

(No Model.)

H. W. CALDWELL.
Screw Conveyor.

No. 235,619.

Patented Dec. 21, 1880.

Fig. 1.

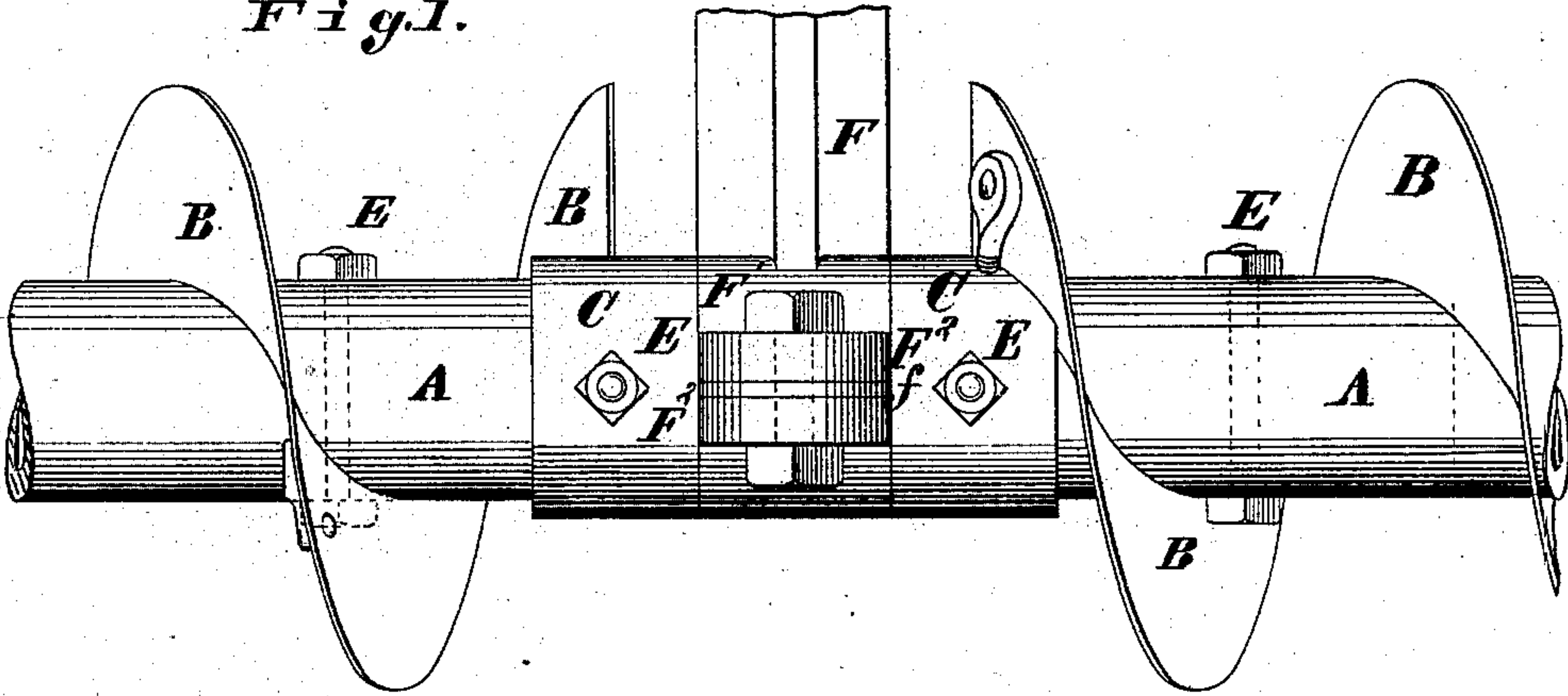


Fig. 2.

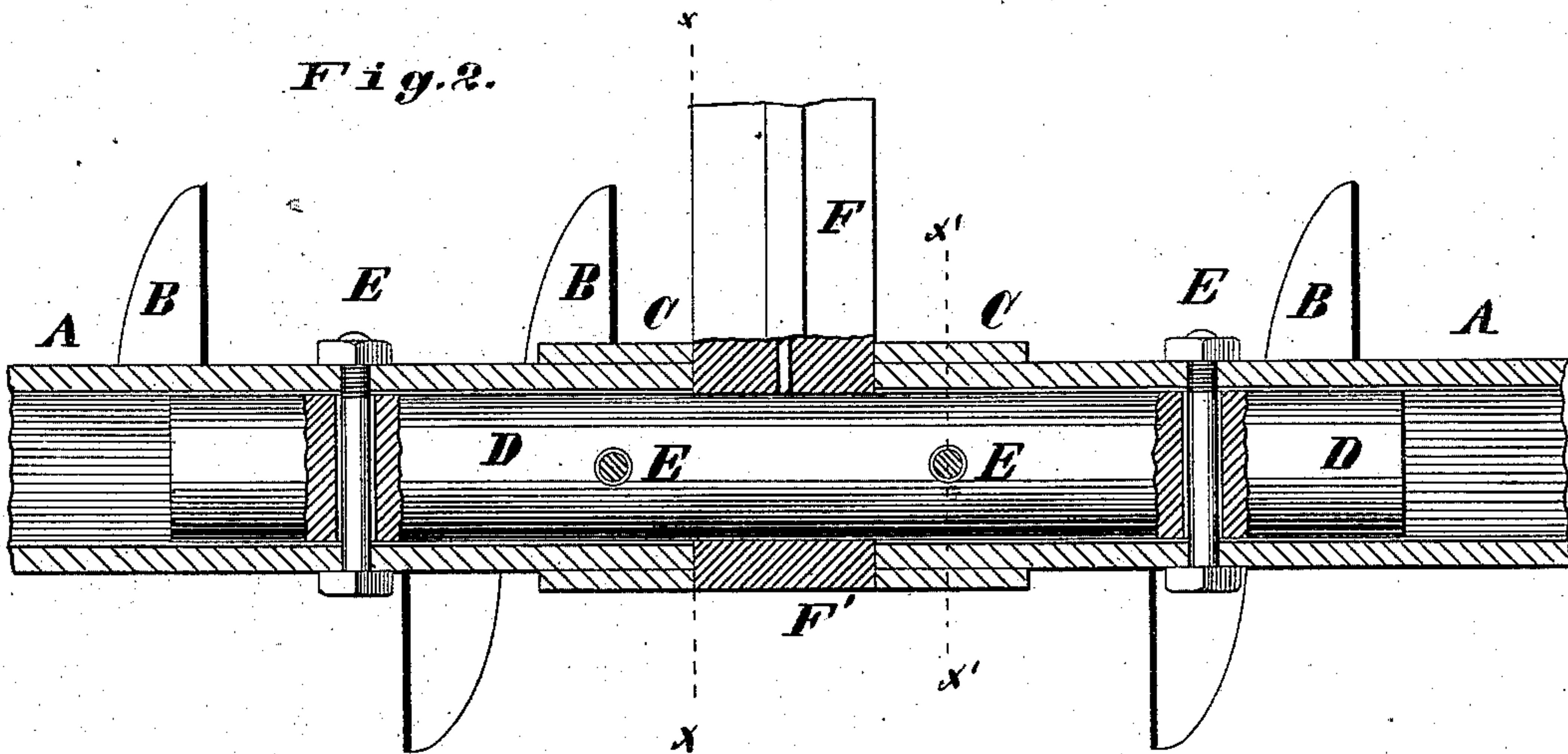
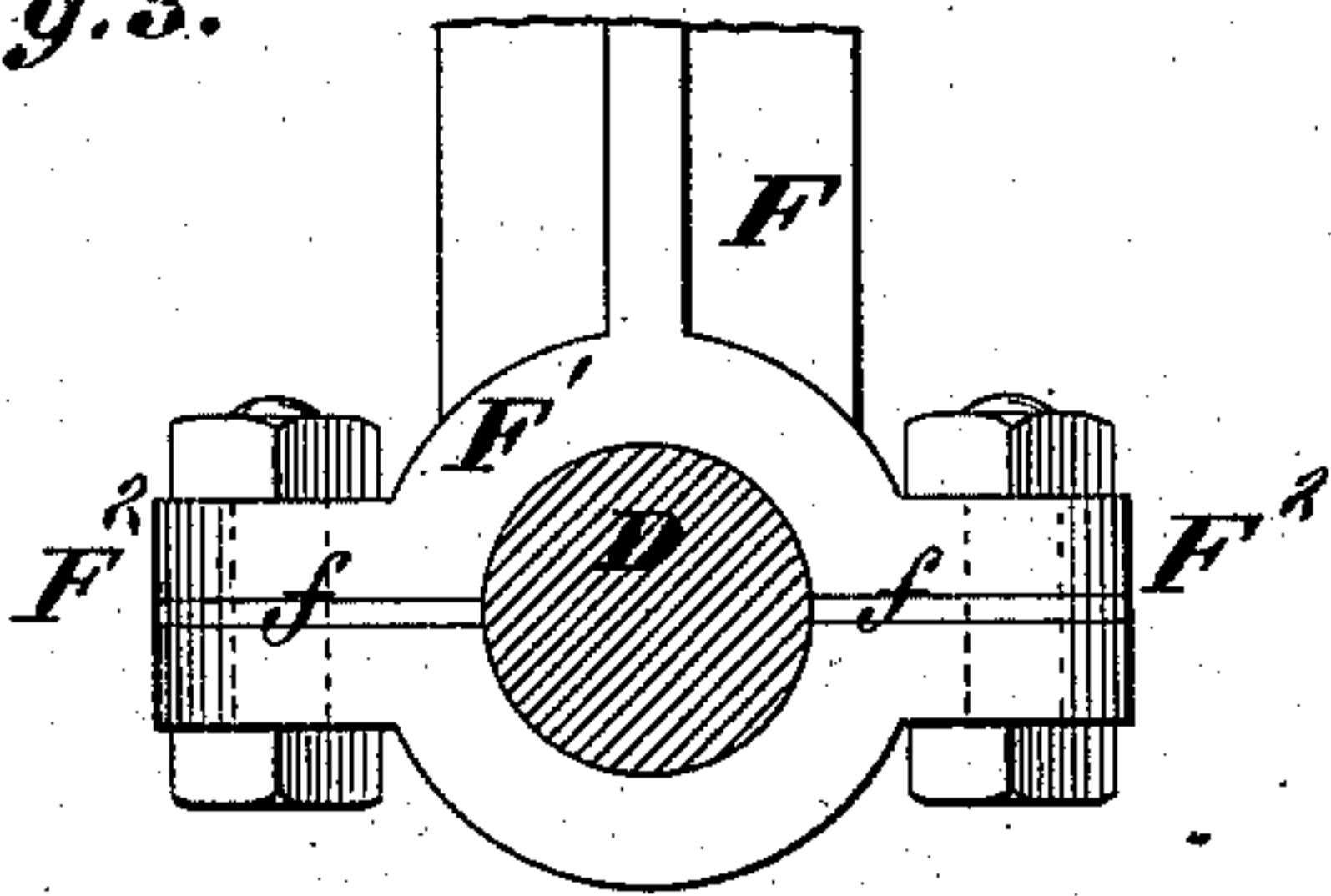


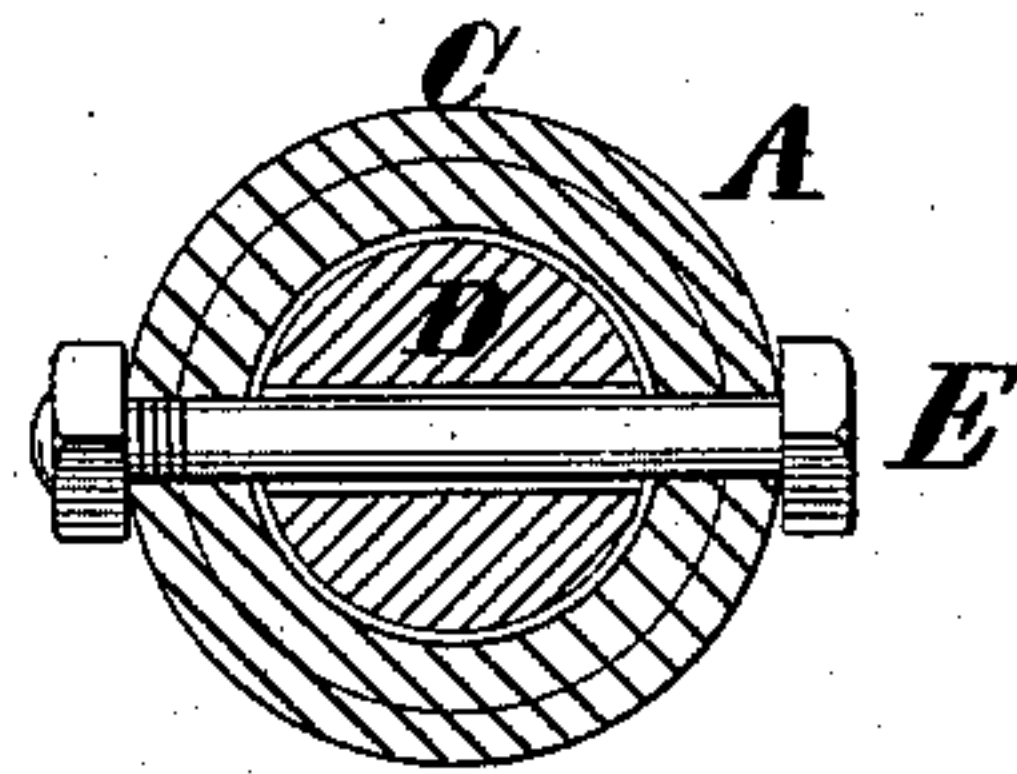
Fig. 3.



Attest:

Charles Pickles
Geo. S. Knight

Fig. 4.



Inventor:

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By Knight Bros
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UNITED STATES PATENT OFFICE.

HENRY W. CALDWELL, OF ST. LOUIS, MISSOURI.

SCREW-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 235,619, dated December 21, 1880.

Application filed November 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. CALDWELL, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful
5 Improvement in Screw-Conveyers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvement relates to the coupling by
10 which the sections of a tubular conveyer-shaft are connected together at the point of bearing; and it consists in the combination, with said sections or lengths of shaft, of a cylindrical plug which itself forms the journal of
15 the shaft at that point, (extending through the hanger-box,) the ends of the sections being re-enforced by a ferrule. Bolts pass through the tube-sections and the coupling-plug.

In the drawings, Figure 1 is a side elevation
20 of the invention. Fig. 2 is a longitudinal section, with the greater part of the coupling-journal in side view. Fig. 3 is a section at $x x$, Fig. 2. Fig. 4 is a section at $x' x'$, Fig. 2.

A A are parts of two similar sections or
25 lengths of a screw-conveyer, upon which are spiral flights B. The ends of the sections A are re-enforced by collars C, that are welded to the tubes, so as to increase their strength at that point.

D is the coupling-bar or mandrel, which
30 easily fits the interior of the tube-sections A A, and is secured in position therein by bolts E passing diametrically through the tubular shaft-sections and the mandrel. I prefer to
35 have two bolts in each tube-section at the coupling, the bolts being placed at right angles to each other.

The central part of the mandrel D forms the journal of the shaft A A, and has bearing in the box F' of the hanger F. I prefer to insert
40 between the bolt-lugs F² of the hanger-box shims f , of wood or paper, which will allow a small amount of latitude to the movement of the journal in its bearing.

It is preferred that the coupling should not
45 be altogether rigid, so that there should be an appreciable amount of lost motion, and so that in a long line of sections, A, it would not be necessary to start all at precisely the same moment, as this involves a very heavy strain,
50 especially when clogged with material. To provide for this, and also for any slight deviation from a direct line, the journal bar or mandrel D is made to fit easily in the tube-sections A, and the bolt-holes in the mandrel are bored
55 of a size to allow the bolts to pass through easily.

In manufacturing, my coupling journals or mandrels (all of one size) are made of similar pattern, and the shaft-sections are all similarly
60 bored, so that they are interchangeable.

I claim—

1. The combination of sections A A, coupling-mandrel D, forming a shaft-journal, bolts
65 E, and hanger F, for the purpose set forth.

2. The combination, with the hanger F and shaft-sections A A, of the mandrel D, freely fitting the interior of the sections A, and bolts E, passing through the sections and loosely through the mandrel.

HENRY W. CALDWELL.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.