No. 637,879. Patented Nov. 28, 1899.

M. G. LEWIS.

LETTER PRESS.

(Application filed Apr. 15, 1899.)

(No Model.)

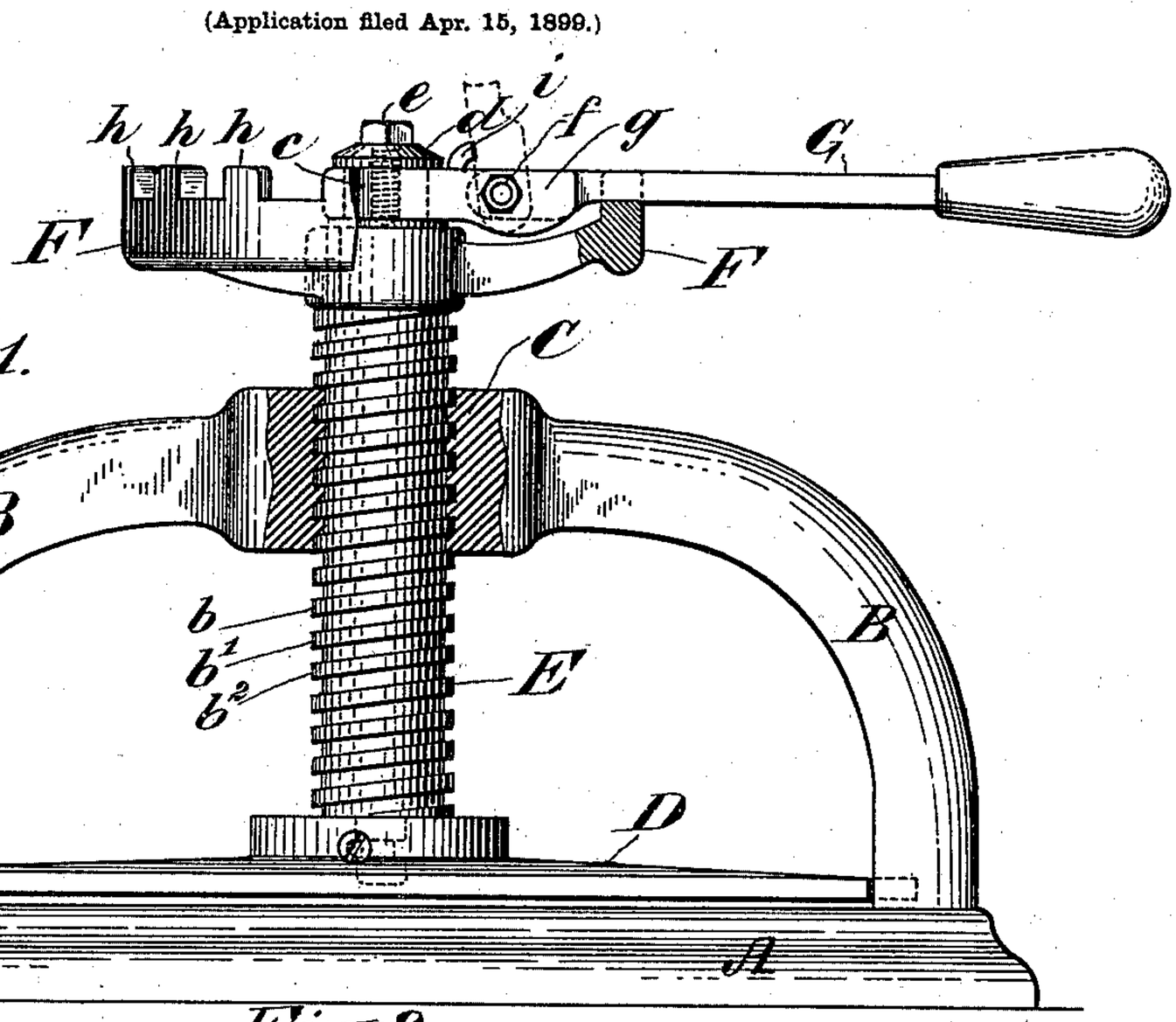
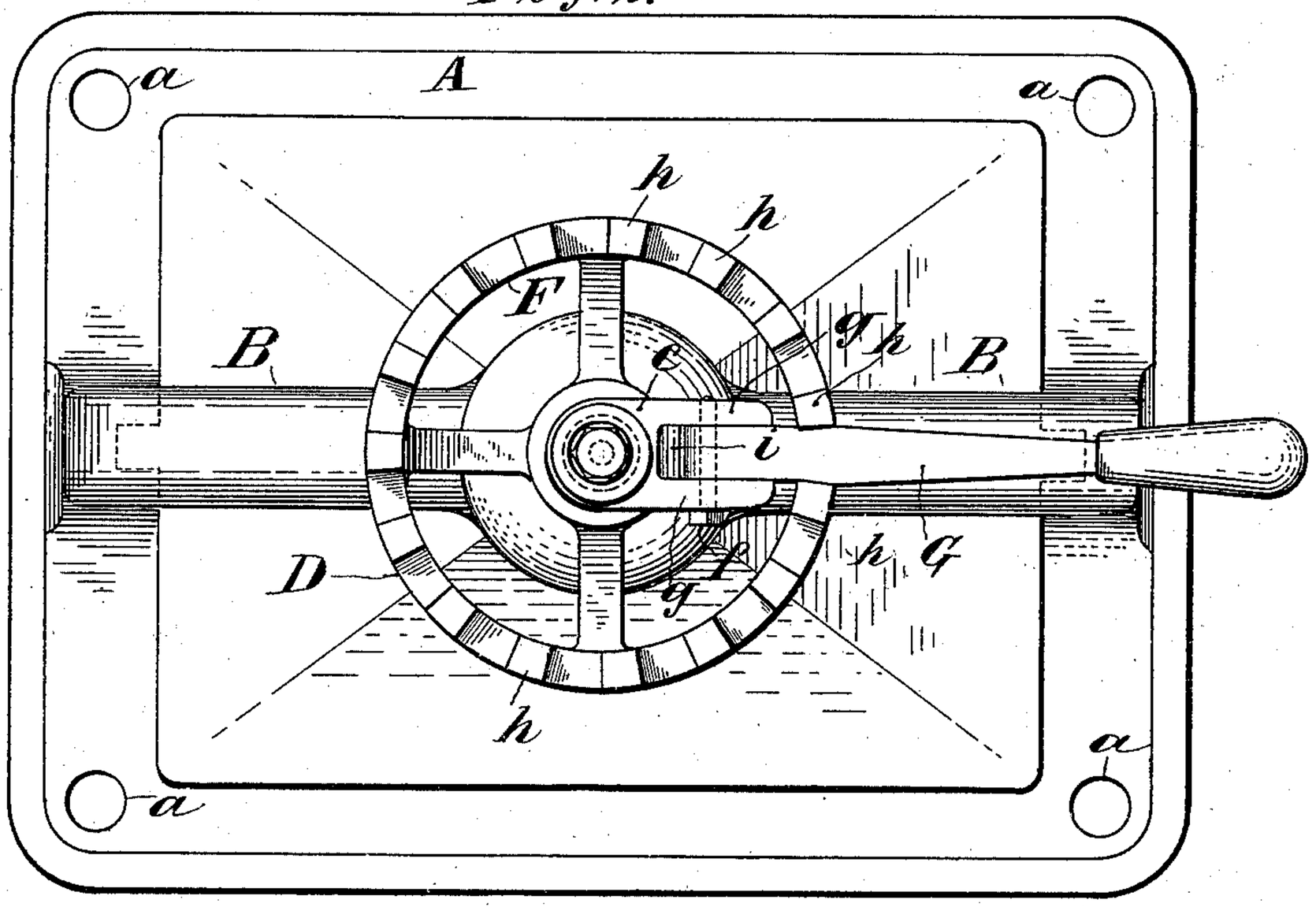


Fig. 1.

Fig. 2.



WITNESSES:

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MORTIMER G. LEWIS, OF NEW YORK, N. Y.

LETTER-PRESS.

SPECIFICATION forming part of Letters Patent No. 637,879, dated November 28, 1899.

Application filed April 15, 1899. Serial No. 713,096. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER G. LEWIS, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Letter-Presses, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to that class of screw-presses employed for copying letters and other papers and ordinarily known as "letter-presses" or "copying-presses." In this class of devices as usually made if the screw, which is of small diameter, be provided with a thread fine or close enough to afford the desired power the travel of the platen is necessarily slow and requires that the screw be turned several times to bring the platen to the desired point either to commence the pressure or to relieve the book or other article, so that it may be withdrawn from the press, and if the thread be made coarse enough or its inclination rapid enough to insure a rapid travel of the platen it is at the sacrifice of power and the screw will not hold the platen in elevated position or in working position after the pressure is applied, but will permit the platen to creep unless held either by the hand of the operator or by some mechanical appliance.

The object of my invention is therefore to obviate the above-recited objections and others and to provide or produce a screw-press of the class named wherein the platen may be easily moved by the screw either down upon the book or other article to be pressed or up to relieve the article, so that it may be withdrawn from the machine, wherein the platen will remain at any point to which it may be carried without danger of creeping, and wherein simple, convenient, and efficient means are embodied for applying any desired amount of power or pressure to accomplish the required work without interfering in any way with the rapid travel of the platen. To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain new and useful arrangements or combinations of parts and peculiar features of invention, as will be herein first fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical view, partly in elevation and partly in section, showing a letter-press constructed and arranged for operation in accordance with my invention and embodying my improvements, a fragment of the hand-wheel being broken out to facilitate the illustration. Fig. 2 is a top or plan view corresponding with Fig. 1.

In both the figures like letters of reference, wherever they occur, indicate corresponding parts.

The press may of course be of any of the usual sizes.

A is the bed of the press, which should be firmly secured to the stand or table in any suitable way, as by screws or bolts, which may pass through openings, as *a a*, provided for the purpose.

B B represent the arch or other means employed for sustaining the screw-socket above the bed. This arch instead of being made in one piece, as indicated, is sometimes replaced by two uprights and a bar, and the screw-socket C is made integral with the arch or cross-bar or otherwise formed, as may be most preferred.

D is the platen, applied in the usual way upon the lower end of the screw and movable up or down conformably with the travel of the screw.

E is the screw which I employ. On this I make the inclination of the thread comparatively very great, so that the axial travel of the screw will be great as compared with its circular movement. For instance, in the example shown the inclination of the threads is such that one complete revolution of the screw would raise or lower it (and therefore the platen with it) about one and one-half inches, so that a quarter-turn of the screw is generally abundant to carry the platen well free and clear of the book or other article, or, in other words, to open the press. The closing movement is accomplished with like rapidity. It is obvious that not nearly so great an inclination could be given the threads of a screw of the usual diameter—an inch or

thereabout—without thereby enabling the screw to creep back or forth, and I therefore make the screw of great enough diameter so that the inclination of the threads will be small in proportion to its diameter. In the example given the outside diameter of the screw is intended to be at least two and one-quarter inches. Of course these figures are subject to variation within reasonable limits. To insure a thoroughly good bearing in the screw-socket, I employ a number of parallel windings or threads, preferably three, as at *b b' b²*. With a screw thus constructed the necessary pressure could not be applied with the usual hand-wheel, and I therefore supply a means of increasing the leverage for turning the screw by enough or more than enough to compensate for all the loss of power due to the increase in axial travel.

F represents a small wheel applied upon and keyed to the upper end of the screw E and arranged to turn the same. This is used, as is the usual hand-wheel, to adjust the platen to the point desired.

G is a hand-lever of any desired length, the same being fulcrumed upon the upper part of the screw and free to turn about the axis of the screw. For the purpose of mounting the lever on the screw I employ any suitable collar, as *c*, which may fit upon a reduced portion of the screw and be held thereon by a washer, as *d*, and a retaining-bolt, as *e;* but these details may be varied without departing from my invention. In the collar *c*, of whatever form it may be, the lever G is pivoted or hinged, as by a hinge-bolt *f*, which passes through the ears *g g*, enabling the lever to be turned up or down, as may be required.

Upon the wheel F are a series of lugs *h h*, between any two of which the lever G may be dropped, and thus clutched with the wheel in order to turn the latter in either direction, the rapid adjustment of the platen being effected through the medium of the hand-wheel. Then by lowering the lever to its engagement with the wheel the latter may be further turned by the lever to produce any desired degree of pressure. The lever is also used to loosen the platen, after which it is turned up out of the way and the hand-wheel then employed for any further turning that may be required. At *i* is a stop, against which the upturned lever may rest, so that it is not in danger of accidentally dropping down.

The device thus constructed is well calculated to answer all the purposes or objects of the invention previously set forth. The improved press may be used in situations where the lever has room in which to be turned only through a limited arc—as, for instance, in a corner—for the lever may be clutched with the wheel at any point. The form of clutch is the simplest and cheapest which I have devised. Of course other forms might be adopted, it being only required that they be positive and substantial and that they enable the lever to turn the wheel forward and backward with equal certainty.

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

1. In a press of the character herein set forth, the combination with the screw constructed as explained to move rapidly in axial direction, of a hand-wheel, and a lever hinged upon the upper part of the screw as set forth and arranged to turn about the same and to engage the hand-wheel at any point, substantially as shown and described.

2. In a press of the character herein set forth, the combination with the screw, of the hand-wheel having lugs thereon, a movable collar mounted on the upper part of the screw and a lever hinged in said collar and arranged to turn therewith and to engage the hand-wheel at any point, substantially as shown and described.

3. In a press of the character herein set forth, the combination of the screw, the screw-socket, the hand-wheel having lugs thereupon, the collar mounted on the screw and having the ears, the lever hinged in said collar and coacting with the said lugs, and a stop for holding the lever when in upturned position, all constructed and arranged substantially as shown and for the purposes explained.

In testimony that I claim the foregoing I have hereunto set my hand, in the presence of two witnesses, at New York, N. Y., this 13th day of April, 1899.

MORTIMER G. LEWIS.

Witnesses:
WORTH OSGOOD,
C. SEDGWICK.