

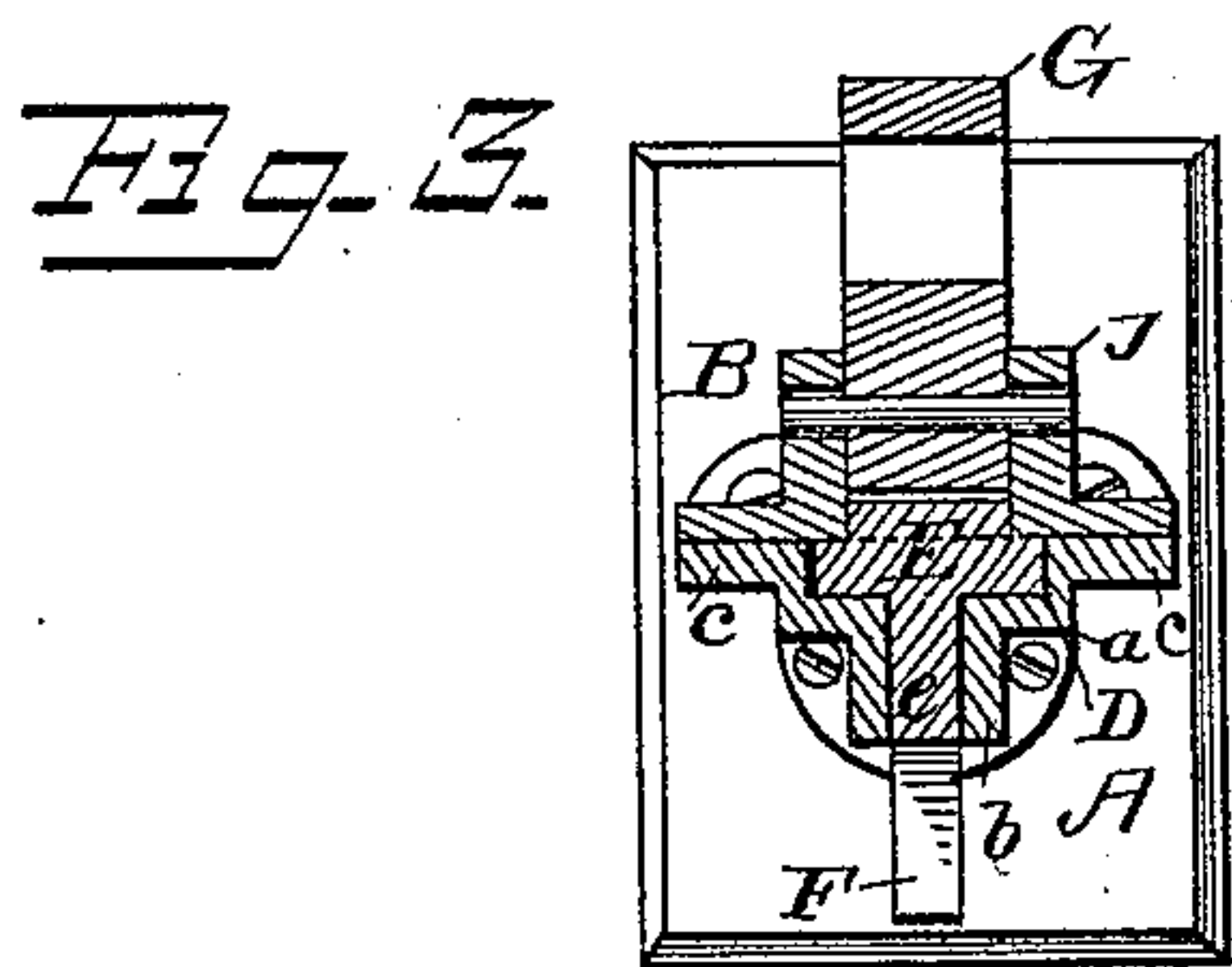
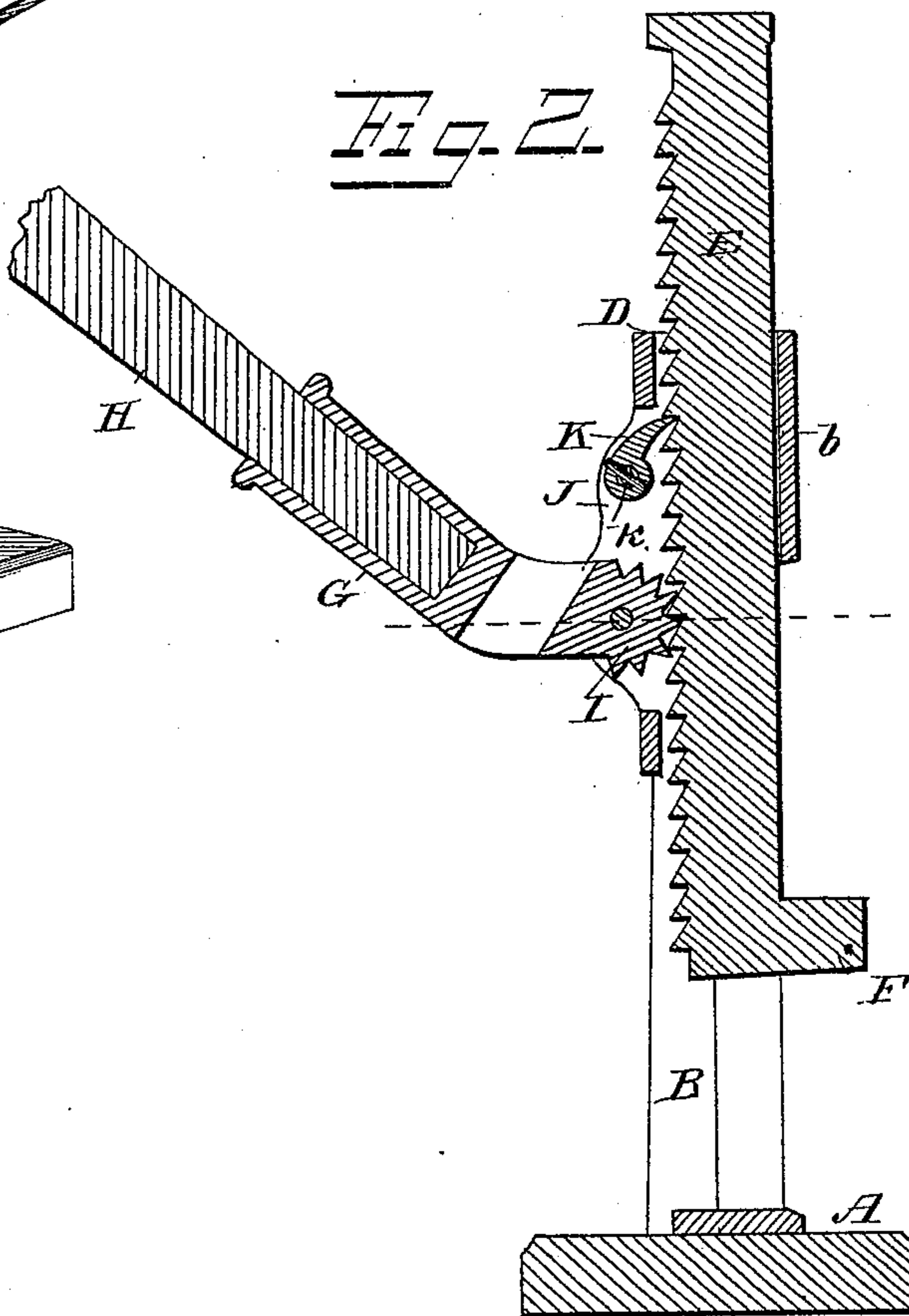
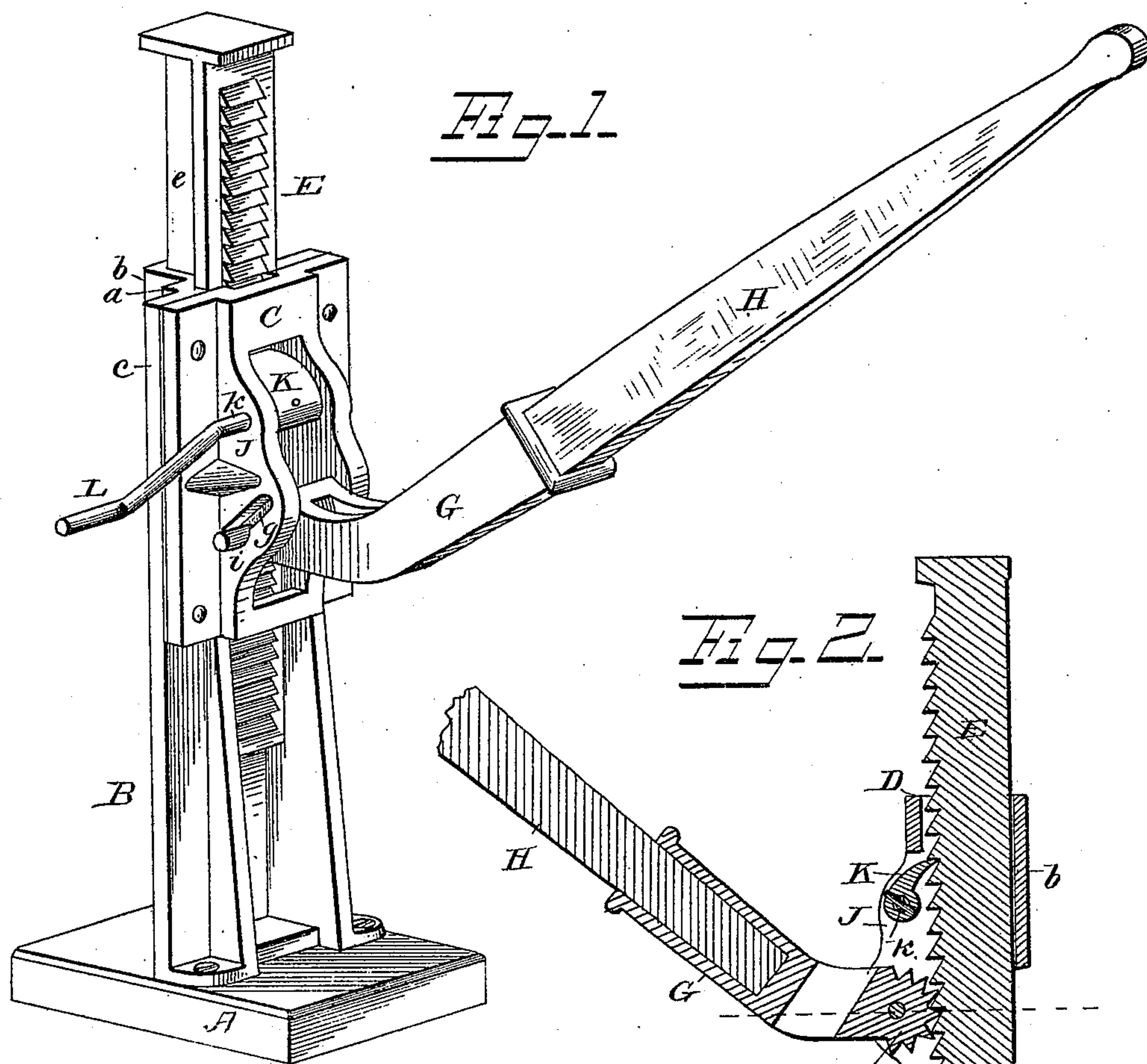
(No Model.)

G. W. NULL.

LIFTING JACK,

No. 284,975.

Patented Sept. 11, 1883.



WITNESSES
F. L. Ourand.
E. G. Siggers.

INVENTOR
Geo. W. Null,
by O. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE W. NULL, OF GREEN MOUNT, PENNSYLVANIA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 284,975, dated September 11, 1883.

Application filed July 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. NULL, a citizen of the United States, residing at Green Mount, in the county of Adams and State of Pennsylvania, have invented a new and useful Lifting-Jack, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to lifting-jacks; and it has for its object to provide means possessing superior advantages in point of simplicity, durability, inexpensiveness, and general efficiency.

To attain the aforesaid objects the said invention consists in certain details of construction and combination of devices, as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved lifting-jack in position for use. Fig. 2 is a vertical section of the same, and Fig. 3 is a cross-section.

Like letters refer to corresponding parts in the several figures.

Referring to the drawings, A designates the base of my improved lifting-jack, having a standard, B, erected thereon, said standard being fluted at *a*, along the back portion, and having a Γ -shaped portion, *b*, extending from the flutes *a* of the standard.

Flanges *c* extend from the front of the standard, and on said flanges rests the face-plate C, which is fastened to the front of said standard, and between the face-plate and the latter a space, D, is provided, in which a rack-bar, E, moves vertically. As shown, the rack-bar is approximately T-shaped in cross-section, the extended back part, *e*, fitting in the portion *b*, while the broad front face of the rack-bar is formed with downwardly-inclined teeth.

F designates a projection formed on the extreme lower end of part *e* of said rack-bar, said projection sliding vertically in the Γ -shaped portion of the standard, which is slotted to permit said vertical movement.

It will be seen that the upper end of portion *b* of the standard is not slotted, and thus the vertical movements of the rack-bar will be limited by the projection F striking against the same. By means of the projection, the

rack-bar can be lifted from the base to any certain height, and then by manipulating the jack, as hereinafter explained, the weight on top of the rack-bar will be raised to the desired height.

G designates a lever having a handle, H, socketed therein, said lever carrying a segment, I, at its inner end, engaging with the teeth on the rack-bar. The lever is journaled in inclined slots *g*, formed in brackets J, projecting from the face-plate, the lower portion of the slots being elongated at one side, as shown at *i*, to permit the journals of the lever to rest in the elongated portion when the lever is depressed.

It will be seen that by lifting the lever toward the upper ends of the slots *i* the segment on said lever will be released from contact with the teeth on the rack-bar, and thus said rack-bar will be allowed to descend if the pawl hereinafter mentioned is removed from engagement with the same.

K designates a pawl fitted on a shaft, *k*, journaled in the brackets J, and provided with a crank, L, for operating or disengaging the same. Said pawl, when the jack is in position for use, is engaged with the teeth on the rack-bar, and the heavier the weight placed on the rack-bar the more surely will the pawl engage the teeth of the rack-bar. The downwardly-inclined teeth, in connection with the pivoting of the pawl, accounts for this fact, and while the rack-bar cannot move downwardly when the pawl is engaged therewith, yet, when the lever is operated to raise the rack-bar, the pawl slides over and catches under the succeeding teeth of the bar.

The operation of my invention is obvious. When it is desired to raise the rack-bar to a certain height—for instance, up to the axle of a vehicle—the rack-bar is operated by means of the projection, which is caught hold of by the hand, and thus the jacket can be operated with ease until it touches the object, thereby requiring but a few strokes of the lever to raise the vehicle-axle. The manner of raising the same is as follows: The pawl and segment are both engaged with the teeth on the rack-bar, and when the lever, with its journals, is raised in the slots *g*, the segment is disengaged from the teeth. Then by depressing the lever un-

til its journals rest in the elongated portions *i* of the said slots the segment engages again with the teeth of the rack-bar and moves the latter upward, the pawl being constantly engaged with the said rack-bar, so as to hold it from downward movement. This vertical movement of the lever will raise the object to the required height, and the rack-bar can be lowered by raising the lever in the slots, the segment being released from contact with the teeth on the rack-bar, and then disengaging the pawl from said teeth, the rack-bar thereby descending.

My improved lifting-jack is durable, simple in construction, and efficient in operation. It lifts direct from the lower as well as the upper end of rack-bar, and has a short leverage, and therefore great lifting-power. The operation of raising the objects can be performed in an almost incredible space of time, while besides the aforesaid advantages my improved lifting-jack possesses others of minor importance, which need not be recited here.

It is obvious that various modifications can be made without departing from the spirit or scope of my invention.

Having described my invention, I claim as my own—

1. In a lifting-jack, the standard erected on a suitable base and having a rack-bar moving vertically in the same, in combination with a lever journaled in brackets projecting from the face-plate of said standard, and provided with a segment at its inner end, engaging with the rack-bar, and a pawl journaled in said brackets and having a crank, for the purpose set forth.

2. In a lifting-jack, the standard erected on a suitable base and having a rack-bar moving

vertically in the same, a projection on the rear end of the rack-bar moving in a slot formed in the back portion of the standard, and a face-plate provided with brackets and attached to the front of the standard, in combination with a lever journaled in slots *g* of the brackets, and provided with a segment at its inner end engaging with the rack-bar, and a pawl journaled in said brackets and having a crank, for the purpose set forth.

3. In a lifting-jack, the standard erected on a suitable base and having a rack-bar moving vertically in the same, and a face-plate attached to the front of said standard and provided with brackets projecting from the same, in combination with a lever journaled in inclined slots *g*, formed in the brackets, a segment on the inner end of the lever engaging with the rack-bar, a pawl journaled in the brackets above the lever and provided with a crank, and the slots *g*, having elongations *i*, in which the journals of the lever rest when depressed, all arranged and operating for the purpose set forth.

4. In a lifting-jack, the fluted standard erected on a suitable base, and having a shaped portion, *b*, extending from the flutes of said standard, in combination with the rack-bar formed with an extended back part, *e*, and a projection, *F*, on the lower end of said part, sliding in the slotted lower end of portion *b*, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE W. NULL.

Witnesses:

J. A. KITZMILLER,
JAMES A. WEIKERT.