

R. Hubbell,
Boring Wood

N^o 1382.

Patented Oct. 26, 1839.

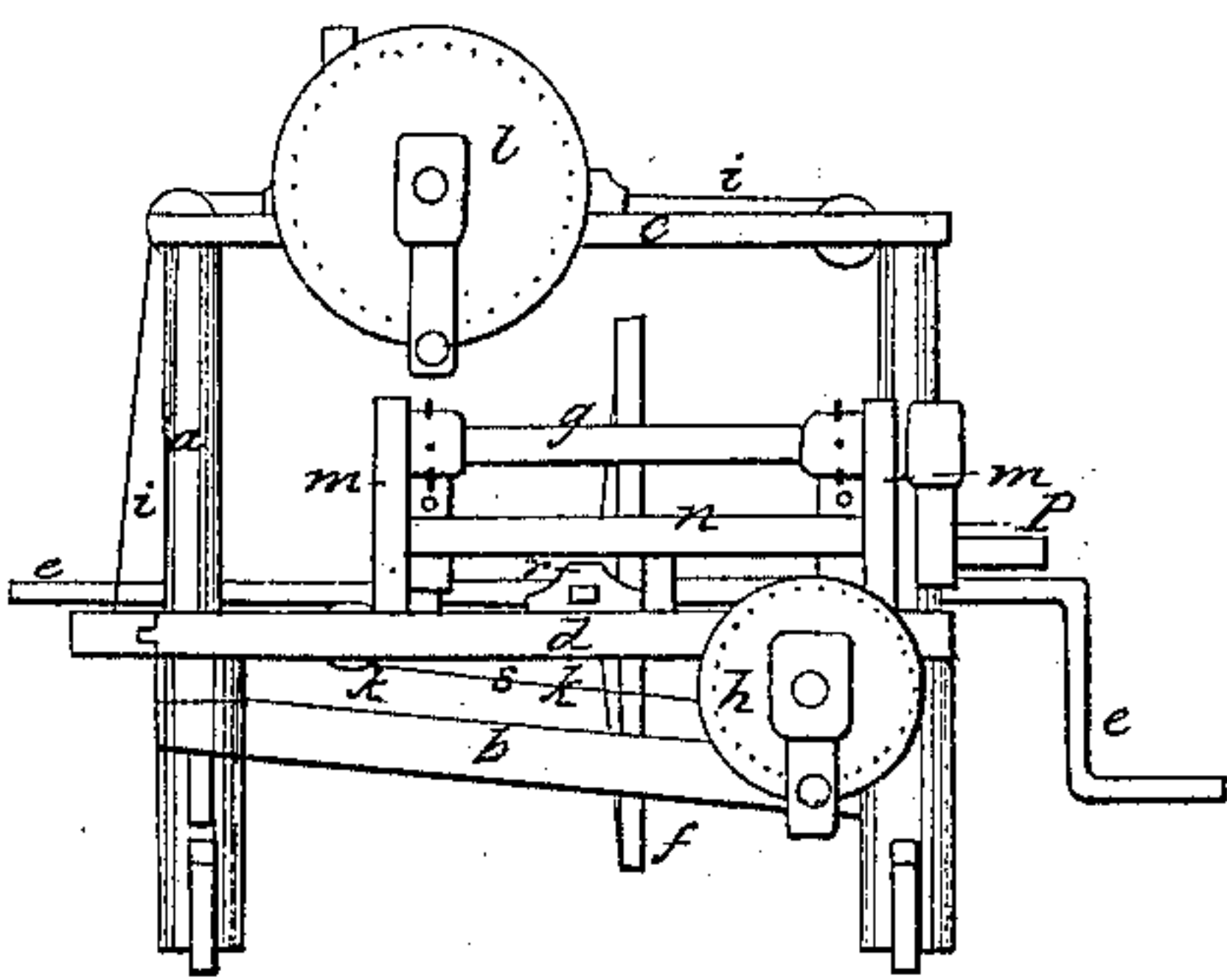


Fig. 2.

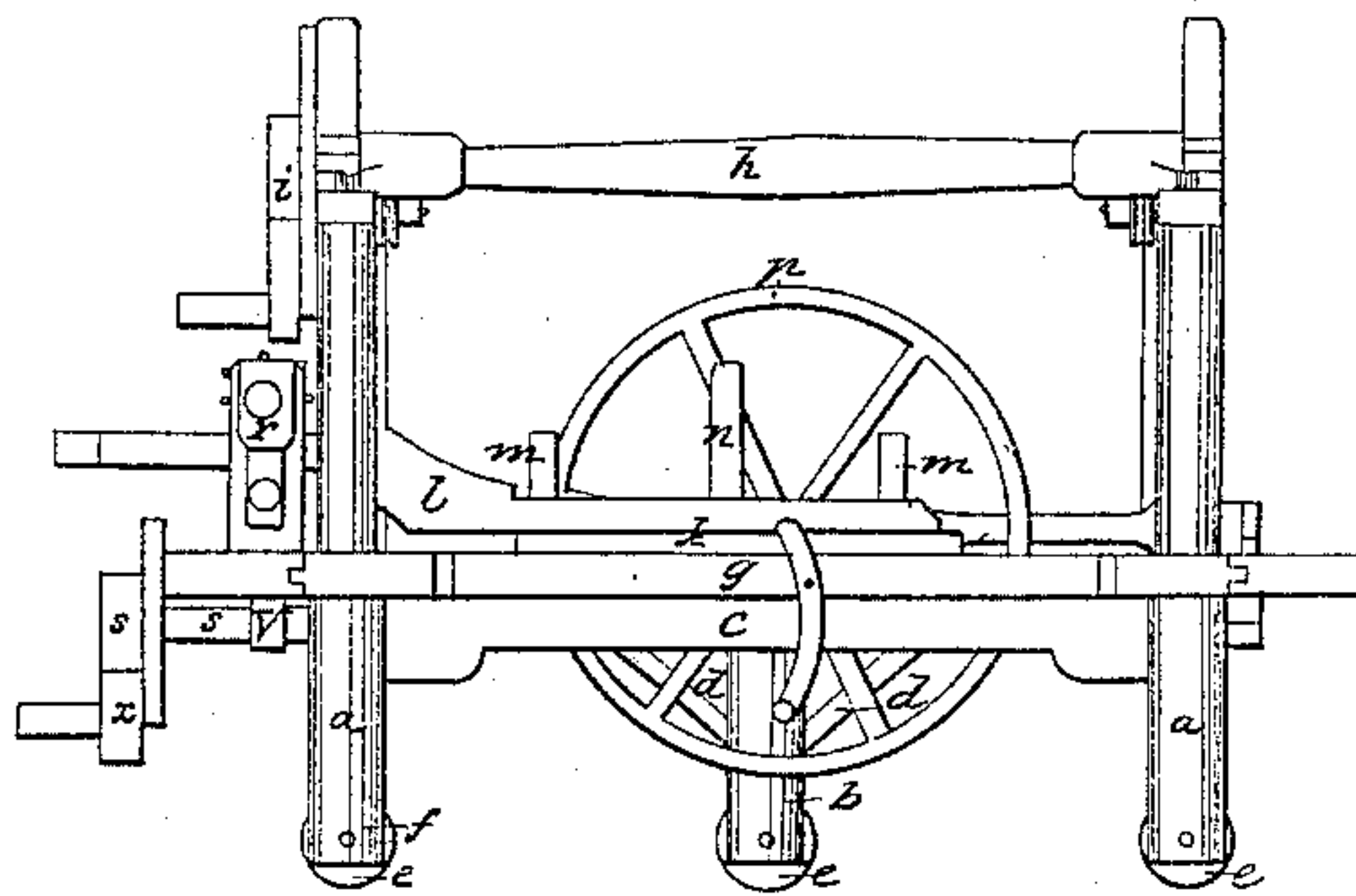


Fig. 1.

Fig. 3.

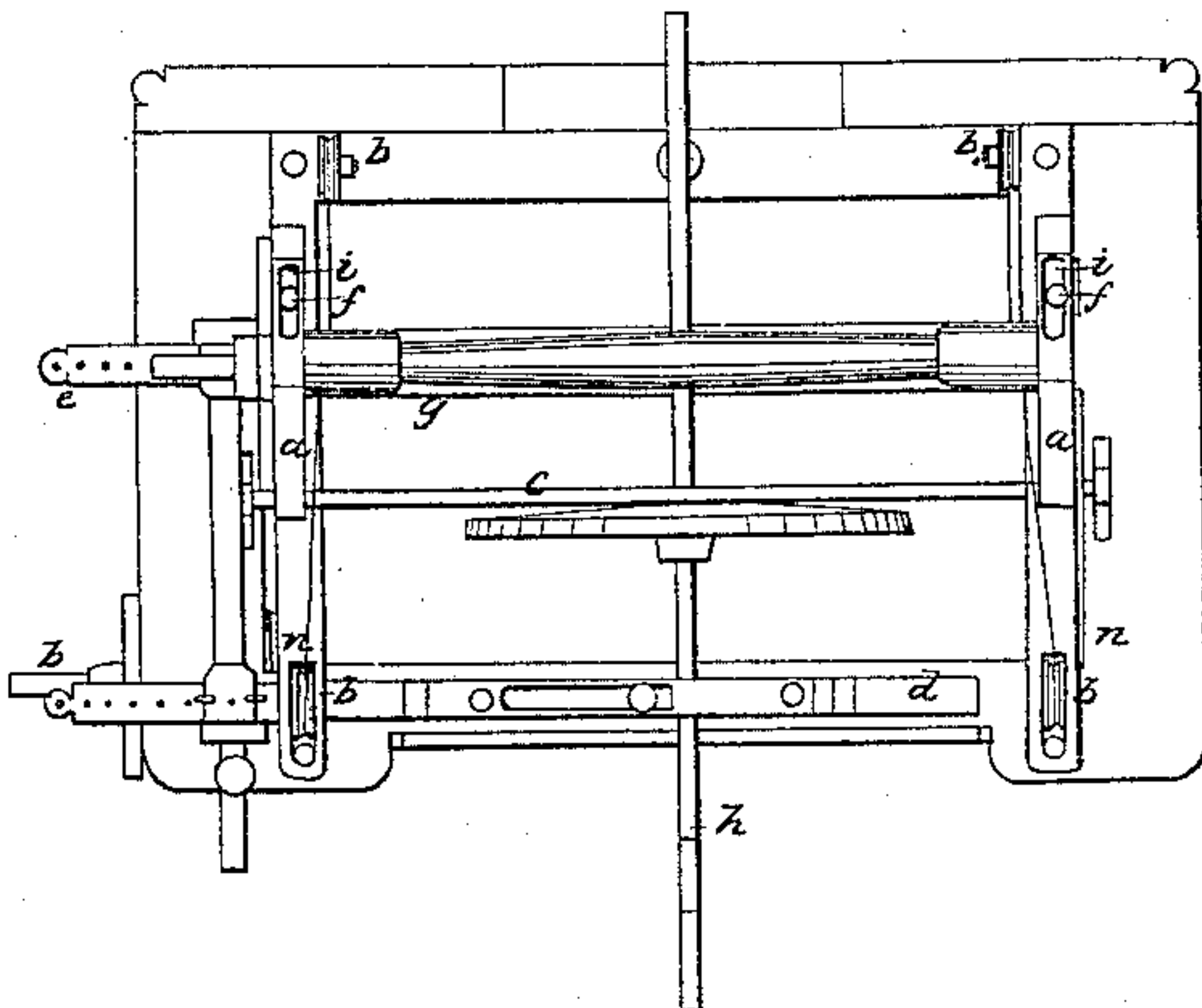
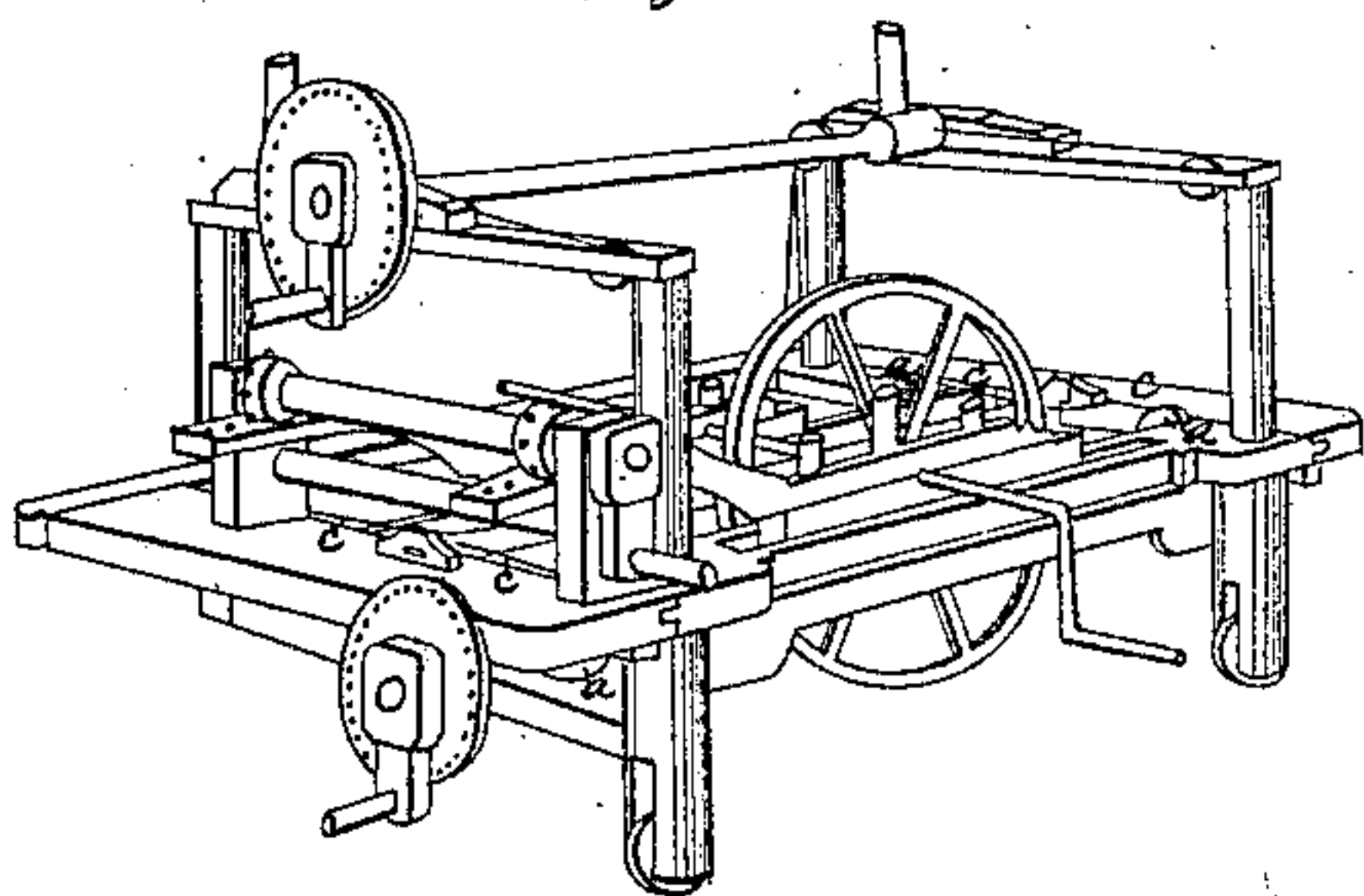


Fig. 4.



UNITED STATES PATENT OFFICE.

ROSWELL HUBBELL, OF HUDSON, OHIO, ASSIGNOR TO MOSES HUBBELL, OF SHEFFIELD, OHIO.

MACHINE FOR BORING TIMBER.

Specification of Letters Patent No. 1,382, dated October 26, 1839.

To all whom it may concern:

Be it known that I, ROSWELL HUBBELL, of Hudson, in the county of Portage and State of Ohio, have invented a new and useful Machine for Boring Timber, called "Hubbell's Patent Borer;" and I do declare that the following is a full and exact description.

The nature of my invention consists in having a portable machine running upon trundle wheels by the side of the timber to be bored with a crank and fly wheel for the auger, and appropriate machinery to gage, elevate, and depress the auger and to throw it back after having penetrated the timber.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I construct my machine with a frame four feet and a half long, two feet and ten inches wide and three feet and four inches in height, with two round posts extending from the ground to the height of the frame—about three and one-half inches in diameter from the ground to about eighteen inches upward, and from thence up about two inches in diameter, Figure 1 of the annexed drawings *a, a*. These posts are joined by a girt one inch thick and three inches deep placed about eighteen inches from the ground, Fig. 1, *c*. The back part of the frame is made by inserting a short post about sixteen inches long, and three and one-half inches in diameter and made round into a girt three inches wide and two deep and of the same height as the front of the frame. This post is inserted into the center of this girt on the under side, Fig. 1, *b*, and secured by two braces *d, d*, passing from it into the girt. From each end of this girt is extended a post of the same diameter and to the same height as the upper part of the front or first described posts, Fig. 2, *a*, to which they are connected by two girts, Fig. 2, *b*, passing from the bottom of the front posts just below the side or front girt to the bottom of said posts and of the same depth and thickness of the front girt. In the bottom of the three posts are placed trundle wheels eight inches in diameter placed lengthwise with the frame Fig. 1, *e, e, e*. There is a screw passing through one of the front posts and acting against one of the trundle wheels to keep the machine stationary, Fig. 1, *f*. The four upright posts are

connected at the top by a girt on either side passing from the top of the front to the top of the rear posts, Fig. 2, *c*, and which are about three inches wide by two deep.

There is a carriage constructed of hard wood boards about two inches, or one and one-half inches in thickness. The front piece of the carriage is about two inches wide and in length extending about three inches on either side beyond the length of the frame, Fig. 1, *g*. Another piece of the same thickness and length and about one and one-half inches in width is placed about two feet distant from *g*. On the ends of these pieces are attached by mortises and tenons the end pieces of the carriage of the same thickness, about three inches wide, and extending in length about three inches more than the width of the frame, Fig. 2, *d*. On the back end of these end pieces of the carriage is attached by mortises and tenons to them a piece of board of same thickness, about one and one-half inches in width and extending from the outside of one end piece of the carriage to the other. Adjoining and on the inner edge of each of these end pieces of the carriage, and extending from said rear piece of the carriage to the piece extending lengthwise of the carriage as aforesaid and about two feet from the front piece as aforesaid is attached by mortise and tenon a piece about one and one-half inches square into which is inserted the rear pulley wheels in the carriage and the holes for the posts.

The carriage has near its four corners perpendicular holes two inches in diameter through which pass the four posts of the frame. The carriage rests on the girts of the frame and the enlarged lower portion of the posts and slides up and down on the posts.

For the purpose of elevating or depressing the carriage and giving the auger its proper direction there is placed upon the top of the two top beams of the frame Fig. 2, *c*, two pieces Fig. 3, *a, a*, about eighteen inches each in length and two inches deep by one and one-half inches thick with an elongated perpendicular mortise in each, *i i* Fig. 3, six or more inches in length. These pieces are secured to the beam by means of a screw *f f*, Fig. 3, passing through the mortise into the beam with a head and

shoulder to allow the pieces to be moved to any position required on the beam from these two pieces *a, a*, Fig. 3, is extended a round shaft *g*, Fig. 3, of wood with a gudgeon on each end passing into boxes in the center of the pieces *a, a*. The left end of this shaft passes through the pieces *a* and beyond the frame to which is attached a crank to turn the shaft, Fig. 1, *h*, shaft *i* crank. The crank turns against a circular board *j*, Fig. 2, which is attached to the frame, and is eighteen inches in diameter with half-inch holes bored at the distance of one inch apart in a circle around the board and near to the outer side. The crank and shaft are kept in any position desired by means of a pin inserted into one of these holes. There are four small pulley wheels *b, b, b, b*, Fig. 3, attached to the top beams or girts. Cords, Fig. 2, *i i*, are passed from near the four corners of the carriage through the pulleys and attached to the shaft *h*, Fig. 1, so that by turning the shaft the carriage can be elevated or lowered at pleasure. By moving the slides *a, a*, Fig. 3, the auger can be directed horizontally or at any desired angle used in framing.

In the top of the front piece of the carriage *g*, Fig. 1, and the parallel piece two feet therefrom, Fig. 3, *g*, is cut a groove three feet or more in length and one inch or more or less in depth and one and one-half inches in width into each of which is fitted a slide *k*, Fig. 1, elevated three-fourths of an inch above the pieces, Fig. 1, *g*, and Fig. 3, *g*. Two pieces, *j j*, Fig. 1, are made about four feet in length with a knee or elbow near the center elevating one end from the other about six inches, the length of the angle is about six inches and the two ends are on parallel lines, these pieces are one and one-fourth inches thick and one and one-half inches wide, except the angle or elbow, which is made some heavier. One of these pieces *l* is attached to each of the slides *k*, Fig. 1, and fastened by the screws *m, m*, Fig. 1. Through the pieces *l*, and the slides *k* on *g*, Fig. 1, between the screws *m, m*, is a perpendicular mortise one foot in length through which passes a screw *n* into *g* by means of which the slide *k* and the piece *l* attached to it are retained in any desired position.

Between the pins *l* and the slides *k* in an appropriate gudgeon is passed a round iron shaft *h*, Fig. 3, *e e*, Fig. 2, one inch in diameter turned and extending from four to six inches at either end beyond the width of the frame. A crank *o*, Fig. 1, with three and one-half feet sweep is attached in any known manner to the front end of the shaft, and the rear end is fitted with a socket in the usual manner to receive the shank of the auger. Upon this shaft *e e*, Fig. 2, is placed a cast iron fly wheel *p*, Fig. 1, three feet three

inches in diameter having the rim and six arms one inch square with a hub four inches in length and four inches in diameter. This wheel is placed on the shaft in the open space in the carriage nearest the front side and its use is to regulate and give force to the motion of the auger.

For the purpose of moving the slides *k*, and the pieces *l*, Fig. 1, attached thereto and give the auger a horizontal motion equal to the length of any mortise to be bored, and dispense with frequent moving of the machine, I elevate from the projection on the left end of the carriage two posts *m, m*, Fig. 2, one and one-half by two inches and about ten inches high—these posts are mortised and tenoned into the projecting end of the carriage, and placed on the outside of the pieces *l*, Fig. 1, the posts are connected together by a round girt *n*, Fig. 2, the upper side of which is six inches from the carriage so that the projecting ends *l*, Fig. 1, rest upon it as seen in Fig. 2, *o, o*. A round shaft one inch in diameter *g*, Fig. 2, with a gudgeon on each end is attached to the posts *m, m* by gudgeons near the upper ends of the posts; near each end of this shaft is turned a hub three inches or more in diameter which is directly over the ends of the pieces *l*, Fig. 1, and *o o*, Fig. 2, into each of these hubs is inserted equidistant eight wire cogs. In the top of the left end or projecting end of the pieces *l*, Fig. 1, are bored small holes equidistant, *e e*, Fig. 3, into which the cogs on the shaft *g*, Fig. 2, mesh—one end of the shaft *g* projects beyond the post *m*, to which end is attached a crank *p*, Fig. 2, by turning this shaft *g* the pieces *l*, Fig. 1, and the slides *k*, Fig. 1, in which the auger shaft is fastened and turns, can be moved with ease and certainty backward or forward horizontally.

For the purpose of gaging the auger to any given depth and also to throw it back when the hole is bored sufficiently deep there is a wooden or steel spring *c*, Fig. 3, if of wood made of elastic timber two or more inches in width with a mortise one foot in length in the center of the spring through which the auger shaft *e e*, Fig. 2 passes to the ends of this spring are attached wooden slides resting upon the inner or upper side of the end pieces of the carriage, the end of the spring and slide is seen Fig. 2, *r*. For the purpose of giving horizontal motion to this spring and firmly securing it in any given place, there is a shaft two inches in diameter *s s*, Fig. 1, extending lengthwise of the frame near the front and projecting at the left end beyond the frame to receive a crank. This shaft revolves in boxes attached to the underside of the projecting ends of the carriage, Fig. 1, *v*. A crank *x*, Fig. 1, is attached to the left end of this shaft which turns against a circular board *h*, Fig. 2, nine

inches in diameter attached to the outer side
 of the left end of the carriage. Around the
 circumference of this board are bored hori-
 zontally half inch holes one inch apart into
 5 which to insert a pin to retain the crank and
 shaft in any given place. Four small pulley
 wheels *k k*, Fig. 2, *n, n*, Fig. 3, *d, d, d*, Fig. 4,
 three inches in diameter are attached to the
 end pieces of the carriage and near the ends of
 10 the end pieces. Near the ends of the spring
c, Fig. 3, are attached the ends of four cords
 two on either side of the spring. These
 cords *s*, Fig. 2, *c, c, c, c*, Fig. 4, pass in this
 way from the spring over the pulleys in the
 15 end pieces of the carriage and are attached
 by the other end to the shaft *s, s*, Fig. 1, in
 such manner that by turning the shaft *s, s*,
 one way one pair of the cords are taken up
 and the other let out and so also if the crank
 20 is turned the other way by means of which
 the spring is moved backward or forward.
 These cords being attached to the spring *c*,
 by turning the shaft *s, s*, Fig. 1, the spring
 is placed in any position desired to gage the
 25 auger. In boring the use of the spring and
 this shaft *s, s*, is, that the worm of the auger
 will force it into the timber against the re-
 sistance of the spring and when the auger
 has penetrated to a sufficient depth and the
 30 worm of it is detached by two or three revo-
 lutions backward, the spring will at once
 throw it out of the timber; but if it fails
 to do so one or two revolutions of the shaft

s, s, turned by the crank *x*, Fig. 1, will at
 once throw it out.

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Fig. 1 of the annexed drawings repre-
 sents a front view of the machine. Fig. 2
 an end view and what is denominated the
 left end in this specification. Fig. 3 is a top
 view, that is looking from above directly 40
 upon the top of the machine. Fig. 4 is a
 perspective view of the entire machine.

This machine can be applied to any kind
 of boring of timber and its advantages are
 that it is cheap and simple, not liable to get 45
 out of repair, and by being moved along the
 side of the timber no time is lost in attach-
 ing it to, and detaching it from the timber,
 it can be used by any one although not a
 carpenter or mechanic, and one man with 50
 this machine can do the labor of six men at
 least in any given time in the method of bor-
 ing by hand.

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

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The combination of the carriage for set-
 ting the auger at a proper height and giv-
 ing it a proper direction with the slide con-
 taining the auger the whole being applied
 to a portable frame for the purpose and in 60
 the manner described.

ROSSELL HUBBELL.

Witnesses:

ZENO PARMELEE,
 SETH H. SAWYER.