

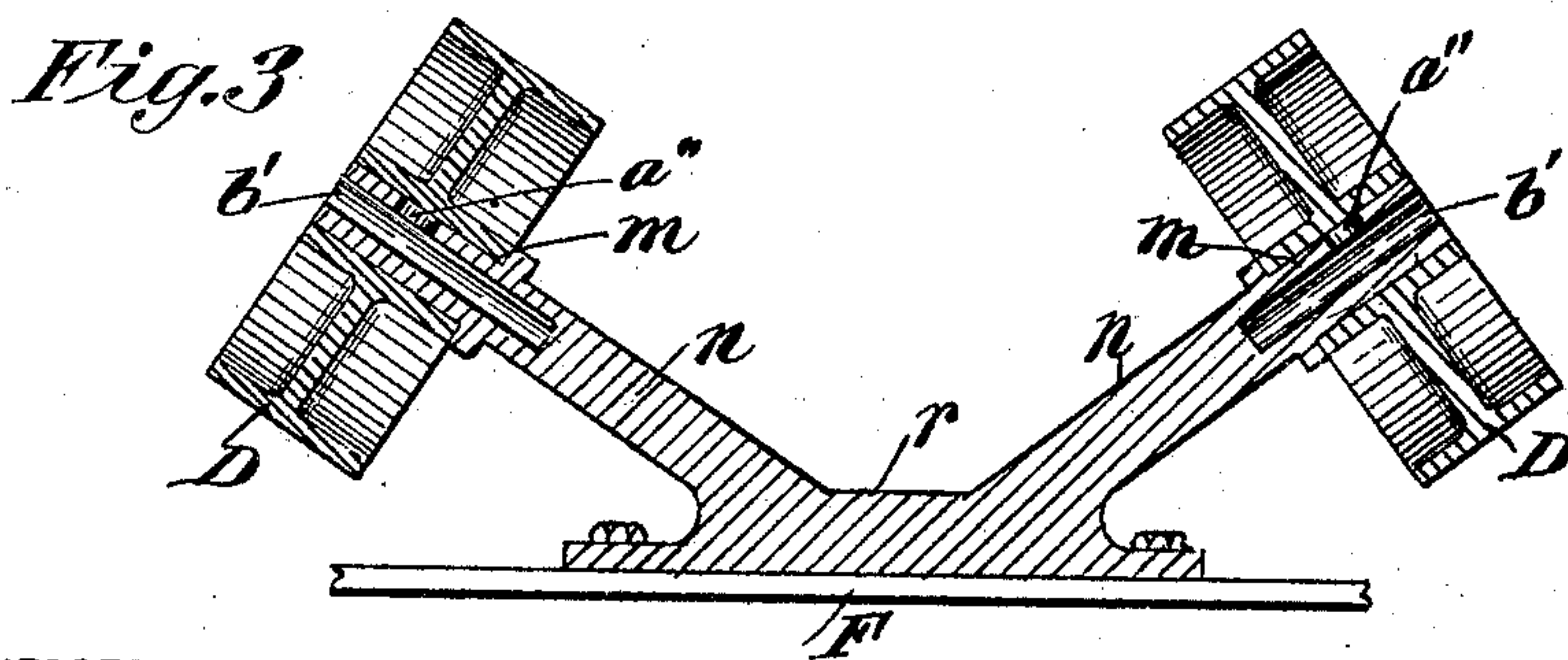
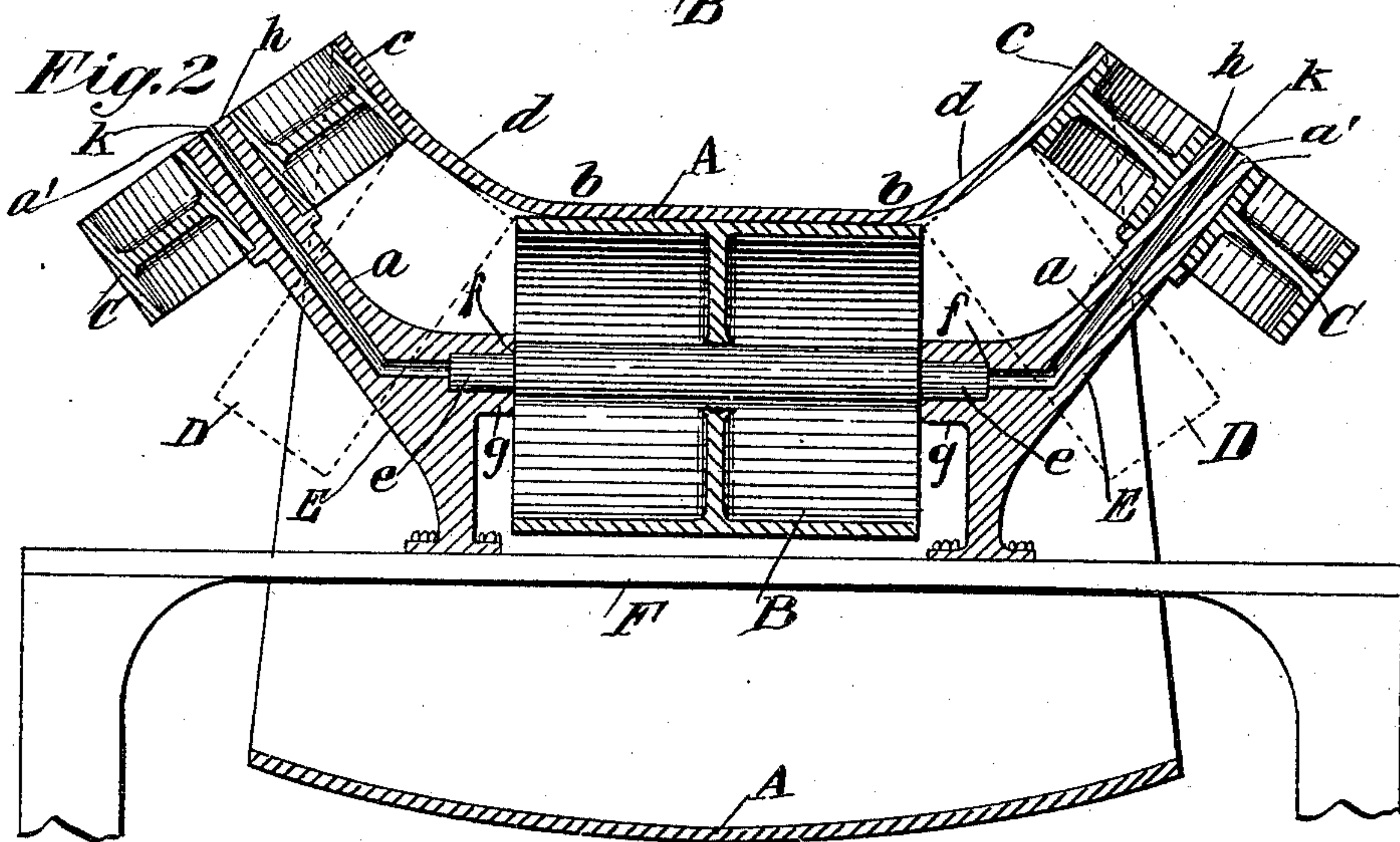
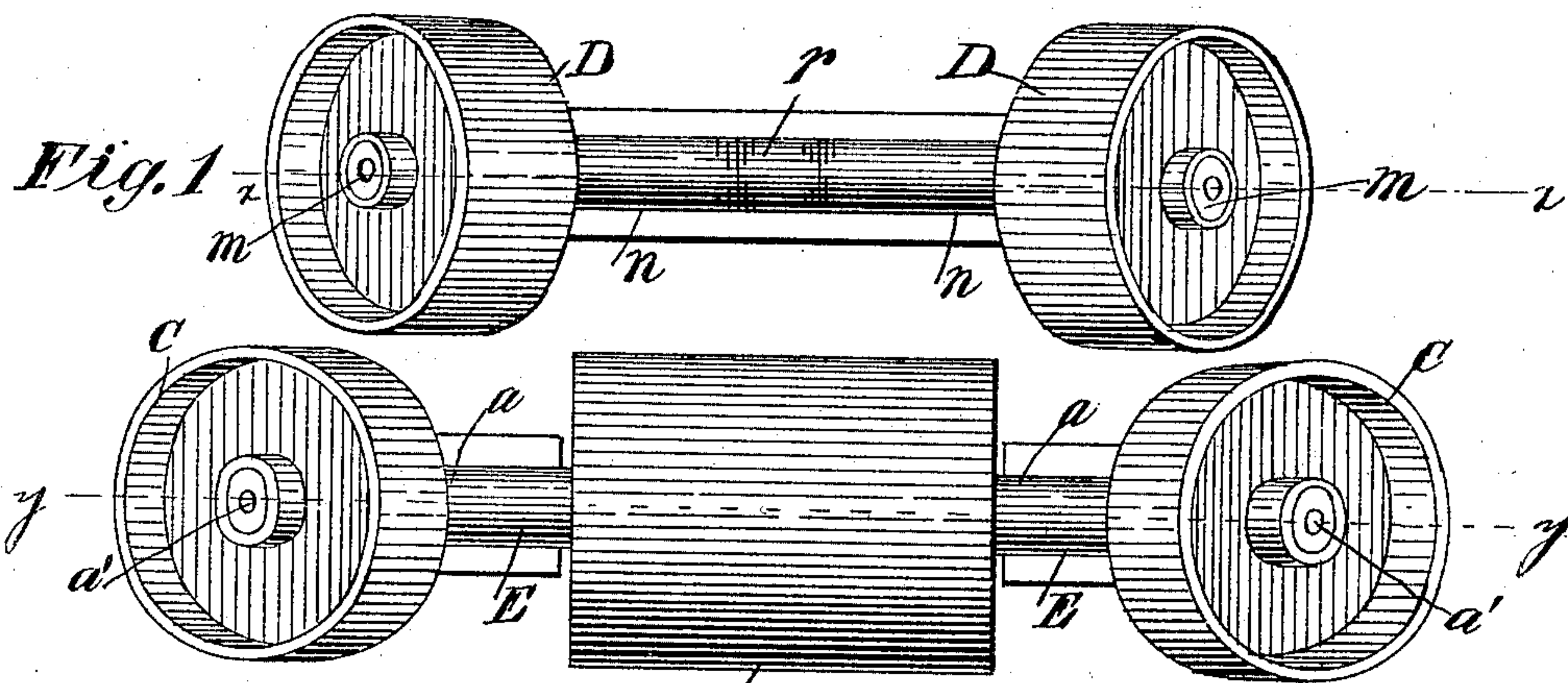
No. 639,003.

Patented Dec. 12, 1899.

J. & W. TITUS.
CONVEYER APPARATUS.

(Application filed July 21, 1899.)

(No Model.)



WITNESSES:

George B. Rowley

Edward Kelly

INVENTORS,

John Titus
William Titus

BY

James Whitney

ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN TITUS, OF OYSTER BAY, AND WILLIAM TITUS, OF NORTH HEMPSTEAD,
NEW YORK.

CONVEYER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 639,003, dated December 12, 1899.

Application filed July 21, 1899. Serial No. 724,651. (No model.)

To all whom it may concern:

Be it known that we, JOHN TITUS, a resident of Oyster Bay, and WILLIAM TITUS, a resident of Old Westbury, in the town of North Hempstead, in the county of Nassau and State of New York, citizens of the United States, have invented certain new and useful Improvements in Conveyer Apparatus; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view illustrating the relative positions of certain parts comprised in an apparatus made according to our invention. Fig. 2 is a transverse sectional view taken on the line *y y* of Fig. 1 of certain other parts embraced in said apparatus. Fig. 3 is similar view taken on the line *x x* of Fig. 1 and further illustrating the construction and arrangement of parts shown in said Fig. 1.

This invention relates to endless-belt apparatus for transporting sand, gravel, &c.; and its object is to provide machinery of the class indicated which shall be exceptionally strong and durable in structure and capable of practically complete lubrication of its journals or bearings, to the end that wear and tear and loss of power when in operation may be materially diminished.

Our invention comprises certain novel and useful combinations of parts whereby these results are effectually secured.

In the drawings, Fig. 1 shows the arrangement of the bearing or supporting rolls by which the endless belt (shown at A in Fig. 2) is carried. In this, B is a central roll, horizontal, or practically so. At the ends of this central roll, but at a proper distance therefrom, are inclined rolls C C. Coincident with the spans *a a* between the ends of the central horizontal roll and the adjacent inner ends of the inclined rolls C C are other inclined rolls D D. The longitudinally-central part *b* of the carrier-belt A rests upon the roll B. Its lateral edge portions *c c* run along the inclined rolls C C, while the intermediate portions *d d* between the part *b* and the edge portions *c c* are supported by the rolls D D, the position of the latter with ref-

erence to the belt and the rolls C C being shown in dotted outline in Fig. 2. It is of course to be understood that mechanisms comprising the rolls B, C C, and D D, arranged as described, are placed at proper intervals below the endless belt in the manner well known in the art with regard to endless-belt-supporting mechanisms.

Coming now to a description of the instrumentalities most directly concerned in our invention, it will be observed that the central roll B is provided at its ends with projecting gudgeons or axles *e e*. These fit into suitably shaped and proportioned journal boxes or bearings *f f*, which are provided in adjacent shoulders *g g* in standards E, which extend upward and have at their upper parts journals *h h*, which are inclined, as shown in Fig. 2, to provide the hereinbefore-described inclination to the rolls C C, which are placed upon said journals. Formed longitudinally in each standard E is a lubricator bore or channel *k*, the lower end of which communicates with the inner end of the adjacent journal-box *f*, while the elevated upper end *a'* of said passage is open or capable of being opened for the admission of oil or any other sufficiently-liquid lubricating material. The lubricant is thus provided with a head of sufficient pressure to insure its proper feed to the journal-box, and the lubricant being brought against the end of the gudgeon of the roller B, as well as upon and around the entire circumference of the latter, said gudgeon is especially protected against the excessive wear and friction, both at its ends and its circumferential surface, to which the bearings of the belt-carrying rolls of apparatuses of the class to which our invention relates are particularly exposed. As the journal-box *f*, the bore or lubricator-channel *k*, and the journal *h* may all be united in one casting, the expense of construction is very greatly minimized, and very great strength in the parts is secured by reason of the simplicity of the structure, while the movement of the endless belt and its burden or contents is very greatly facilitated by the comparative absence of frictional resistance to the rotation of the several rolls by which said belt is carried and supported during its operation. It is to be

observed that the standards E E are to be bolted or otherwise fixed upon a support F, so constructed as to provide for the proper revolution of the endless belt—in other words, 5 so arranged that the under part of the belt may in the running of the latter pass below the standards, as illustrated in Fig. 2. By this means the journal-boxes *f f* may be brought close to the ends of the roll B, thereby 10 providing a firm and solid support to the roll without liability of springing or yielding of the boxes under the severe strains to which they are necessarily subjected when the apparatus is in use. The rolls D D are placed 15 upon journals *m m*, provided upon inclined arms *n n*, which are integral with a supporting-base *r*. Each journal *m* is bored out centrally, as shown at *b'*, and in the upper side of said journal thus bored is a hole or opening *a''*, which extends to the exterior of the 20 journal, so that a sufficiently-fluid lubricant passed into the bore through the open upper end thereby passes to the upper side of the journal, and thereby lubricates its entire circumference—in other words, the entire bearing of its roll D thereon. The arms *n* being 25 cast integral with their base *r* and the latter bolted or secured firmly to the same support F as the standards E of the rolls C C, an especially rigid and unyielding support for the several rolls is secured, and their permanent retention in position with reference to each other and to the carrier-belt is provided for.

What we claim as our invention is—

35 1. In an endless-belt-supporting mechanism the combination of a central horizontal roll having axial gudgeons projecting from its ends, inclined lateral rolls at the opposite

ends of said central roll, with standards constructed with journal-boxes which receive the 40 gudgeons, and formed with inclined journals for the lateral rolls and lubricator-channels in the standards above the gudgeons and with their lower ends terminating at the ends of the gudgeons, substantially as herein set forth. 45

2. In an endless-belt-supporting mechanism, the combination with inclined rolls, of a base provided with inclined arms which are formed at their upper parts with journals for said rolls, and with lubricator-channels within 50 the journals and communicating by openings with the exterior of the said journals, substantially as herein set forth.

3. In an endless-belt-supporting mechanism a central horizontal roll having axial 55 gudgeons projecting from its ends, inclined lateral rolls at opposite ends of said central roll, standards constructed with journal-boxes which receive the gudgeons of the central roll, inclined journals for the inclined 60 lateral rolls and lubricator-channels in the standards above the gudgeons and terminating at the ends of the latter in combination with a base and inclined standards which are provided with lubricator-bores within their 65 upper parts, and outlet-openings provided to said bores, and inclined rolls placed on the inclined journals and arranged opposite the spaces between the central and the lateral rolls, substantially as herein set forth.

JOHN TITUS.
WILLIAM TITUS.

Witnesses:

WM. E. HAWXHURST,
MARIANNA HAWXHURST.