

(No Model.)

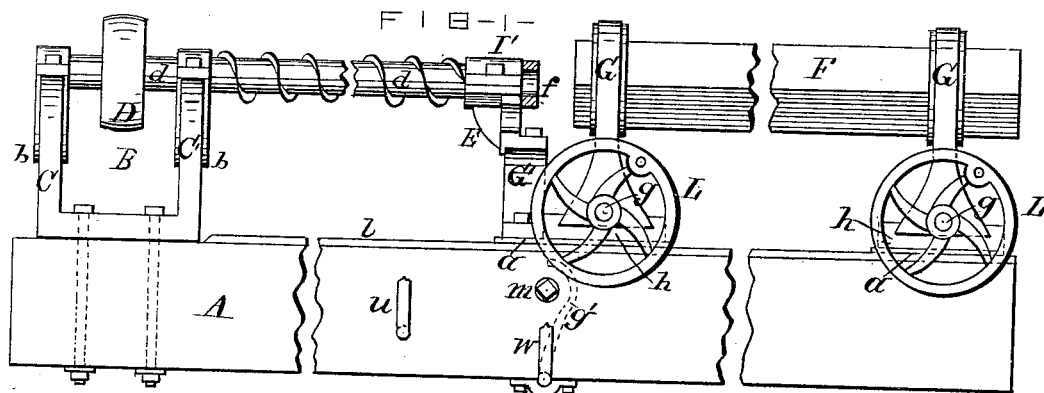
2 Sheets—Sheet 1.

P. T. PERKINS.

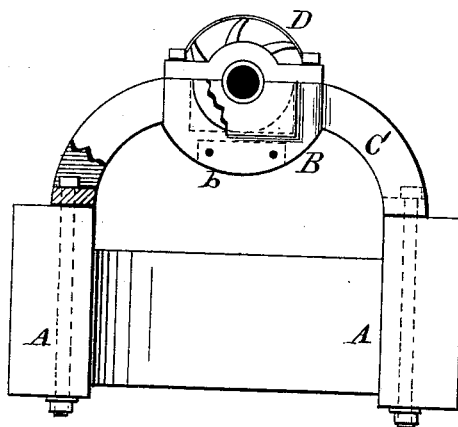
MACHINE FOR BORING PUMP LOGS, &c.

No. 266,643.

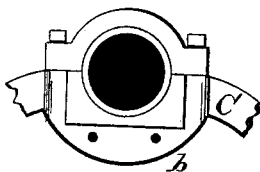
Patented Oct. 31, 1882.



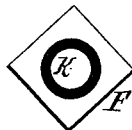
F I G - 2 -



F I G - 3 -



F I G - 6 -



F I B-4 -



F I B - 5 -



WITNESSES —
Com Raymond
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INVENTOR—
Pardon T. Perkins
per Gault, Leass & May
his Attorneys

(No Model.)

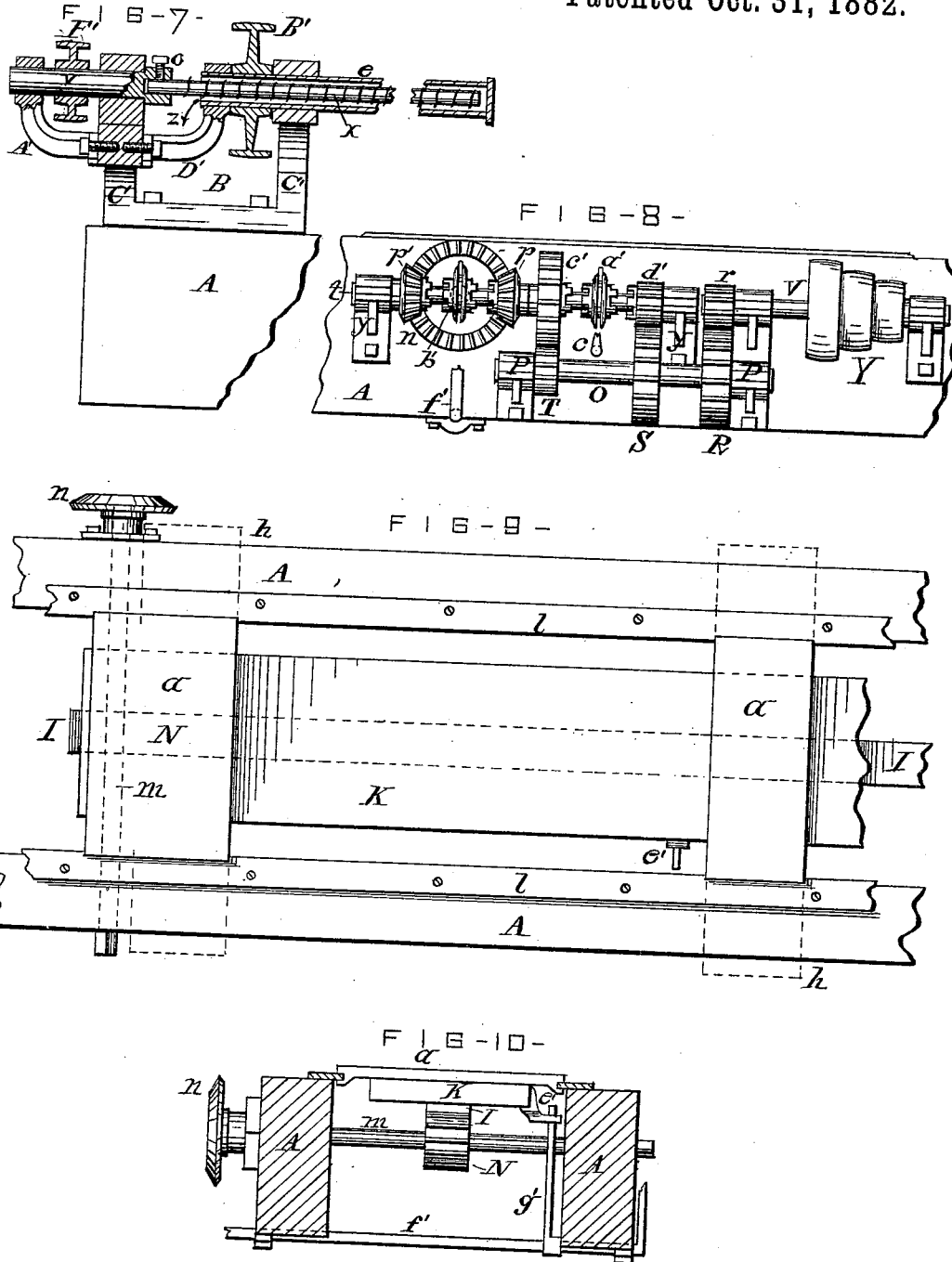
2 Sheets—Sheet 2.

P. T. PERKINS.

MACHINE FOR BORING PUMP LOGS, &c.

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WITNESSES —

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UNITED STATES PATENT OFFICE.

PARDON T. PERKINS, OF OSWEGO, NEW YORK.

MACHINE FOR BORING PUMP-LOGS, &c.

SPECIFICATION forming part of Letters Patent No. 266,643, dated October 31, 1882.

Application filed January 31, 1882. (No model.) Patented in Canada November 29, 1880, No. 12,051.

To all whom it may concern:

Be it known that I, PARDON T. PERKINS, of Oswego, in the county of Oswego, in the State of New York, have invented new and useful
5 Improvements in Boring-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description. (For this improvement I have received Letters Patent in Canada, No. 12,051,
10 dated November 29, 1880.)

This invention consists, first, in a novel construction of the head-block of the machine, whereby the same is adapted to receive and hold augers of different makes and sizes—as, for
15 example, the “Wyckoff” auger and the “core” auger.

It also relates to an automatic feeding apparatus, by means of which the log operated on may be fed against the cutter or back there-
20 from at varying speed, automatic stops being arranged so as to stop the movement of the log-carriage in either direction.

The invention also consists in other matters of detail, all as hereinafter fully described, and
25 more specifically set forth in the claims.

In the annexed drawings, Figure 1 is a side elevation of the machine, showing the relative position of some of the more important parts. Fig. 2 is an end view of the same on an en-
30 larged scale. Fig. 3 shows a larger journal-box inserted in the head-block to receive an auger of larger diameter. Figs. 4 and 5 show detached views of a portion of the head-block with different sizes of journal-boxes inserted
35 therein. Fig. 6 shows the end of a log after having been cut into by a core-auger. Fig. 7 is a front side elevation of the head-block, similar to the view in Fig. 1, showing the same adapted for holding and operating a Wyck-
40 off auger, which is shown in place, the most of said parts being shown in longitudinal section. Fig. 8 shows a side elevation of a part of the reverse side of the frame or bed, bring-
45 ing into view the feeding apparatus attached to said reverse side of the machine. Fig. 9 is a plan of a part of the frame or bed, and Fig. 10 shows an elevation taken at the left-hand end of Fig. 9.

Similar letters of reference indicate corre-
50 sponding parts in all the figures.

The letter A represents the frame or bed for supporting the other parts, made in suitable proportions.

B denotes the head-block for carrying the various augers, bolted to one end of the frame, 55 and consisting, principally, of two parallel arched risers, C C'. The risers or arches are expanded at the top by downwardly-curved parts b, which open upward, said openings being sufficiently large to receive the largest-sized 60 journal-boxes desired for use, as shown in the detail view at Fig. 5. Smaller-sized journal-boxes are made to fit the same openings, as shown at Fig. 4.

d, Figs. 1 and 2, is a tube or pipe turned true 65 on its exterior surface, resting in journal-boxes in the head-block, and having a driving-pulley, D, secured to it. Upon its exterior is placed spirally a ribbon of metal, which serves to draw the chips out of the cut, thus preventing clog- 70 ging. At the end of the tube d is secured a suitable cutter, f, which cuts an annular opening through the log, as shown in Fig. 6, leaving a solid core, k, which passes within the tube d as the log advances against the cutter. The 75 extreme end of the tube rests within a center rest or guide, E.

The log F rests within log rests or jaws G, formed in pairs opposing each other, the jaws of each pair being moved toward or from each 80 other by means of hand-wheels L and right and left screws g, running transversely across the frame A. The jaw-slides h rest upon plates a, which are grooved at their ends and fitted to slide along the edges of the guide-rails l, 85 which are secured to the upper surface of the frame A, as shown in Figs. 9 and 10, said guide-rails l being so secured to the frame as to slightly overlap the same on the inner side thereof. The jaw-slides h are attached to the 90 respective plates a, which latter are secured to a plank, K, Fig. 10, and said plank, plates, and jaws, with their attachments, together constituting a log-carriage adapted to slide longi- 95 tudinally along the rails l on the frame A. The carriage is moved along the frame by means of a rack and pinion, I and N, beneath the plank, the pinion being keyed to a shaft, m, running through the frame from side to side, having a bevel-gear, n, at one end, and squared at the 100

other end to receive a crank or wrench by means of which the carriage can be moved by hand.

Fig. 8 shows the feeding mechanism on the rear side of the frame. The bevel-gear *n* is engaged by opposing pinions *p p'*, revolving loosely on a shaft, *t*, journaled in bearings *y*. A sliding clutch, *b'*, is secured to the shaft by a spline in the usual manner, and may be operated to engage either pinion, as desired. *c'* and *d'* are respectively a gear and pinion revolving loosely upon the shaft *t*, and *a'* is a clutch similar to *b'*, which may be moved to engage either gear or pinion, as desired. A shaft, *O*, journaled in boxes *P*, beneath the shaft *t*, has keyed to it the gears *R* and *S* and the pinion *T*. A pulley-shaft, *V*, has a pinion, *r*, which drives the gear *R*, and by means of a belt on the pulley *Y* the feed mechanism is operated. The gear and pinion *S* and *T* drive respectively the pinion and gear *d'* and *c'*. The clutch *b'* is operated by a shifter, *f'*, Figs. 8 and 10, which extends across under the frame, with a handle, *w*, in convenient reach of the operator. The clutch *a'* is operated in the same manner by a shifter, *c*, and handle *u*. If the clutch *a'* is made to engage the gear *c'*, the log-carriage will be moved toward or from the head-block, according as the clutch *b'* is brought into engagement with the pinion *p* or *p'*. After the log has been bored through it is desirable to move the carriage back more rapidly than it was fed forward. This is accomplished by throwing the clutch *a'* over so as to engage the pinion *d'*, when the shaft *t* will be more rapidly rotated. An arm, *g'*, Figs. 1 and 10, reaching up from the shifter *f'* within the frame, is moved by adjustable dogs *e'*, secured to some part of the carriage. These dogs may be so adjusted as to move the shifter and throw the clutch *b'* out of either bevel-pinion and stop the motion of the carriage at any time, so that the carriage shall not be driven against the head-block in moving in one direction or too far in the other direction.

In using the Wyckoff auger it is necessary to have four bearings at the head-block. To effect this I attach two brackets, *A'* and *D'*, Fig. 7, to the rear riser, *C*. The tube *e* of the said auger rests in the bearing of the riser *C'* and the bearing of the bracket *D'*, with a driving-pulley, *B'*, between them. The riser *C'* and bracket *A'* hold a spindle, *v*, which, by means of a socket and set-screw at *o*, drives the chip-extractor *x*, which consists of a rod, with a

flange wound spirally around it, rotating within the tube *e*. The chip-extractor is driven more rapidly than the tube *e*, and in an opposite direction by a pulley, *F'*, and belt thereon, the chips being drawn out of the tube and dropped at the rear end thereof by the extractor, as indicated by the arrow *z*. The center rest, *E*, for the augers is composed of a base-piece or arch, *G'*, and a journal-box, *I'*, bolted thereon.

For different-sized augers I have different-sized journal-boxes *I'*, all fitted to the base-piece *G'*.

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

1. In a wood-pipe-boring machine, the combination of the frame *A*, stationary head-block *B*, tube *d*, provided with a spiral ribbon and a cutter, *f*, at its outer extremity, with a log-carriage operated by a rack and pinion, the pinion-shaft being provided at one of its extremities with a bevel-gear, *n*, adapted to engage opposing pinions, *p p'*, having a clutch, *b'*, constructed and arranged as shown, whereby the feed may be automatically tripped or stopped by the motion of the log-carriage, substantially as described.

2. In combination with the frame *A*, provided with an adjustable head-block, *B*, and a suitable boring-tool, the log-carriage provided with a feeding device consisting of the shaft *v*, having thereon the gears *r d' c'*, bevel-gears *p p'*, and clutches *a' b'*, respectively, between said sets of plain and beveled gears, and the shaft *O*, provided with the engaging gears *R S T*, the said feeding device being adapted, with suitable shifters, to engage the bevel-gear *n* on the pinion-shaft of the log-carriage, whereby the feed may be automatically tripped or stopped, all substantially as described.

3. A wood-pipe-boring machine having a head-block, *B*, provided with removable journal-brackets *A'* and *D'*, for the purpose of accommodating either a Wyckoff or core auger, substantially as described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 23d day of January, 1882.

PARDON T. PERKINS. [L. S.]

Witnesses:

C. H. DUELL,

WM. C. RAYMOND.