

# F. Hoffman, Polishing Wood.

No 54,161.

Patented Apr. 24, 1866.

Fig. 1

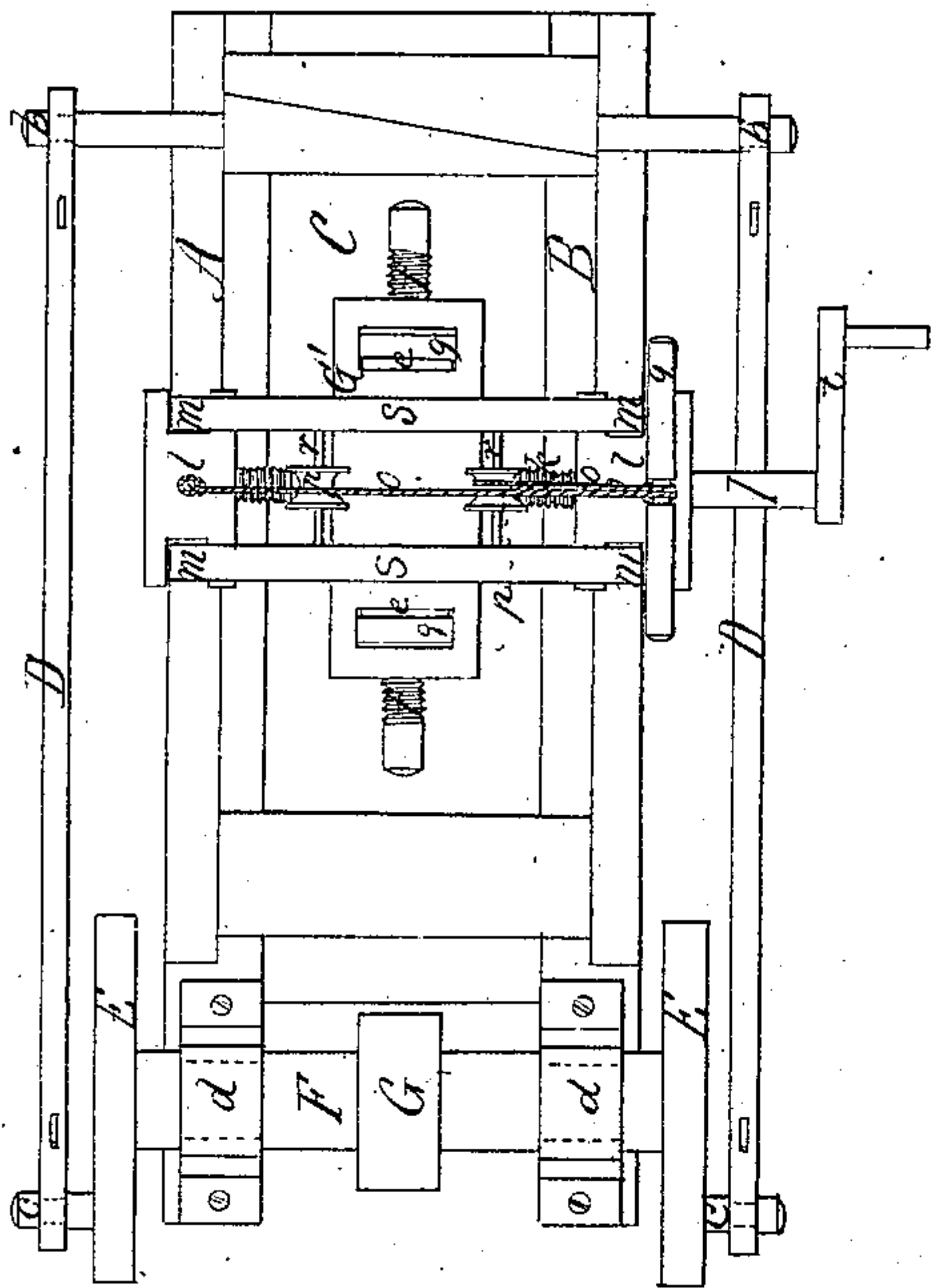


Fig. 2,

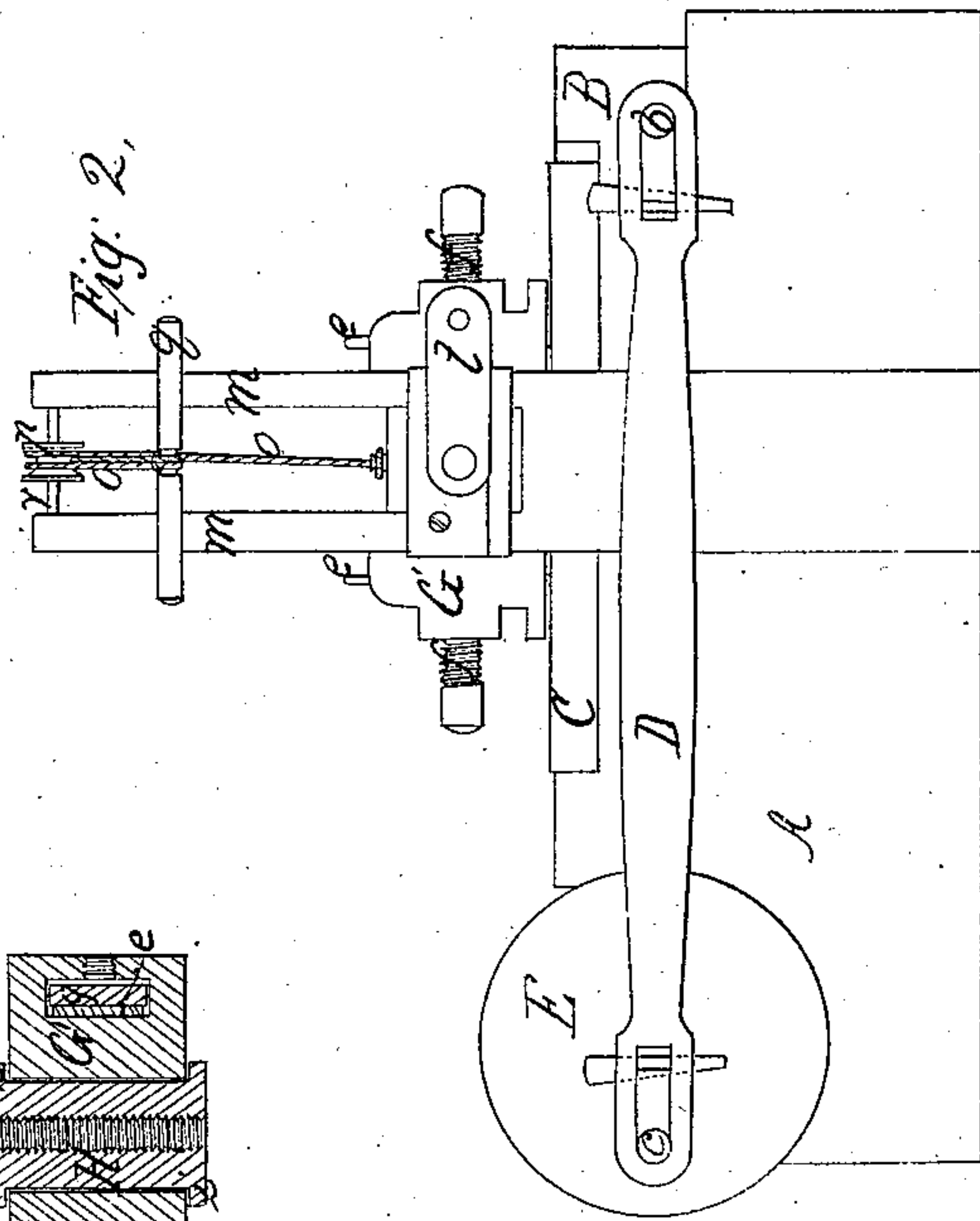


Fig. 5.

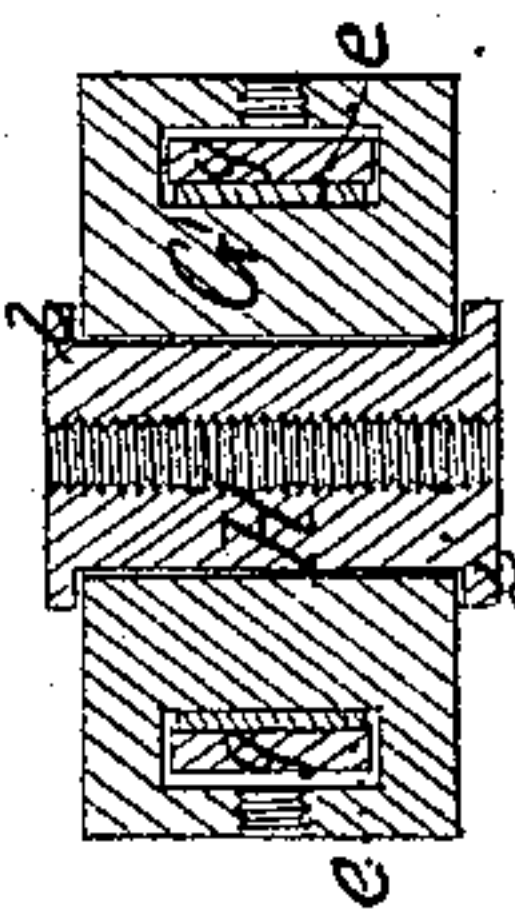


Fig. 3

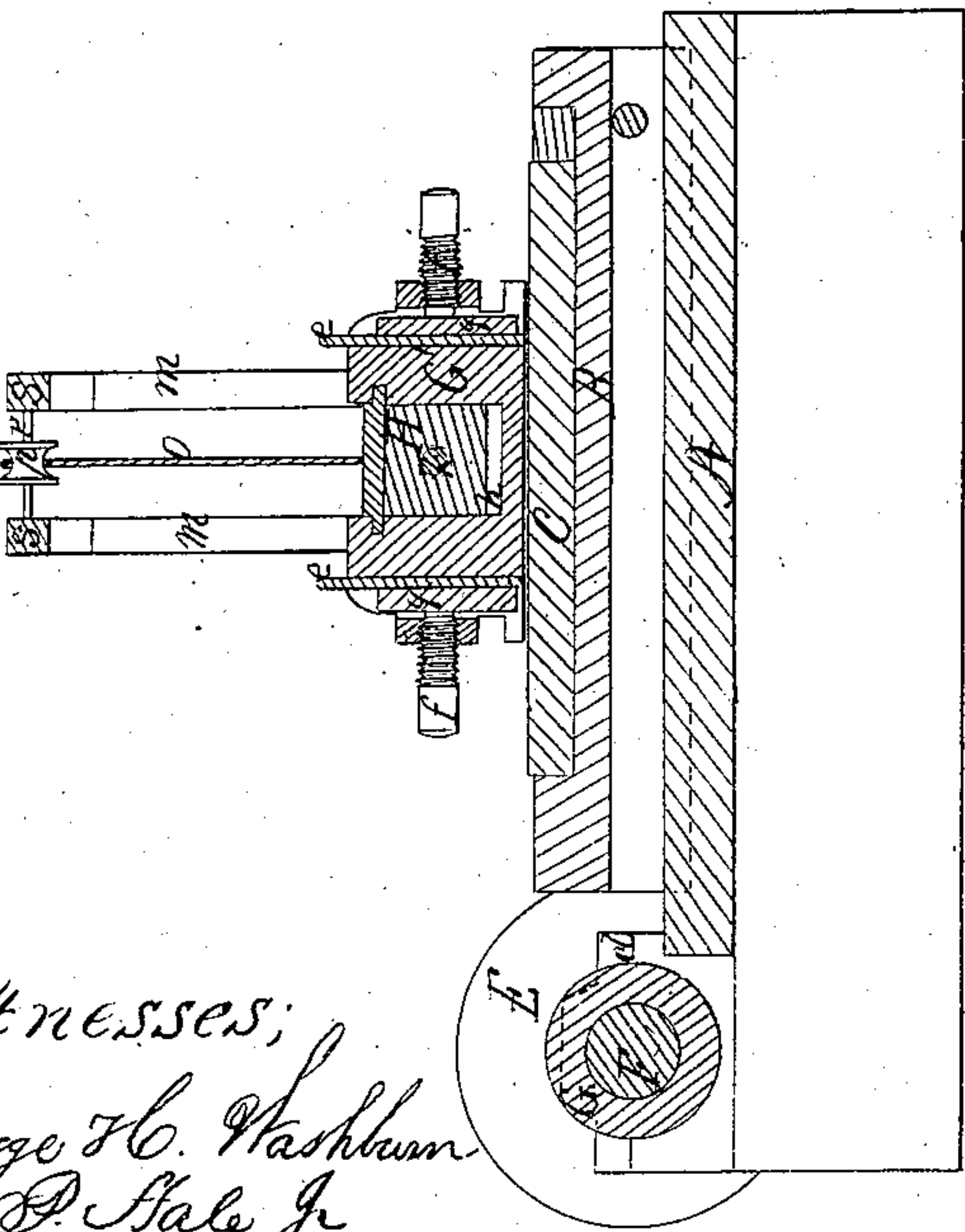
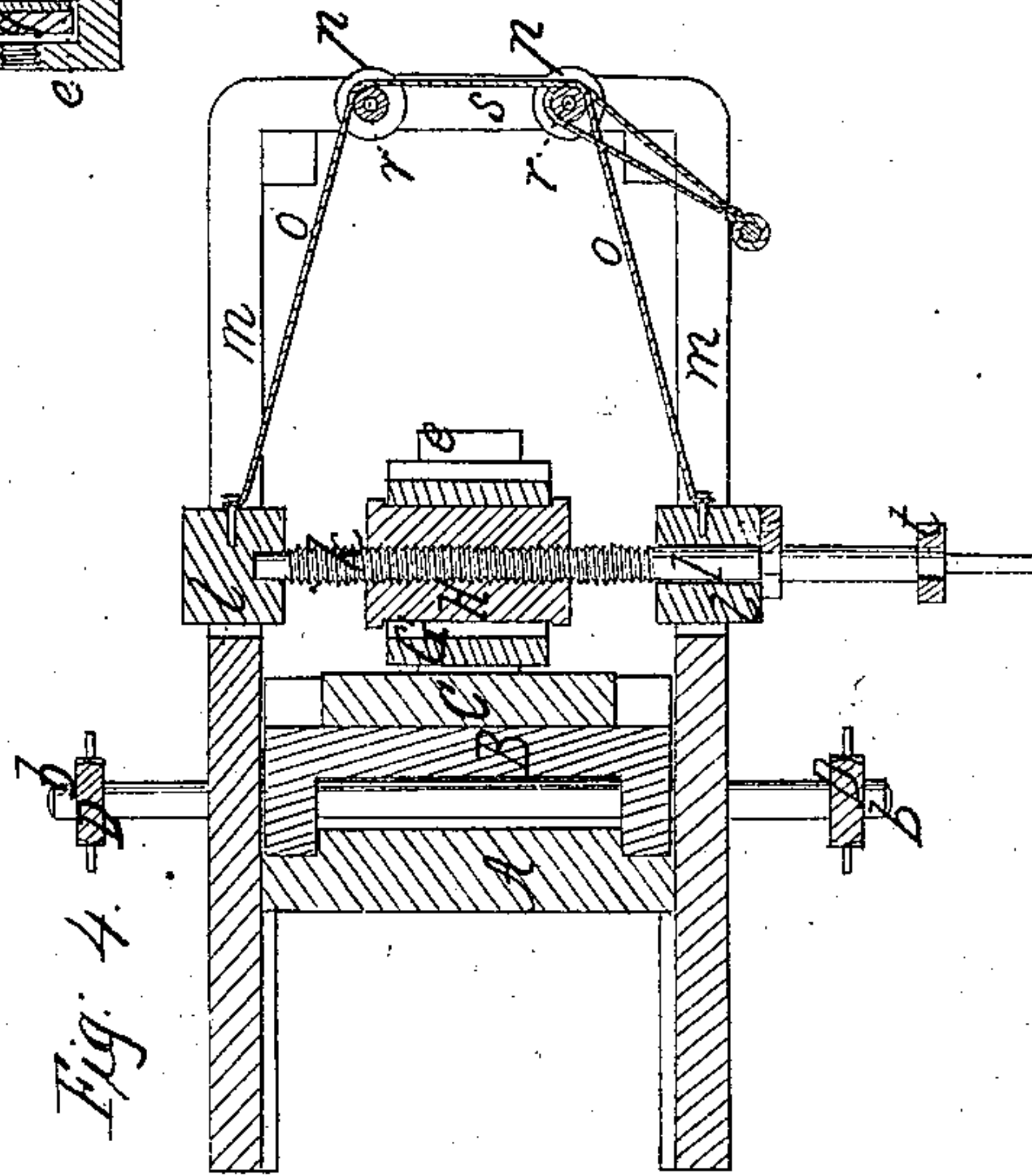


Fig. 4.



Witnesses;  
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FERDINAND HOFFMAN, OF WEST CAMBRIDGE, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR POLISHING WOOD.

Specification forming part of Letters Patent No. 54,161, dated April 24, 1866.

*To all whom it may concern:*

Be it known that I, FERDINAND HOFFMAN, (sometimes called FRANK HOFFMAN,) of West Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improved Machine for Planing, Scraping, Smoothing, or Polishing Wood or various other Materials; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section, of it.

My present machine differs materially from that for which I have recently applied for Letters Patent, inasmuch as in the present machine the bed or carriage for supporting the work to be scraped or otherwise reduced is sustained in guide-grooves, and has mechanism for imparting to it reciprocating longitudinal movements under the scraper or plane-stock, which is provided with mechanism such as will not only allow it to be pressed downward by its own weight, so as to keep the scrapers or cutters in contact with the work or article to be reduced, but will enable it to be moved laterally and gradually across the article, in order that the entire upper surface of such article may be subjected to the action of the scrapers or reducing-tools of the stock. The plane-stock, also, has mechanism by which it may be raised off the work, as occasion may require.

In the drawings, A denotes the bed-frame of the machine, such frame being provided on its top with straight parallel guide-grooves *a*, or their equivalents, for supporting and guiding a platform or carriage, B, for sustaining a piece of board, C, or the work to be reduced.

Two connecting-rods, D D, turning on journals *b b* extended from the carriage B near its front end, also turn on the pins *c c* of two cranked wheels, E E, which are fixed on a shaft, F, extending across the bed A, and being duly supported in boxes *d d* applied to such bed. The shaft F has a driving-pulley, G, fixed on it, such pulley being to receive a driving-belt proceeding from a suitable motor. On revolving the shaft reciprocating rectilinear motions will be imparted to the carriages.

The plane or scraper-stock G' is placed directly over the carriage, and carries two scrapers or reducing-cutters, *e e*, one being at each end of it, and each cutter being fastened in

place in its throat by a screw, *f*, acting against a bearer, *g*.

The plane-stock is intended to be made of some heavy material, such as iron, and with a passage, *h*, extending through it transversely, and formed with vertical and parallel sides. This passage is to receive a screw-nut, H, which goes through it, and has a depth less than that of the passage, and is provided with flanges *i i* arranged on it and with respect to the plane-stock in manner as shown in Fig. 5, which is a horizontal section of the said stock and the nut.

A screw, *k*, made on a shaft, I, screws into and through the nut H, such shaft being sustained in movable boxes *l l*, so supported between and by vertical guides *m m m m*, arranged as represented, as to be capable of being moved upward by means of two cords, *o o*, which are attached to such boxes and led around pulleys *p p*, and thence to a hand-bar, *q*. The pulleys *p p*, arranged as represented, are to revolve freely on two rods, *r r*, which extend from one to another of two horizontal bars, *s s*, which go across the machine and are supported on the upper ends of the four guides *m m m m*.

A crank, *t*, fixed on one end of the shaft I, enables a person, by the proper application of manual power, to revolve the screw *k*, and thereby move the plane-stock laterally, which he can do from time to time, as may be desirable.

The scrapers or reducing-cutters, being borne down upon the work by the weight of the plane-stock, will reduce the said work on its upper surface while it may be in the act of being moved along.

The above-described machine will be found to be of great utility in scraping and polishing the tops of piano-fortes, as well as various other plane surfaces, particularly those of veneered work.

I claim in the said machine as of my invention the following—that is to say:

The combination of the movable shaft-boxes *l l*, their guides *m m m m*, and lifting mechanism with the shaft I and its screw *k*, nut H, and the plane-stock G, applied to a movable carriage or bed to hold and move the work to be scraped or otherwise reduced, and to operate substantially as hereinbefore explained.

Witnesses:

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