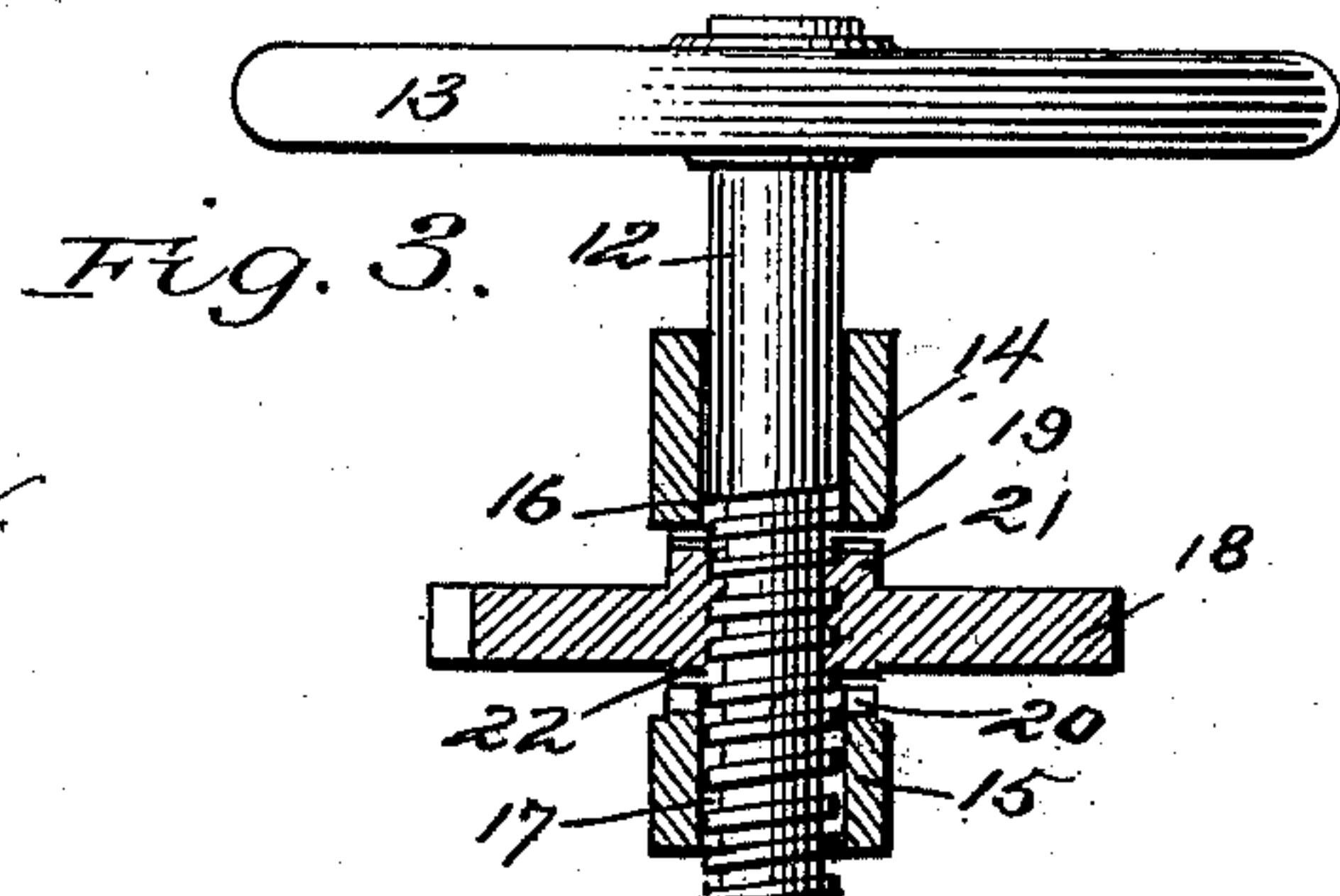
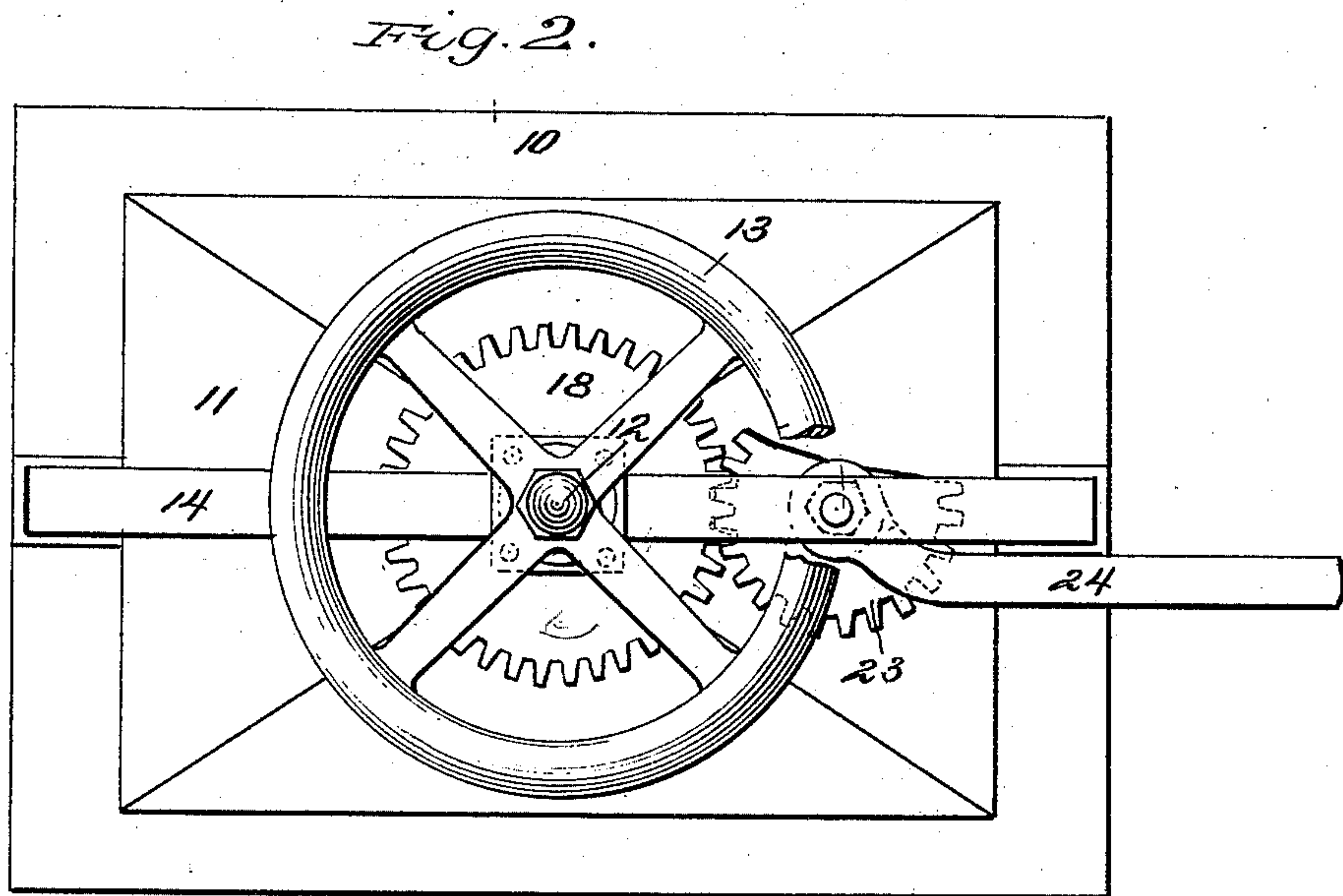
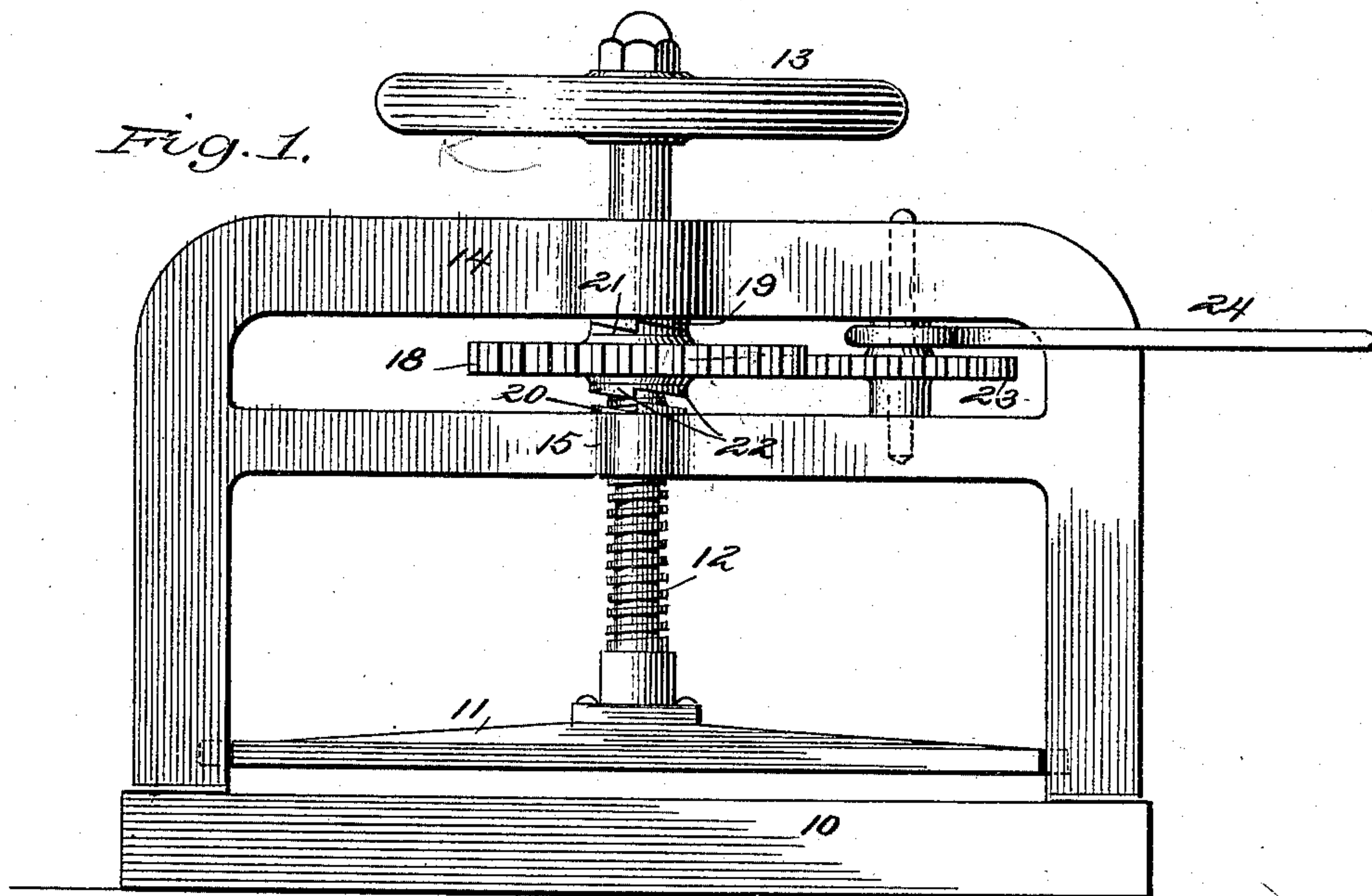


(No Model.)

F. CASTO.
LETTER PRESS.

No. 418,398.

Patented Dec. 31, 1889.



WITNESSES:

W. R. Harris
C. Sedgwick

INVENTOR

F. Casto

BY

Munn & Co.

ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK CASTO, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO SAMUEL D. COCHRAN, OF SAME PLACE.

LETTER-PRESS.

SPECIFICATION forming part of Letters Patent No. 418,398, dated December 31, 1889.

Application filed March 7, 1889. Serial No. 302,270. (No model.)

To all whom it may concern:

Be it known that I, FRANK CASTO, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Letter-Presses, of which the following is a full, clear, and exact description.

My invention relates to an improvement in letter-presses or presses of a similar character, and has for its object to provide a means whereby, after the follower has been carried downward as far as possible by the manipulation of the usual hand wheel or lever, the said follower may be forced still farther downward in a simple and convenient manner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter more fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a letter-press having the improvement applied thereto. Fig. 2 is a plan view of the same; and Fig. 3 is a central vertical section through the upper arm of the frame, the ratchet gear-wheel, and the cord.

In carrying out the invention I have illustrated my improvement as applied to a letter-press, in which press the bed-plate 10, follower 11, screw 12, and hand-wheel 13 are of the usual construction. The arch 14, however, is provided with a cord 15, and in the upper central portion of the arch and aligning portion of the cord vertical apertures 16 and 17 are respectively produced, the inner wall of which apertures is smooth.

The screw 12 passes upward from the follower through the apertures 16 and 17, and between the cord and upper portion of the arch a spur-wheel 18 is held to revolve upon the screw, the hub of said wheel being provided with an interiorly-threaded bore, as shown in Fig. 3. A double cam-surface 19 and 20 is imparted, respectively, to the opposed faces of the arch and chord around the apertures therein, consisting of a series of clutch-teeth, as best shown in Fig. 1, and

corresponding teeth 21 and 22 are produced upon the upper and lower surfaces of the spur-wheel hub for contact at the proper moment with the said cam-surface of the arch and chord. To the right of the screw a segmental gear 23 is held to revolve between the arch and chord, capable of meshing with the spur-clutch gear-wheel 18, and upon the upper trunnions of the segmental gear the inner end of a handle or lever 24 is secured, bent outward from its point of connection with the said trunnions to clear and project beyond the side of the arch, as best shown in Fig. 2.

The handle or lever 24 is usually secured in position by forming a polygonal section upon the upper trunnion of the segmental gear and producing an equivalent opening in the head of the handle to receive the same.

In operation, as the apertures in the arch and chord are not threaded, the screw is guided by the threaded hub of the spur-wheel, which, upon the first downward movement of the follower, clutches or contacts with the cam-surface of the arch. When the follower is run down until the letter, book, or substance to be pressed is reached and tension exerted thereon, the lever of the segmental gear is drawn to the left, causing the central gear to revolve, whereupon the hub of said gear, acting as a nut, forces the screw still farther downward.

The combined power of the screw, cams upon the hub and arch, and the leverage of the segment upon the teeth adds greatly to the capacity of the press.

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

1. The combination, with the arch of a press provided with a smooth bore, a chord integral with the arch having an aligning smooth bore, and a follower-screw passing upward through the bore of the arch and chord, of a spur-wheel having an interiorly-threaded bore mounted upon the screw between the arch and chord and provided with inclined or cam surfaces at top and bottom of the hub, corresponding inclined or cam surfaces formed upon the opposed faces of the arch and chord around the bores, and means, substantially as

described, for rotating the said spur-gear, as and for the purpose specified.

2. The combination, with the arch of a press provided with a smooth bore, a chord
5 integral with the arch having an aligning smooth bore, inclined or cam surfaces formed upon the opposed faces of the arch and chord near the bores, and a follower-screw passing
10 upward through said bores of the arch and chord, of a spur-wheel mounted upon the screw between the arch and chord, having an

interiorly-threaded hub and inclined or cam surfaces upon opposite faces of said hub, a segmental gear meshing with the said spur-gear, and a lever secured to the trunnions of
15 said segmental gear, substantially as shown and described.

FRANK CASTO.

Witnesses:

EDWARD RITCHIE,
ALBERT D. SHOCKLEY.