

117659

John J. McKnight, - Extension Table.

Fig. 1

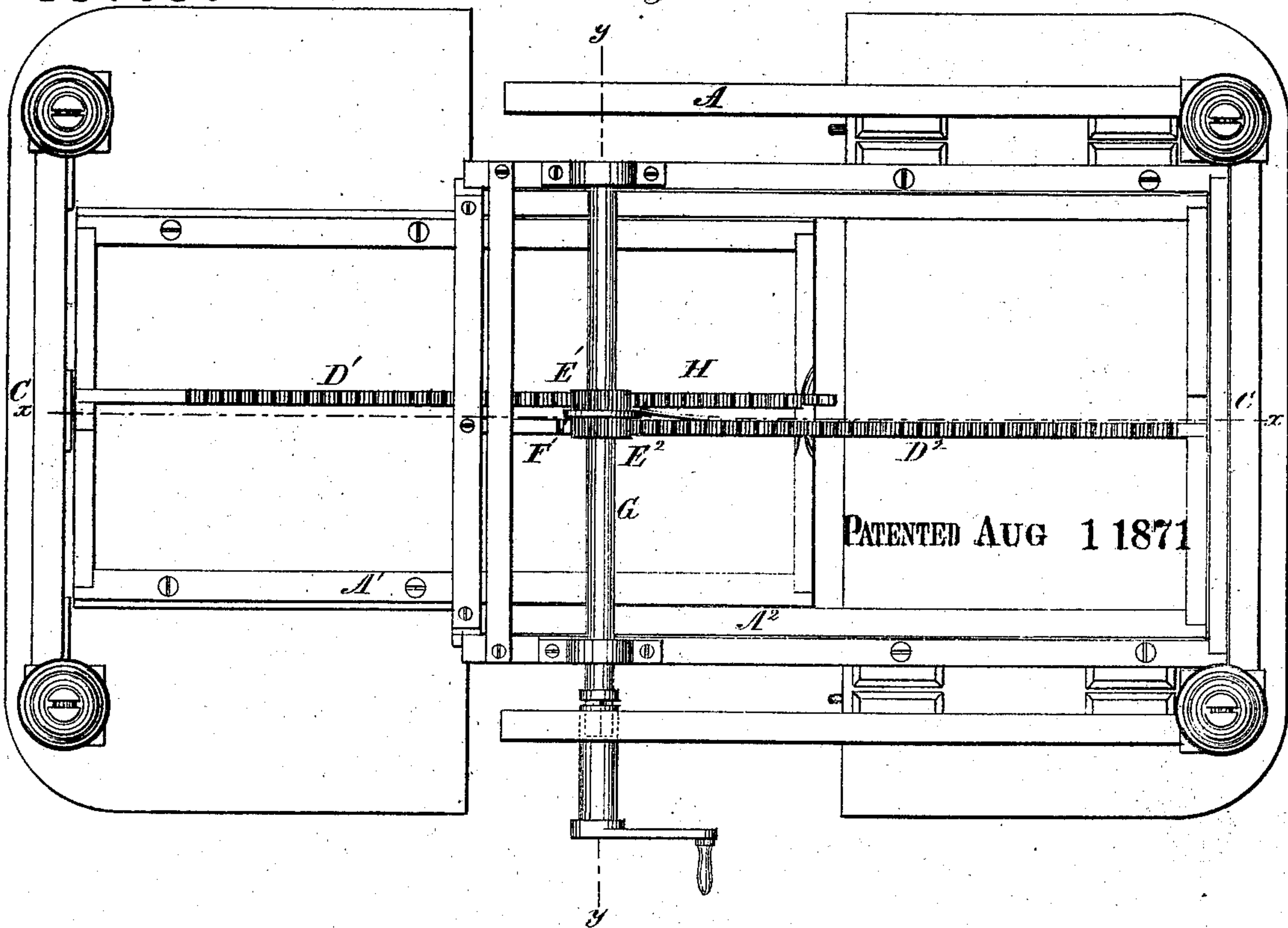


Fig. 2

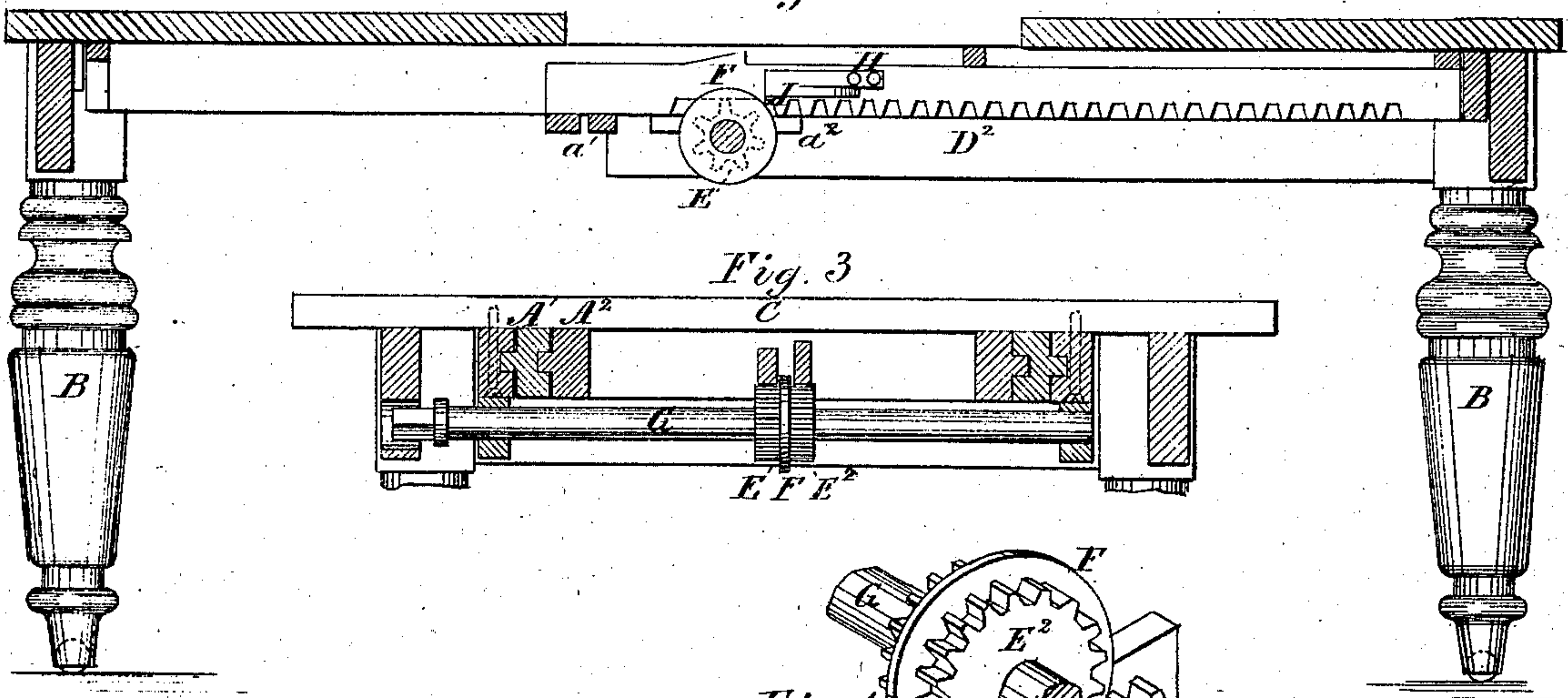


Fig. 3

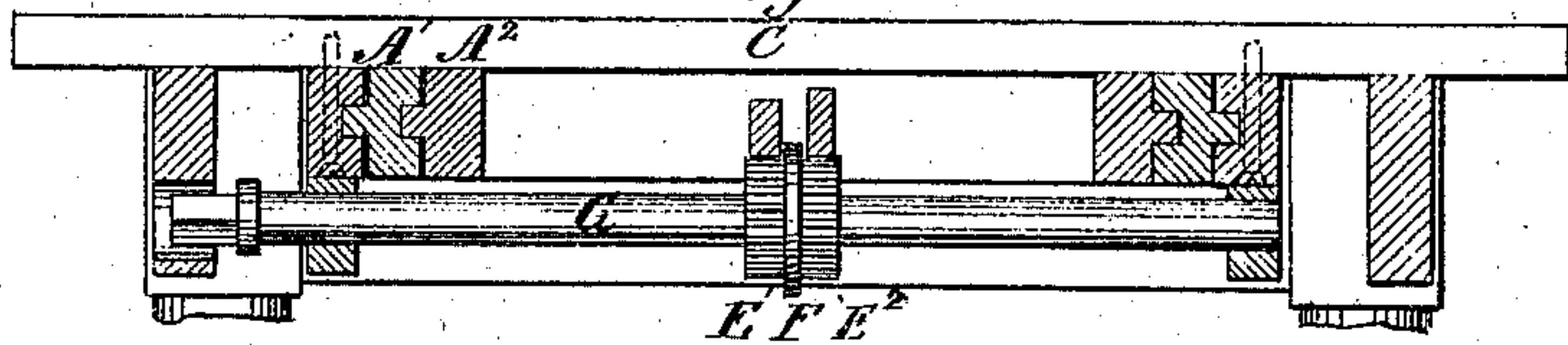
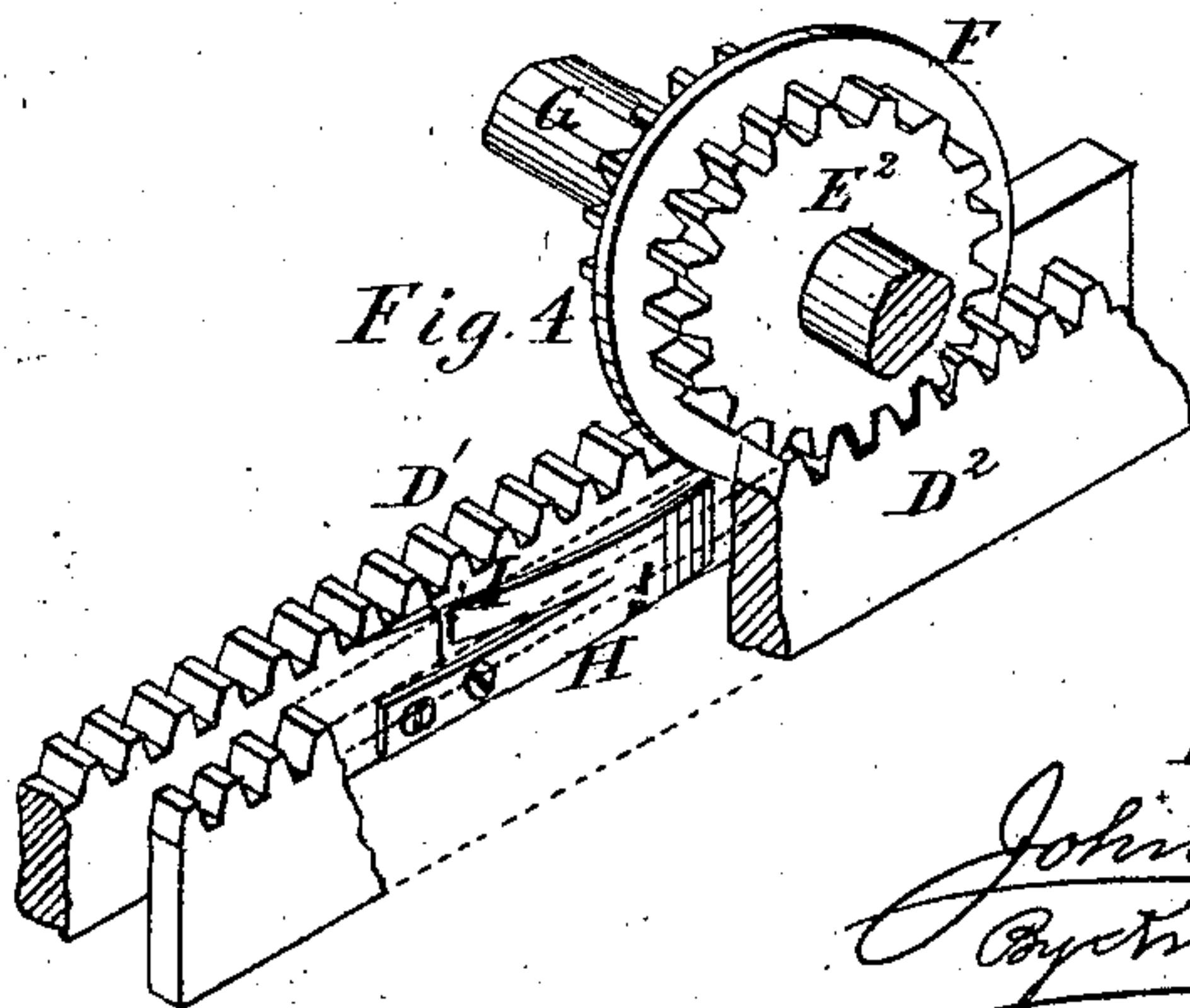


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN J. McKNIGHT, OF TARRYTOWN, NEW YORK.

IMPROVEMENT IN EXTENSION TABLES.

Specification forming part of Letters Patent No. 117,659, dated August 1, 1871.

To all whom it may concern:

Be it known that I, JOHN J. McKNIGHT, of Tarrytown, in the county of Westchester, in the State of New York, have invented a new and useful Improvement in Extension Tables, of which the following is a specification:

My table is constructed with one or more racks and pinions for extending and retracting the ends. The racks, where more than one is used, are, with the exception of the first, kept clear of the pinions until the first has done its work, so that only one at a time is brought into gear. As each rack reaches the termination of its stroke it is held in an extended position by a spring-catch, which catch, when the ends of the table are to be brought together, is retracted automatically by the action of a flange running between the two racks, as hereinafter described.

Figure 1 is an under-side view of a table partially extended, one of the leaves being removed. Fig. 2 is a longitudinal section of the same on the line $x x$, Fig. 1. Fig. 3 is a transverse section thereof on the line $y y$, Fig. 1. Fig. 4 is a perspective view of the connected pinions and flange, with the spring-catch and portions of the racks in connection with which they work.

A A¹ A² may represent sections of the frame of the table, supported upon legs B B in the customary manner, and C C the respective ends of the table-top. The frame is made in sections in the manner common in the construction of extension tables, and to the end sections are attached racks, D¹ D², which gear with pinions E¹ and E² formed or keyed upon a transverse shaft, G, working in suitable bearings in the main section A of the frame. The pinions E¹ E² have between them a disk or flange, F, which is of larger diameter than the said pinions, and, as the shaft rotates, moves freely in the space between the racks D¹ D². Near one end of the rack D², which is mounted in the central section A² of the frame, is a space, a^2 , without teeth, adapted to permit the rotation of the pinion E² without acting upon the rack D² while the pinion E¹ is acting upon the rack D¹. H represents a spring-catch attached to the rack D², and engaging behind the shoulder a^1 , near one end of the rack D¹, when the latter has been moved into its extended position. The office of the flange is to automatically release or retract this spring-catch when the table is to be

drawn in. For this purpose I employ a spring-switch, I, attached to the free end of the spring-catch H, and resting at its other end in close contact with the side of the rack D², so that when the flange F is moving in one direction the said switch will yield and permit it to pass; but when the flange returns the switch will be so caught by the said flange as to draw it into close contact with the side of the rack D², and thereby withdraw the spring-catch.

The table being in its retracted position, if it is desired to extend it the shaft G is, by means of a key, K, or other suitable appliance, rotated in the direction indicated by the arrow. The effect of this is to slide to the left the rack D¹, and with it the end A¹ of the table. During this time the pinion E², being within the toothless space a^2 , produces no effect upon the rack D²; but as soon as the rack D¹ is extended to its limit the spring-catch H engages in the notch or shoulder at the end of said rack, and at the said time the continued rotation of the shaft, as the rack D¹ has now stopped, carries the pinion E¹ off this rack and the pinion E² onto the cog portion of the rack D², the flange F passing between the side of the rack D² and the free end of the switch I, which latter again springs into its closed position behind it. The effect of the continued movement of the pinion E² is to slide out the central portion A² of the frame, carrying with it the end A¹, until the pinion reaches the end of the rack D², when the table will be extended to its full limit if it be made with three sections only, as in the present illustration; but by means of additional pinions and sliding sections and racks, operated upon precisely the same principle, a table may be adapted to be extended to any desired length. When the table is to be retracted the shaft is turned in a reverse direction, the first effect of which is to slide back the rack D² and central section A² by the action of the pinion E², and as the flange F approaches the spring-catch H it runs upon the switch I so as to retract the said spring-catch from its notch or shoulder in the rack D¹ and release the said rack, so that when the pinion E² reaches the toothless space a^2 and the pinion E¹ comes in gear with the rack D¹, the latter will be drawn within the section A¹ of the frame and will bring the end sections A A¹ of the table into close contact.

The racks, pinions, shaft, flange, and bearings may be made of cast-iron or other durable material.

I claim as my invention—

As an improved apparatus for operating extension tables, the racks D D¹, pinions E¹ E², spring-catch H, switch I, and retracting-flange F, com-

bined and arranged substantially as and for the purposes set forth.

JOHN J. McKNIGHT.

Witnesses:

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