

(No Model.)

C. H. AMIDON.

BIT STOCK.

No. 283,844.

Patented Aug. 28, 1883.

Fig. 1.

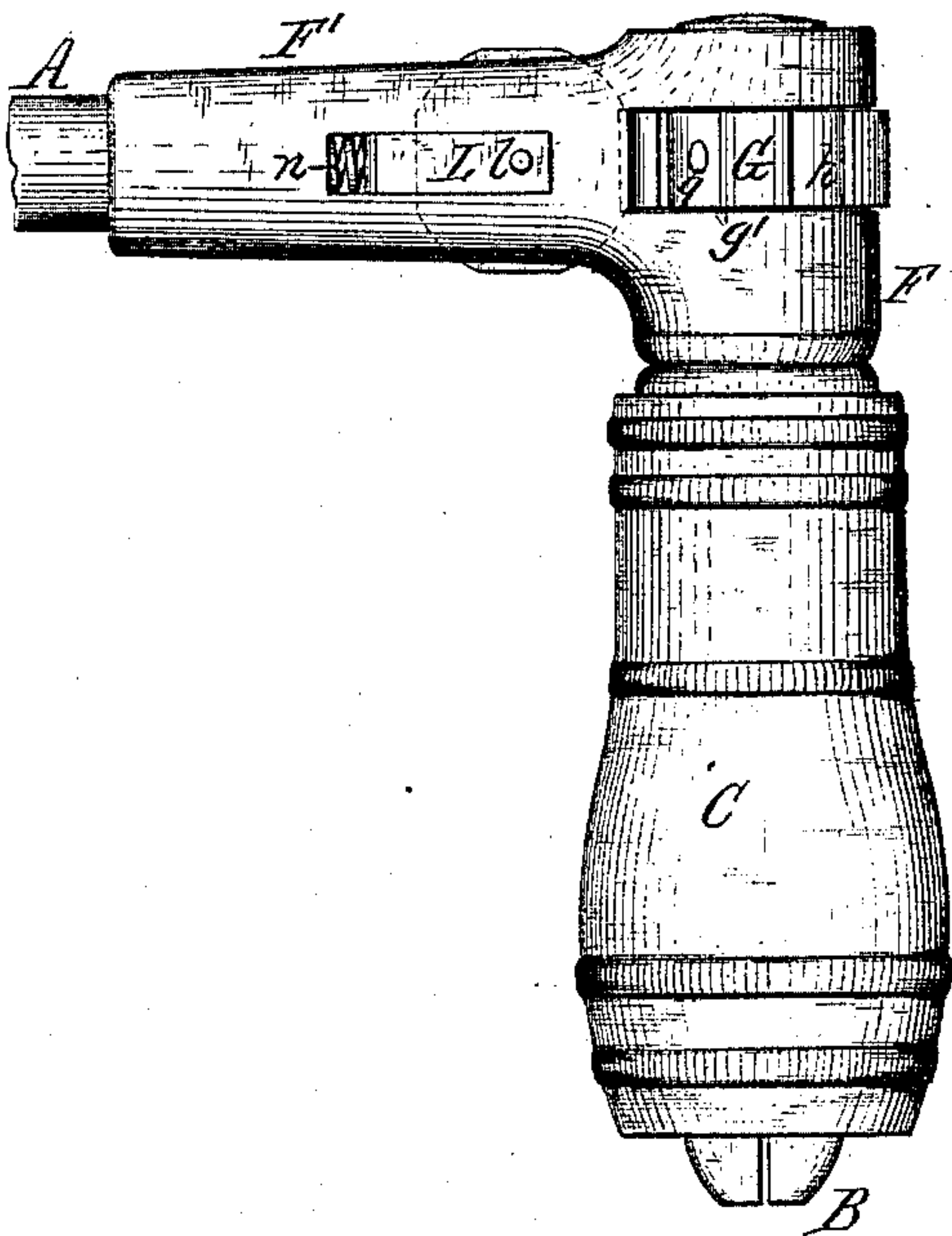


Fig. 2.

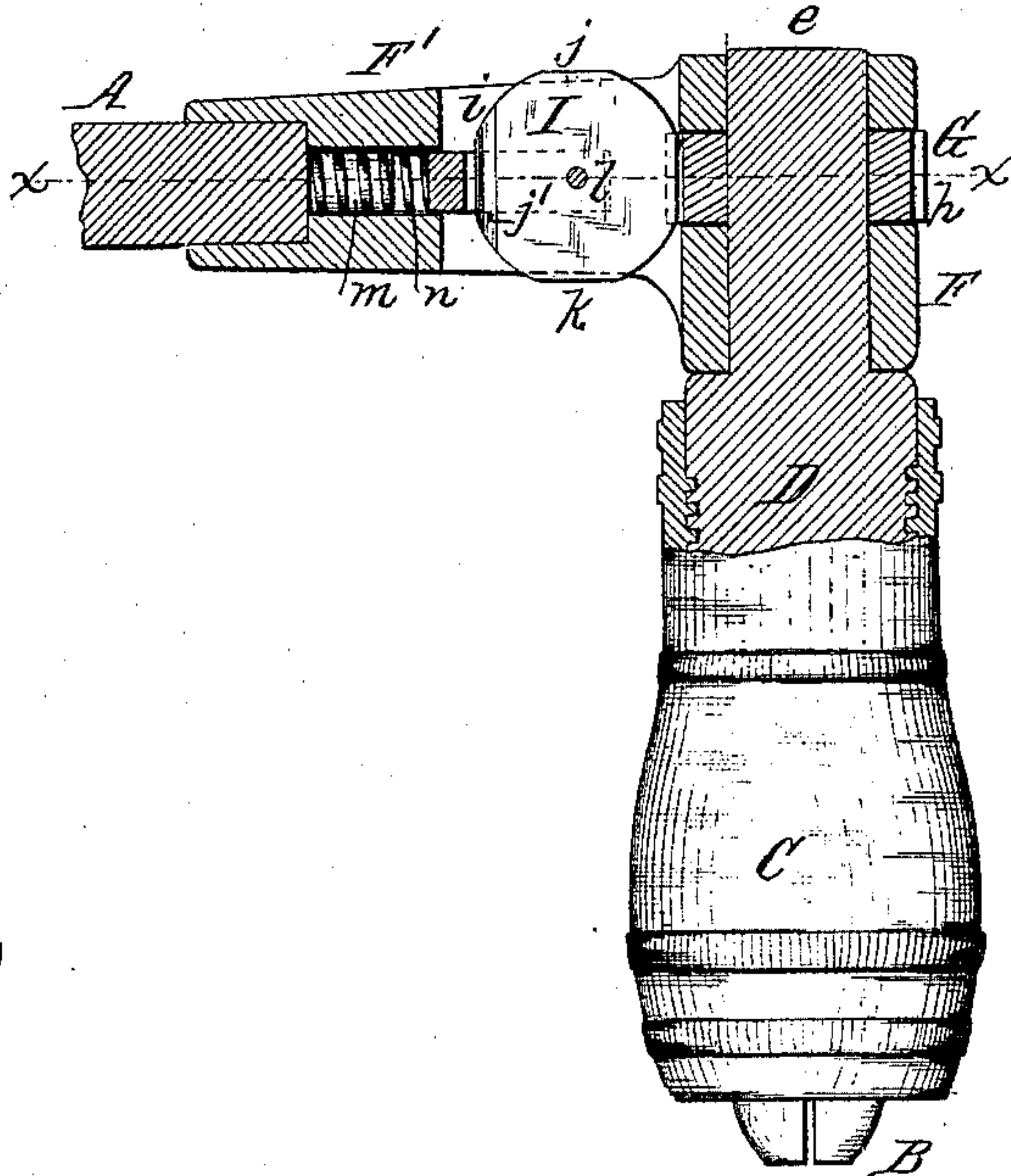


Fig. 3.

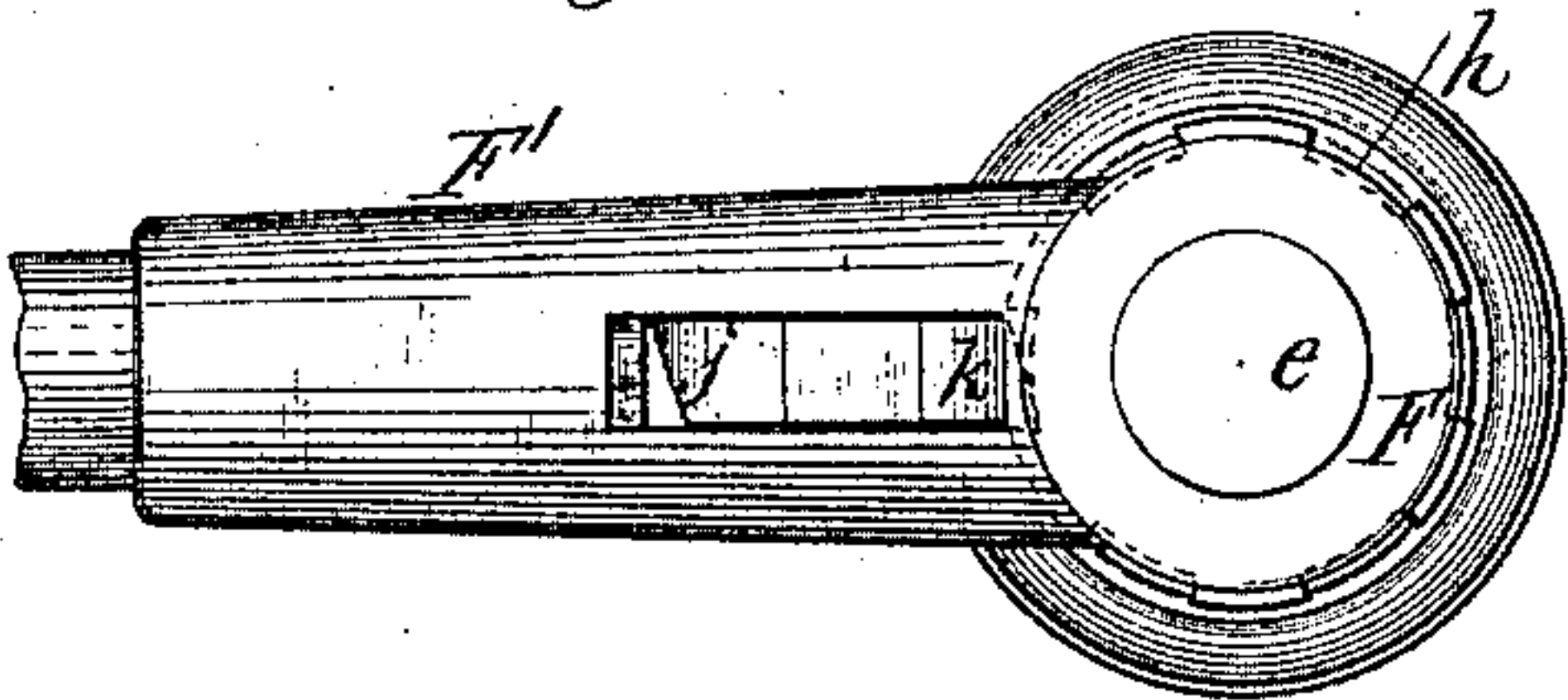


Fig. 4.

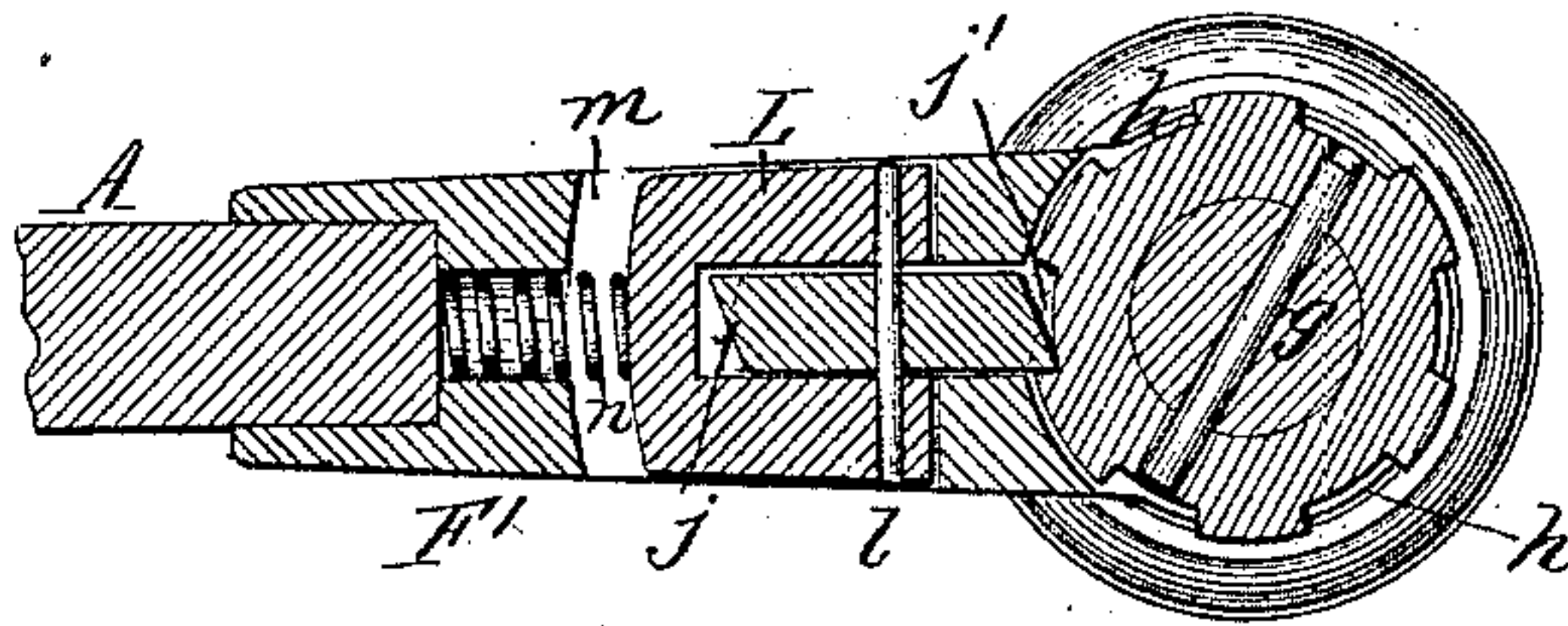
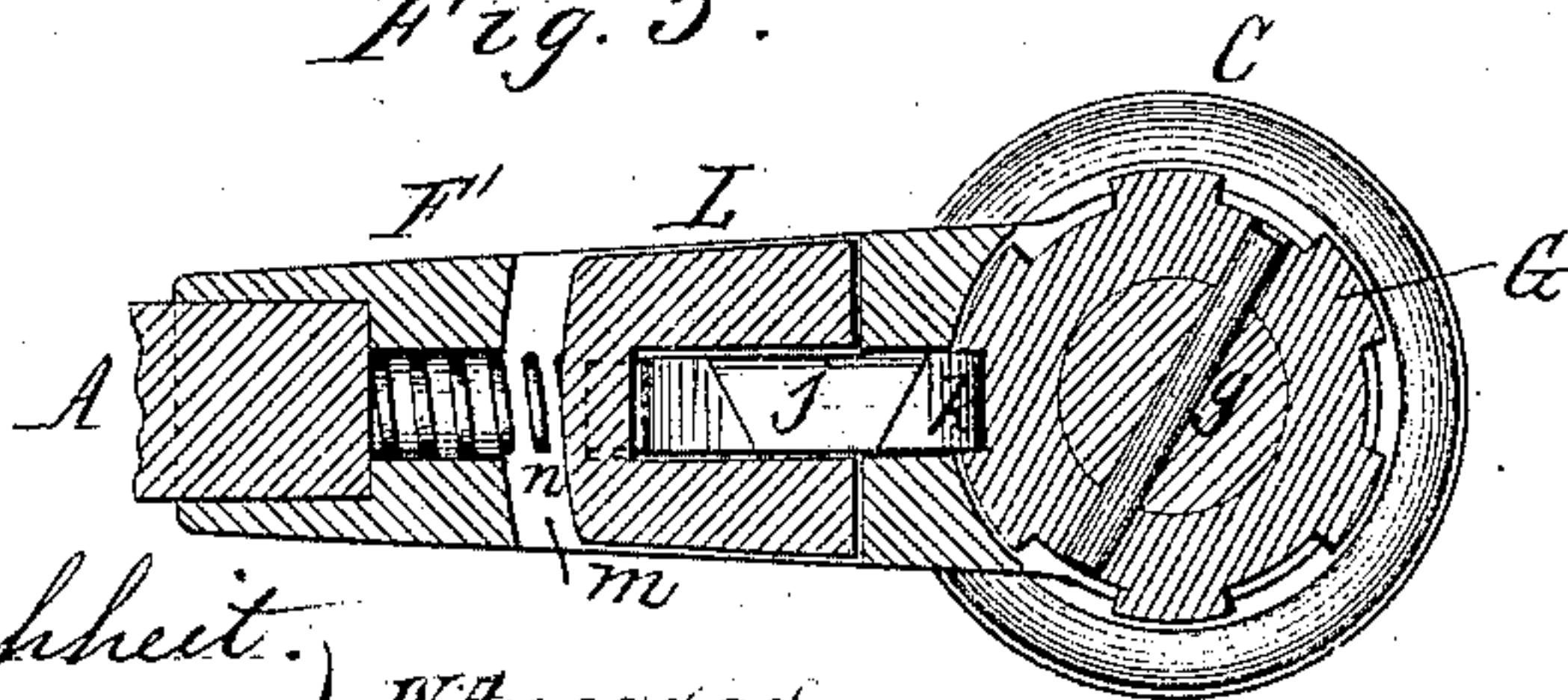


Fig. 5.



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Witnesses

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BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 283,844, dated August 28, 1883.

Application filed December 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. AMIDON, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Bit-Braces, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates more particularly to bit-braces which are provided with a ratchet mechanism, which can be adjusted to permit the brace to be used either as a right-hand or left-hand brace, or as an ordinary brace, at the desire of the operator.

The object of my invention is to construct the ratchet mechanism in a manner which permits its ready adjustment, and which prevents accidental displacement of the parts.

My invention consists of the particular construction of the ratchet mechanism, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of the lower part of a ratchet-brace provided with my improvements. Fig. 2 is a sectional elevation, and Fig. 3 is a top plan view thereof. Fig. 4 is a horizontal section in line *xx*, Fig. 2. Fig. 5 is a similar view, showing the pawl with its square shoulder engaged with the notched wheel.

Like letters of reference refer to like parts in the several figures.

A represents the lower end of the brace; B, the jaws, between which the bit is secured; C, the screw-sleeve surrounding the jaws B; and D, the socket-piece, in which the jaws B are arranged, and which is provided with an external screw-thread, on which the threaded sleeve C works. All of these parts are constructed in the usual and well-known manner.

e represents a cylindrical shank extending upward from the end of the socket-piece D, and F is a sleeve or cylindrical bearing secured to the lower end, A, of the brace, and turning on the shank *e*.

G represents a ratchet-wheel secured to the shank *e* by a rivet, *g*, or any other suitable means, and fitting in a mortise or recess, *g'*, in the sleeve F. The wheel G is provided in its face or periphery with notches *h*, having abrupt sides, as clearly shown.

I represents a pawl, of disk form, arranged

in a mortise, *i*, in the shank F' of the sleeve F at right angles to the plane in which the ratchet-wheel G is arranged. The face of the disk-pawl I fits in the notches in the face of the ratchet-wheel G.

j j' are two beveled or inclined faces formed in the periphery of the pawl, on opposite sides of the center thereof, one of the inclined faces being arranged to turn the ratchet-wheel to the right and slide over the teeth to the left, and the other inclined face being arranged to operate the ratchet-wheel in the opposite direction.

k represents a portion of the face of the disk-pawl, having two square shoulders, which, when engaged in one of the notches of the ratchet-wheel, will cause the latter to turn with the brace in either direction. The disk-pawl I turns in a bifurcated sliding bearing, L, to which it is attached by a rivet, *l*. The bearing L slides toward and from the ratchet-wheel in a mortise, *m*, arranged in the shank F' of the sleeve F at right angles to the mortise *i*.

n represents a spiral or other suitable spring arranged in a socket in the shank F' and pressing against the bearing L, so as to hold the disk-pawl I in contact with the ratchet-wheel G. Upon turning the disk-pawl I on its pivot either of the faces *j j'* *k* may be engaged with one of the notches of the ratchet-wheel G, thereby adapting the brace to operate as a right-hand or left-hand ratchet-brace, or to operate like an ordinary brace, at the desire of the operator. The circular form of the pawl balances the latter on its pivot and enables the pawl to retain its position more securely than a pawl which is pivoted at one end; and it further reduces the portions of the pawl which project beyond the surface of the mortise in which the pawl is arranged, thereby preventing the pawl from catching against surrounding objects, whereby the accidental displacement of the pawl is avoided.

I am aware that it is not new to provide a "sector" pawl provided with beveled and squared surfaces adapted to interlock with the notched wheel of a brace, said pawl being pivoted at or near its rear end, and I do not therefore wish to claim any such construction; but

What I claim as my invention is—

1. The combination, with the bit-socket D,
and the notched wheel G, secured thereto, of
a circular or disk pawl, I, pivoted at its cen-
5 ter and provided on its periphery with bev-
eled faces $j j'$, and a square face, k , substan-
tially as set forth.

2. The combination, with the bit-socket D,
and the notched wheel G, secured thereto, of a
10 disk-pawl, I, pivoted at its center to a bifur-

cated sliding bearing, L, and provided on its
periphery with beveled faces $j j'$, and a square
face, k , the sleeve F and shank F', provided
with mortises $g' i m$, and the spring n , which
presses against the bearing of the pawl, sub-
stantially as set forth.

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Witnesses:

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