secured in lateral adjustment by means of three set-screws, *e'*. The ring *e* is just large enough to receive the bit and allow the same a free rotary motion therein, but little or no lateral play. When the chisel is used, the ring is exchanged for a block, *e*<sup>2</sup>, having an angular perforation to fit the chisel. Rings and blocks of different sizes are employed to correspond with the size of the bit or chisel used. The felly or material to be operated upon is supported, clamped, and fed to the bit or chisel as follows:

An upright bar, L, is secured to the post A in a vertically-sliding adjustment by means of loops *l*, which are firmly secured to the bar L and partially embrace the post A. The lower end of the bar L is provided with a series of perforations, *l'*, by means of which the short arm of the foot-lever M is secured thereto in the desired adjustment. The lever M is fulcrumed on the axle of a pair of wheels or rollers, *m*, whereby the longitudinal play of the lever as it is rotated on its pivotal point is provided for by the slight forward and backward rotation of the said wheels or rollers.

A forwardly-extending arm, N, is firmly secured to the bar L, near its upper end, and consists preferably of a pair of bars, which are firmly secured to the sides of the vertically-sliding bar L, and are extended to embrace the opposite sides of the post A. The outer end of the arm N forms a rest for the felly when being bored for spoke-sockets, and is provided with a gage, *n*, which slides thereon, and is secured in the desired adjustment by a thumb-screw, *n'*. The gage *n* forms a back against which the felly is held while being bored.

A short forwardly-extending arm, O, is se-



cured firmly to the sliding-bar L, a short distance beneath the arm N, and an upright bar, o, is secured to the front end of the arm O, and extends upwardly to the arm N, to which it is also secured. A clamp, P, consisting of a loop which embraces the upright bar o, and extends sufficiently far in front of the same to freely admit a felly, is operated by a cam-bar, Q, to which is attached a crank, q. The cam Q takes against the upright bar o, and when the crank q is rotated into the position shown in Fig. 3 the clamp P is drawn rearwardly into snug contact with the felly.

When the felly is to be bored in the end, it is slipped up through the loop of the clamp P, and between the outer ends of the bars which constitute the arm N, and rests with its convex face or either side against the gage n. The cam-bar Q is then rotated, drawing the clamp in snug contact with the felly and holding it firmly in position to be bored. The bit is then set in motion, and the pressure of the foot on the lever M elevates the felly into engagement with the bit. When the bore is as deep as desired, the foot is removed from the lever M, and the bar L descends by its own weight, releasing the felly from the bit. The operation is similar to the above when the chisel is used in the place of the bit, except that the chisel is not rotated.

The amount of pressure upon the lever M determines the rate of feed to suit woods of different degrees of hardness, and the whole arrangement is one which cannot but meet with general approval when put to practical use.

It is evident that slight changes might be

resorted to in the form and arrangement of the several parts shown and described without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth; but,

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

1. In a felly boring and mortising machine, the combination, with an upright standard, forwardly-projecting arms, a bit or chisel holder journaled in said arms, and gearing for rotating said holder, of a vertically-movable bar connected with the standard, a clamping device secured to said bar, and the foot-lever fulcrumed on the axle of a pair of rollers and secured to the movable bar in vertical adjustment.

2. In a felly boring and mortising machine, the combination, with an upright standard, forwardly-projecting arms, a bit or chisel holder, gearing for rotating said holder, and a guide embracing the bit or chisel and adjustably secured in the end of a guide-arm by set-screws, of a vertically-sliding bar mounted on the standard, a clamping device secured to said bar, and a foot-lever for operating said sliding bar, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PETER PETERSEN.

Witnesses:

JAMES S. CHRISTENSEN,  
Z. DOLEZAL.