

(No Model.)

2 Sheets—Sheet 1.

J. HATHAWAY.

PORTABLE DRILL AND FORGE REST.

No. 266,991.

Patented Nov. 7, 1882.

Fig. 2.

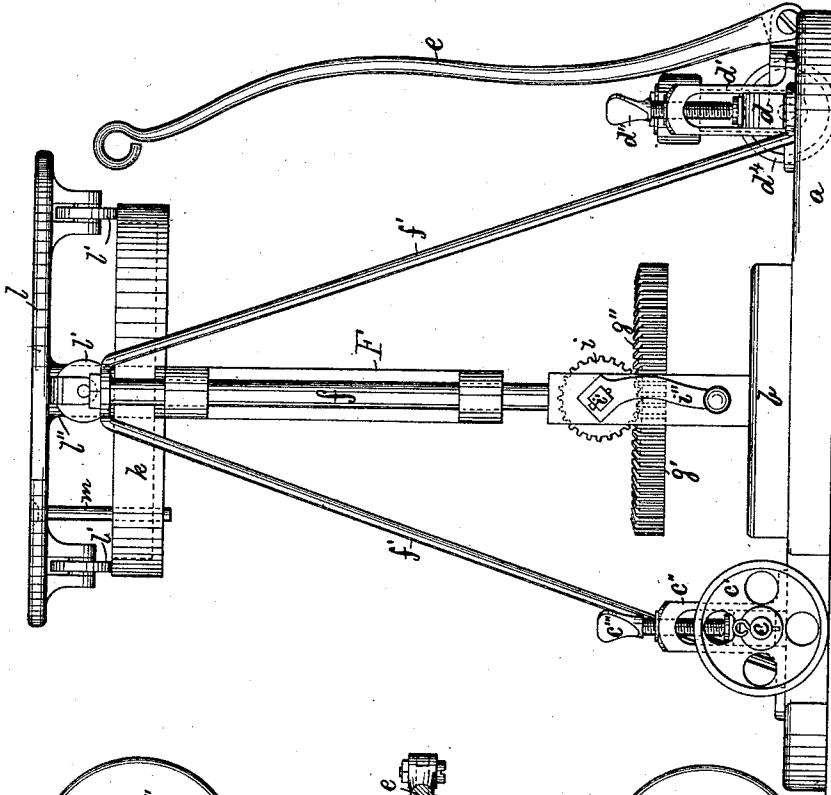
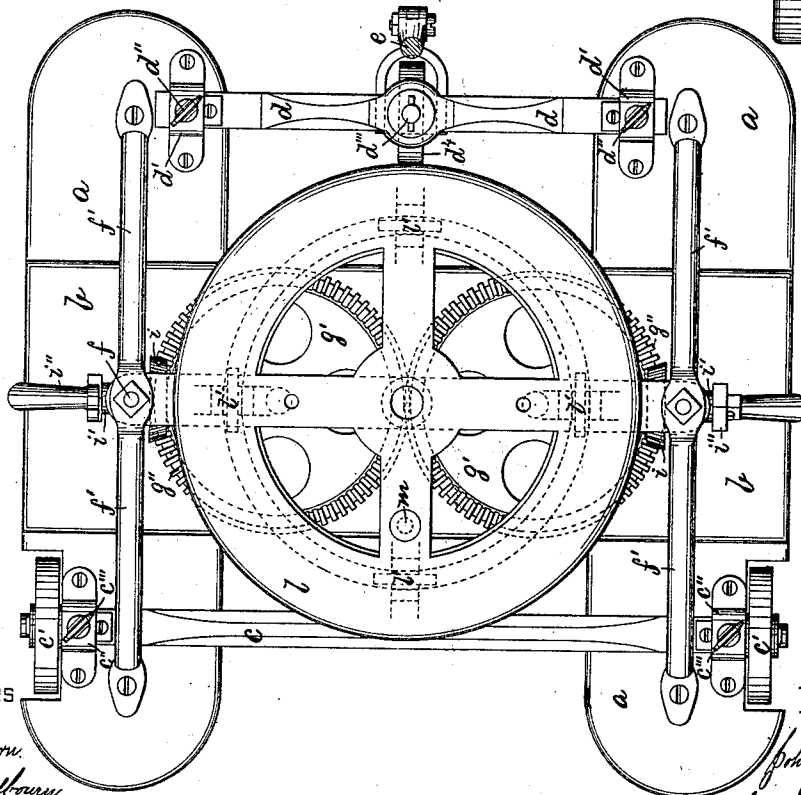


Fig. 1.



Witnesses
Henry Chadbourne.
Walter Chadbourne.

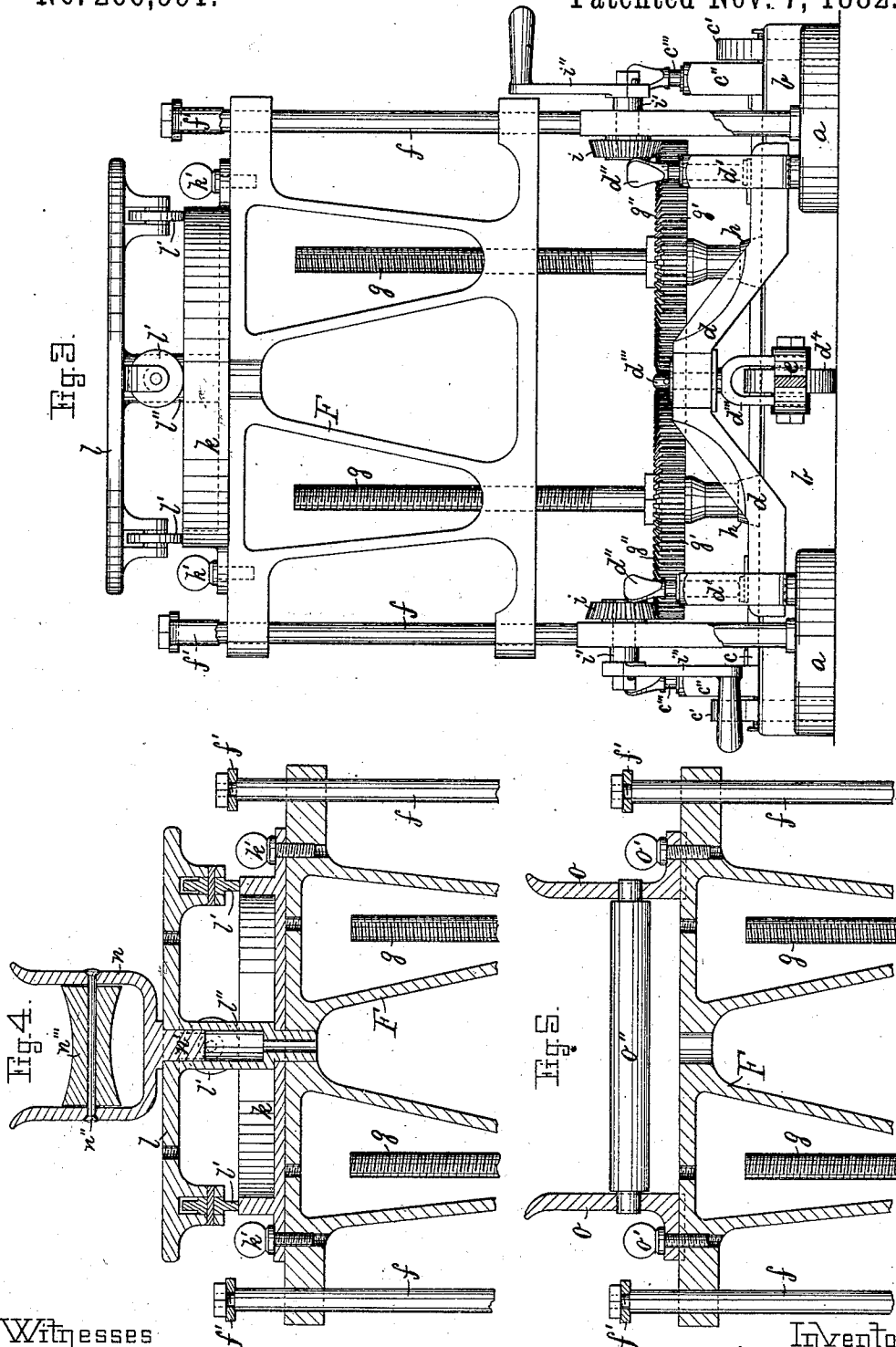
Inventor
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PORTABLE DRILL AND FORGE REST.

SPECIFICATION forming part of Letters Patent No. 266,991, dated November 7, 1882.

Application filed May 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN HATHAWAY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Portable Drill and Forge Rests; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in portable drill and forge rests, and is adapted for use beneath a vertical drill as a rest or support for the piece to be drilled, either directly beneath the drill or at a distance from it at one side, if the piece to be drilled is of such a length as to require two supports, one of which may be the ordinary drilling-machine table and the other one of my improved rests, or, if so desired, two of the latter may be used. My improved rest is also very well adapted for the use of blacksmiths as a forge-rest to support one end of the forging while being heated or forged by hand or power hammers, and it may also to advantage be used as a portable rest for planing or other wood-working machinery.

The invention is carried out as follows, reference being had to the accompanying drawings, on which—

Figure 1 represents a plan view thereof. Fig. 2 represents a side elevation. Fig. 3 represents an end elevation. Fig. 4 represents a sectional view showing a swivel-support attached to the rotary table; and Fig. 5 represents also a sectional view with the swivel-support, rotary table, and circular rail removed and substituted by a roller located in bearings secured to the vertically-adjustable frame of the machine.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a a represent the bottom frames, connected together by means of the cross-piece *b*, as shown.

c is a vertically-adjustable axle, upon the ends of which are journaled the rollers or wheels *c' c'*, as shown in Figs. 1 and 2. The axle *c* is vertically adjustable in slotted guide-pieces *c'' c''*, secured to top of frames *a a*, and are each provided with regulating-screws *c''' c'''*, which, when screwed downward, press on the upper side of the axle *c*, and thus cause

the frame *a a* to be raised above the floor, and the whole apparatus will then be supported on the wheels or rollers *c' c'*, so as to be easily transported and rolled from one part of the shop to another, as may be required, and for this purpose a similar vertically-adjustable axle, *d*, is arranged in slotted bearings *d' d'*, secured to the forward end of the frame *a a*, which bearings are provided with corresponding regulating-screws, *d'' d''*, as shown in Figs. 1, 2, and 3. Midway through the axle *d* passes a spindle, *d'''*, the lower end of which is forked to serve as a bearing for the single roller or wheel *d⁴*, which may thus be swiveled so as to guide the machine to any part of the shop as may be desired. When the machine is rolled to the desired place I unscrew the regulating-screws *c''' c''' d'' d''*, and in this manner the weight of the machine is taken off the rollers *c' c' d⁴*, and the frame *a a* is caused to rest directly on the floor.

e is a suitable rod or handle, hinged in its lower end to the forked part of the spindle *d'''*, by means of which the machine may be propelled when supported on its rollers *c' c' d⁴*, and when it is at rest the handle *e* may be folded to an upright position, as shown in Fig. 2, so as to be out of the way.

f f are upright guide-posts, secured firmly in their lower ends to the cross-piece *b*, and having secured to their upper ends the diagonal stays or braces *f' f'*, the lower ends of which are secured to the frames *a a*, as shown in Figs. 1 and 2. On the guide-posts *f f* the frame *F* is movable up and down by means of the screw-shafts *g g*, which pass through screw-threaded perforations in the lower part of the frame *F*, as shown in Fig. 3, and have their lower bearings in a suitable metallic shoe, *h*, secured to the cross-piece *b*, or in a similar or equivalent manner. On each screw-shaft *g* is a gear-wheel, *g'*, gearing into a similar gear on the other screw-shaft. The gears *g' g'* have beveled teeth *g'' g''* on their upper surfaces, gearing into the bevel-pinions *i i*, one for each wheel *g'*, as shown. Each pinion *i* is located on a short shaft, *i'*, having its bearing in the lower part of each guide-post *f* and provided with a suitable crank, *i''*. If so desired, one set of cranks *i''* and its pinion *i* may be dispensed with, and the frame *F* operated up and down by means of one single crank

and pinion only. If so desired, I may also dispense with one of the screw-shafts *g* and one of its gears *g' g''* for smaller or lighter machines; but I prefer to have it arranged as shown in the drawings.

To the top of the frame *F* is secured the circular rail-plate *k* by means of suitable screws, *k' k'*, as shown in Figs. 3 and 4, upon which rests loosely the rotary table *l*, provided with rollers *l' l'*, in bearings on its under side, as shown in said Figs. 3 and 4, such rollers *l' l'* being adapted to roll on the top of the circular rail *k* when the table *l* is rotated around its axis. The table *l* is provided centrally on its under side with a hollow sleeve, *l''*, the lower end of which passes through a central perforation in the upper part of the frame *F*, as shown in Fig. 4.

When the improved apparatus is to be used as a rest directly beneath or on one side of a drilling-machine or as a rest for usual work on planing-machines, or for forge purposes, I use it as shown in Figs. 1, 2, and 3—that is, with the rotary table *l* adapted to rotate on the top of the circular rail *k*—and if it is desired to lock the rotary table *l* stationary to the circular rail *k*, I do so by means of the locking pin or bolt *m*, projecting through corresponding perforations in the table *l* and horizontal portion of the circular rail *k*, as shown in Figs. 1 and 2.

If the improved rest is to be used for bar-iron or pipes of great length, or for other similar purposes, I insert into the hollow sleeve *l''* on the table *l* the shank *n'* of the forked bearing *n*, which is provided with the horizontal spindle *n''* and loosely-rotating roller *n'''*, as shown in Fig. 4, such device being easily detachable from the table *l* when not required for use.

When the rest is to be used for bars or other articles of greater width than may be taken in by the forked bearing *n*, I remove the rotary table *l* as well as its circular rail *k* and secure to the upper part of the frame *F* a pair of brackets, *o o*, by means of set-screws *o' o'*, such brackets *o o* serving as supports for the loose-

ly-journaled roller *o''*. (Shown in Fig. 5.) Similar or the same brackets, *o o*, may be secured to the top of the table *l* for the support of a roller thereon when the forked bearing *n* is removed.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. In a portable rest, for the purposes set forth, the bottom frame, *a a b*, the stationary vertical guide-posts *f f*, the vertically-adjustable frame *F*, and one or more screw-shafts, *g g*, gear-wheels *g' g''*, *g' g''*, and pinions *i i*, with crank or cranks *i'' i''*, combined and arranged as specified.

2. In a portable rest, for the purposes set forth, in combination with the bottom frame, *a a b*, vertical guide-posts *f f*, and vertically-adjustable frame *F*, the circular rail-plate *k* and rotary table *l*, with its rollers *l' l'*, as described.

3. In a portable rest, for the purposes set forth, the combination of vertical posts *f f*, vertically-adjustable frame *F*, circular rail-plate *k*, the rotary table *l' l'*, and swivel-rest *n n' n''*, as herein described.

4. In a portable rest, for the purposes set forth, the combination of vertical guide-posts *f f*, vertically-adjustable frame *F*, brackets *o o*, and roller *o''*, as described.

5. In a portable rest, for the purposes set forth, the combination of the lower frame, *a a b*, vertically-adjustable axle *c*, with its slotted bearings *c'' c''*, wheels *c' c'*, and regulating-screws *c''' c'''*, and forward vertically-adjustable axle, *d*, with corresponding slotted bearings, *d' d'*, regulating-screws *d'' d''*, and swivel-wheel *d'*, supported in forked spindle-piece *d'''*, as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN HATHAWAY.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBURN.