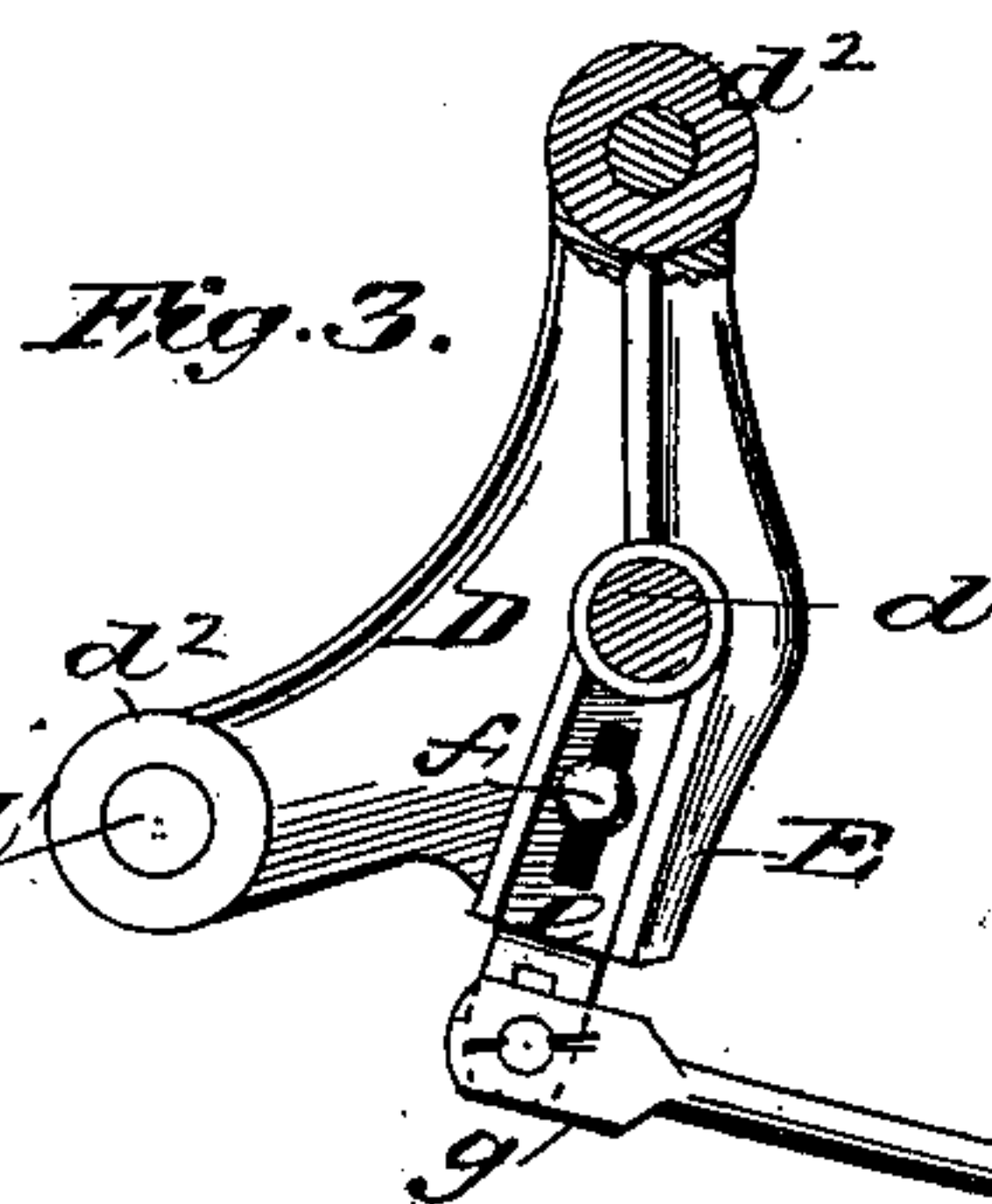
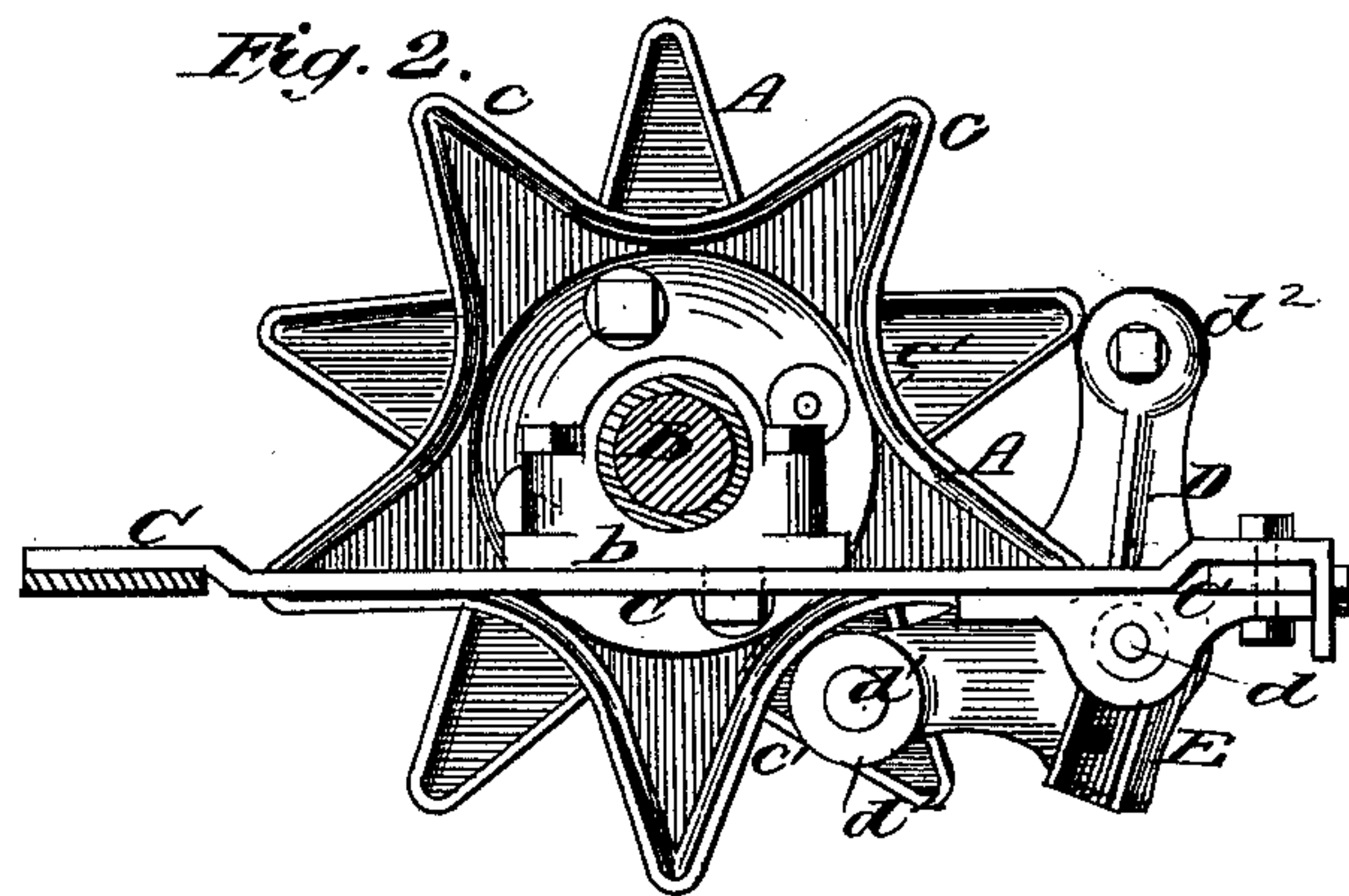
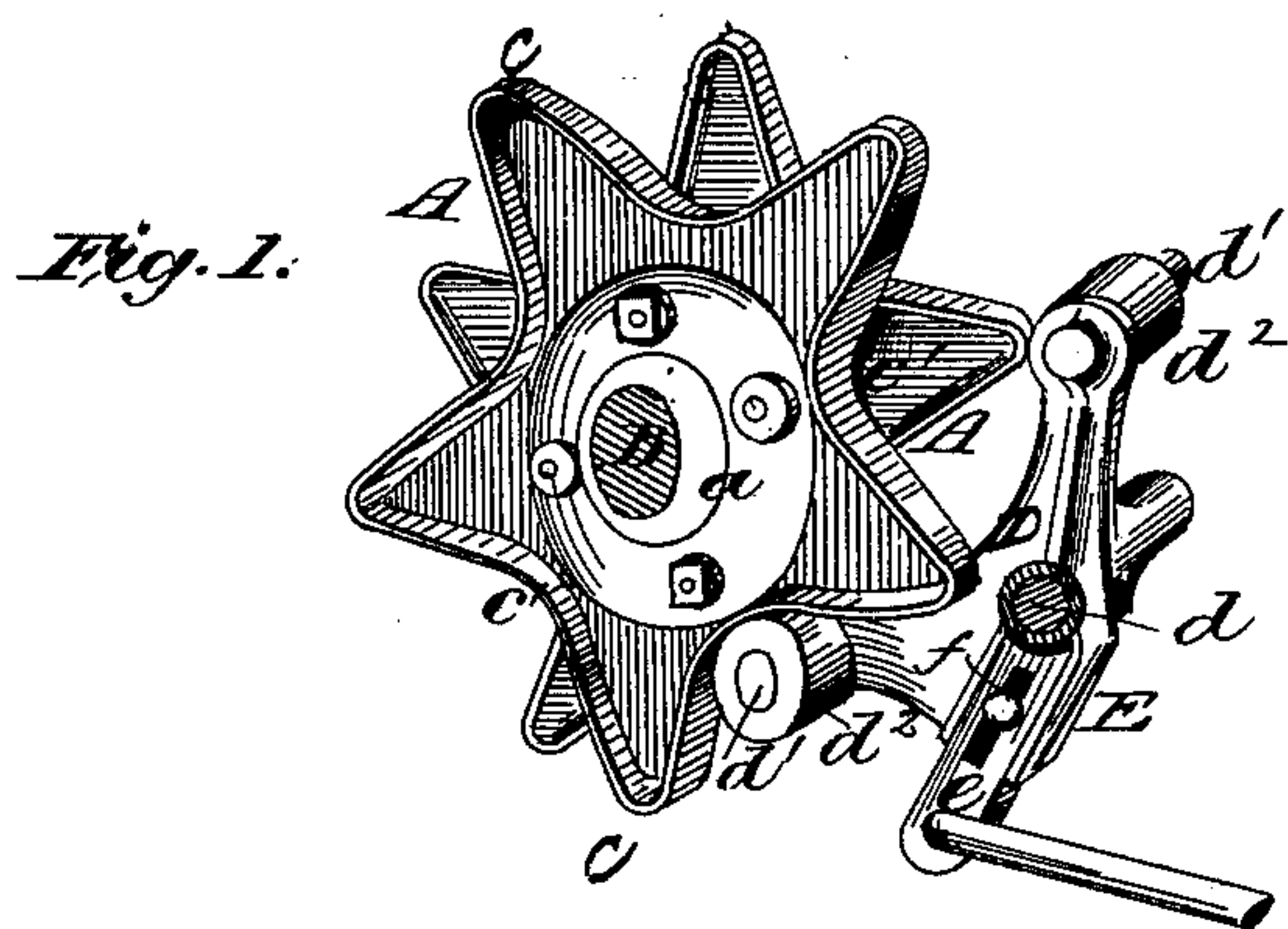


C. W. SCHRODER & F. J. JÖRGENSEN.
Converting Motion.

No. 206,832.

Patented Aug. 6, 1878.



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL W. SCHRÖDER AND FREDERIK J. JÖRGENSEN, OF COPENHAGEN,
DENMARK, ASSIGNORS TO ANKER HEEGAARD, OF SAME PLACE.

IMPROVEMENT IN CONVERTING MOTION.

Specification forming part of Letters Patent No. **206,832**, dated August 6, 1878; application filed May 27, 1878.

To all whom it may concern:

Be it known that we, CARL WILHELM SCHRÖDER and FREDERIK JULIUS JÖRGENSEN, both of Copenhagen, in the Kingdom of Denmark, have jointly made certain new and useful Improvements in Mechanical Movements for Converting a Rotary into a Reciprocating Motion; and we do hereby declare that the following is a full and clear description of our invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our improved mechanical movement. Fig. 2 is a front elevation of the same as applied to a harvester for imparting the requisite motion to the sickle-bar—one of the uses to which our improvement may be adapted; and Fig. 3 is a detached view, in side elevation, partly in section, of the bell-crank, with an arm for the attachment thereto of the pitman or other medium through which motion is communicated to the mechanism to be operated.

Corresponding parts in the several figures are denoted by like letters.

This invention appertains to certain improvements in mechanical movements; and it consists of the union of two star-pointed cams, the points of which are arranged alternately and out of line with each other, and operating in conjunction with a bell-crank having its opposite sides provided with frictional rollers or axes, substantially as hereinafter more fully set forth.

In the drawings, A A refer to two star shaped or pointed cams, secured rigidly together by meeting annular flanges or hubs *a*, joined together in any known way, and cast or constructed with said cams. The cams and their connecting-hubs may all be constructed in one piece, which will obviate the use of separate means for uniting the hubs. These cams are journaled upon an axle, B, suitably mounted in journal-boxes *b*, bolted or otherwise fastened to supports C C, which may be adapted for attachment to a harvester, or other machinery which it is desired to operate.

The points *c c* of the stars or cams A A are arranged so as to alternate with each other, as shown in Figs. 1 and 2, to alternately strike the cranks or arms of a bell-crank, by which uniformity of movement and regularity of stroke are obtained, in addition to converting rotary motion into reciprocating, as is obvious without further elucidation.

It will be noticed that the concavities between the points *c c* of the cams A A are made shallow, or rather of sufficient width, as at *c'*, to cause the frictional rolls of the bell-crank to fit thereon, and thus permit of continuous surface of contact between the said rolls and the cams to insure a constant, uniform, and regular motion, as by this construction the crank-rolls are prevented from suddenly passing or jumping from one point or tooth to the other.

D D is the bell-crank, fastened to an axis or shaft, *d*, journaled in the cross-pieces or supports C C, in proximity with the cams A A. To the outer ends of its cranks or arms are lateral projections or short axes *d'*, extending from opposite sides of said cranks, and provided with frictional rolls *d''*, which, as above stated, are alternately struck by the points or teeth of the cams A A, for the purpose already set forth.

From the heel of the crank D D depends a socketed arm, E, which receives a slotted stud, *e*, adjustably connected thereto by a set or screw bolt, *f*, which stud is jointed to a swivel-connection, *g*, adapted, in the present instance, for use in connection with the pitman and sickle-bar of a harvester.

This invention is particularly applicable and adapted for use in operating the sickle-bar of a harvester, in consequence of the uniformity and regularity of its movement; but it is evident that it is also applicable to many other purposes—as, for instance, in operating churns, washing-machines, the seed or corn dropping mechanism of a seeding-machine or corn-planter, &c., wherever it is desired to convert rotary into reciprocating motion.

We are aware that, broadly, a double cam with alternating points is not new, nor a bell-crank with its arms provided on opposite sides with frictional rollers.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

In a mechanical movement adapted particularly for harvesters, the combination, with the bell-crank D, operating in connection with the pointed cams A A, and having the slotted socketed arm E, of the sickle-bar pitman *g*, having the extensible arm *e*, and the latter provided with an adjusting or set screw, *d*,

substantially as shown and described, for the purpose set forth.

In testimony whereof we have signed our names to the foregoing specification in the presence of two subscribing witnesses.

CARL WILHELM SCHRÖDER.

FREDERIK JULIUS JÖRGENSEN.

Witnesses:

N. P. HERMAN PETERSEN,
FR. WOLFF.