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PATENTED OCT. 20, 1903.

P. KENNEDY.

INCLOSING CASING FOR THE DRIVING GEAR OF CAR DYNAMOS.

APPLICATION FILED APR. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

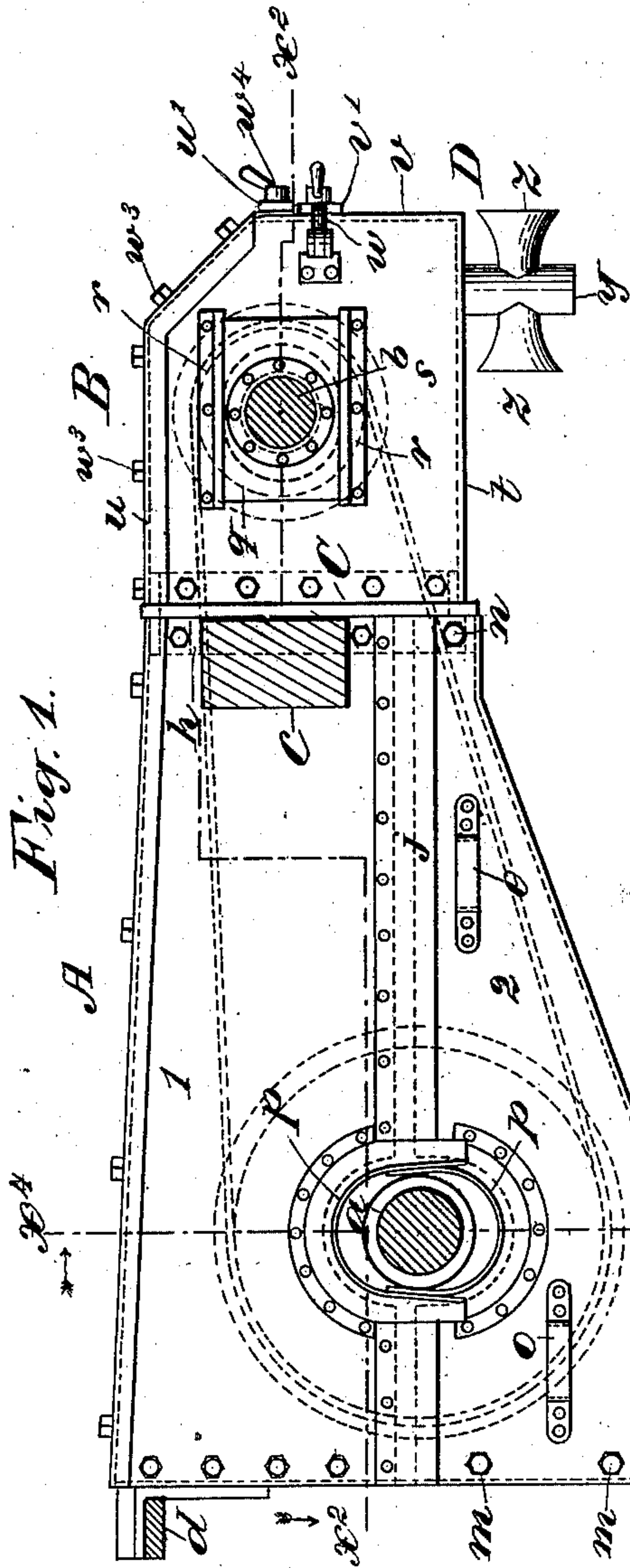


Fig. 1.

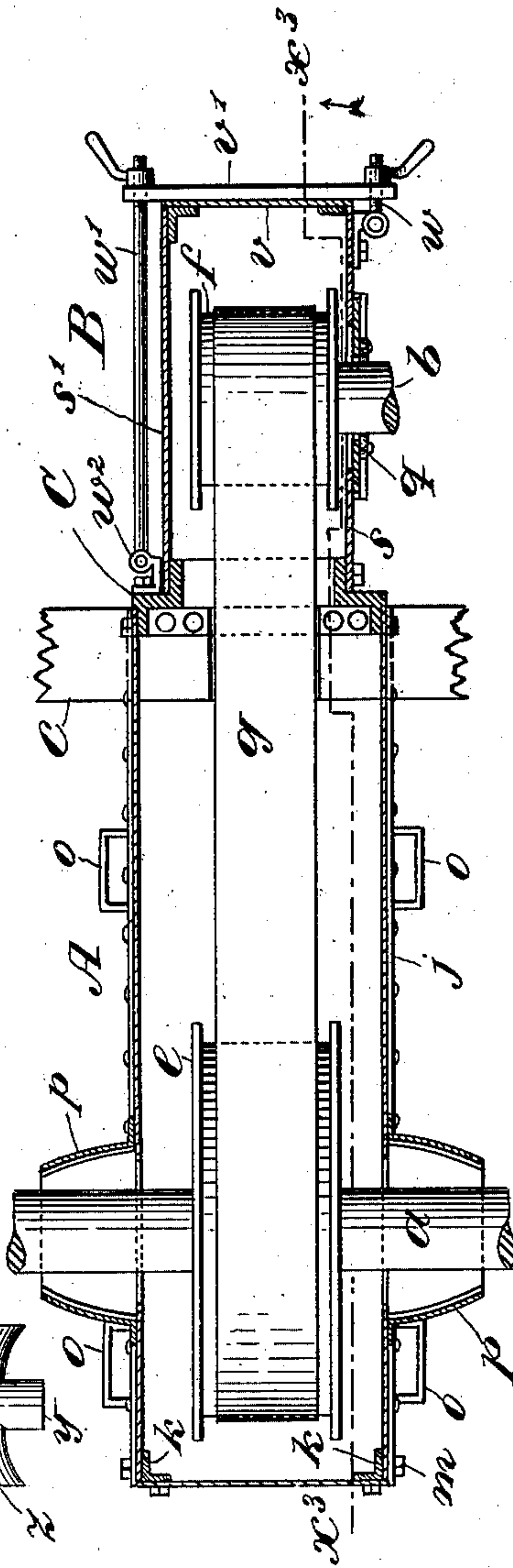


Fig. 2.

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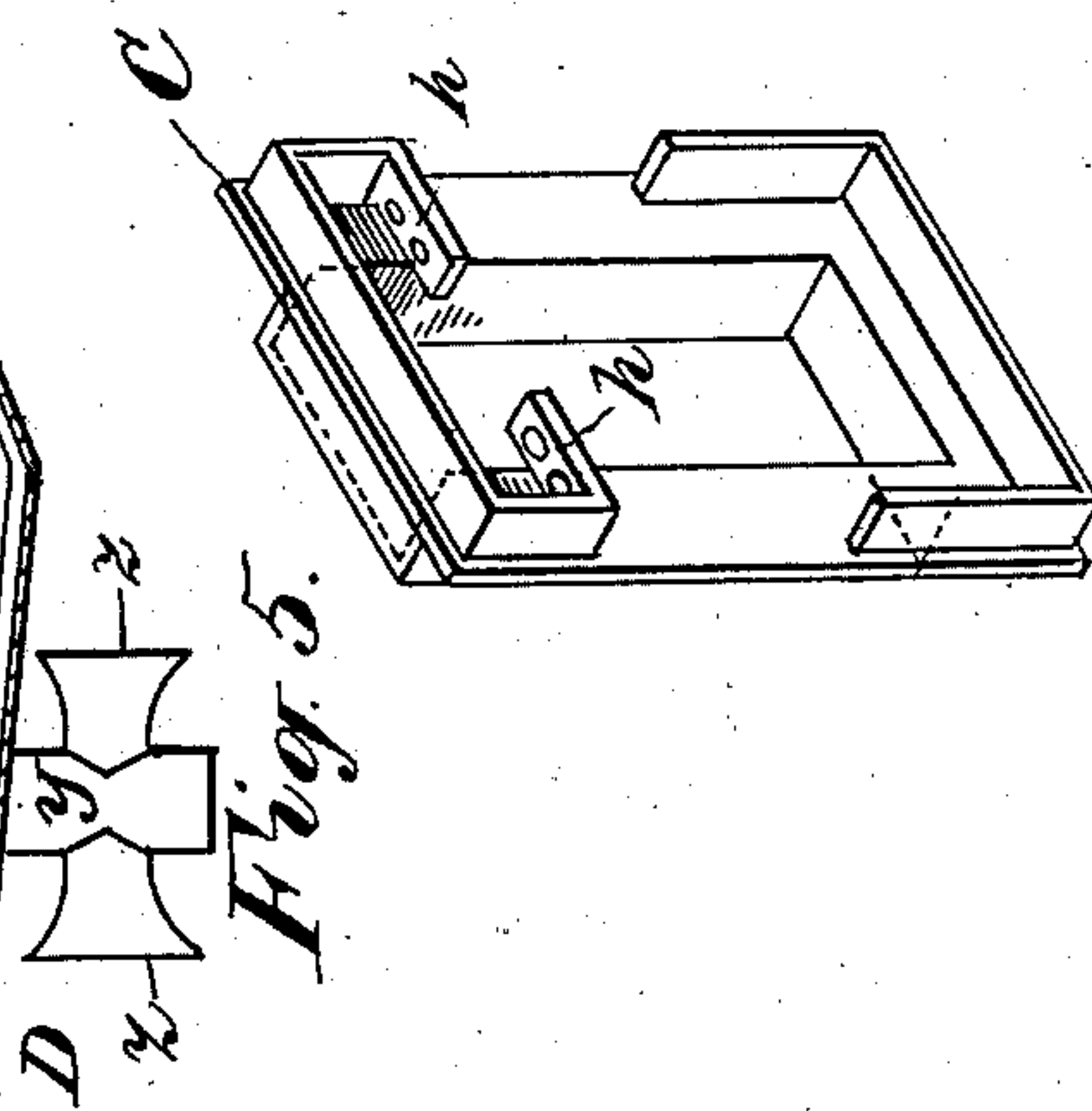
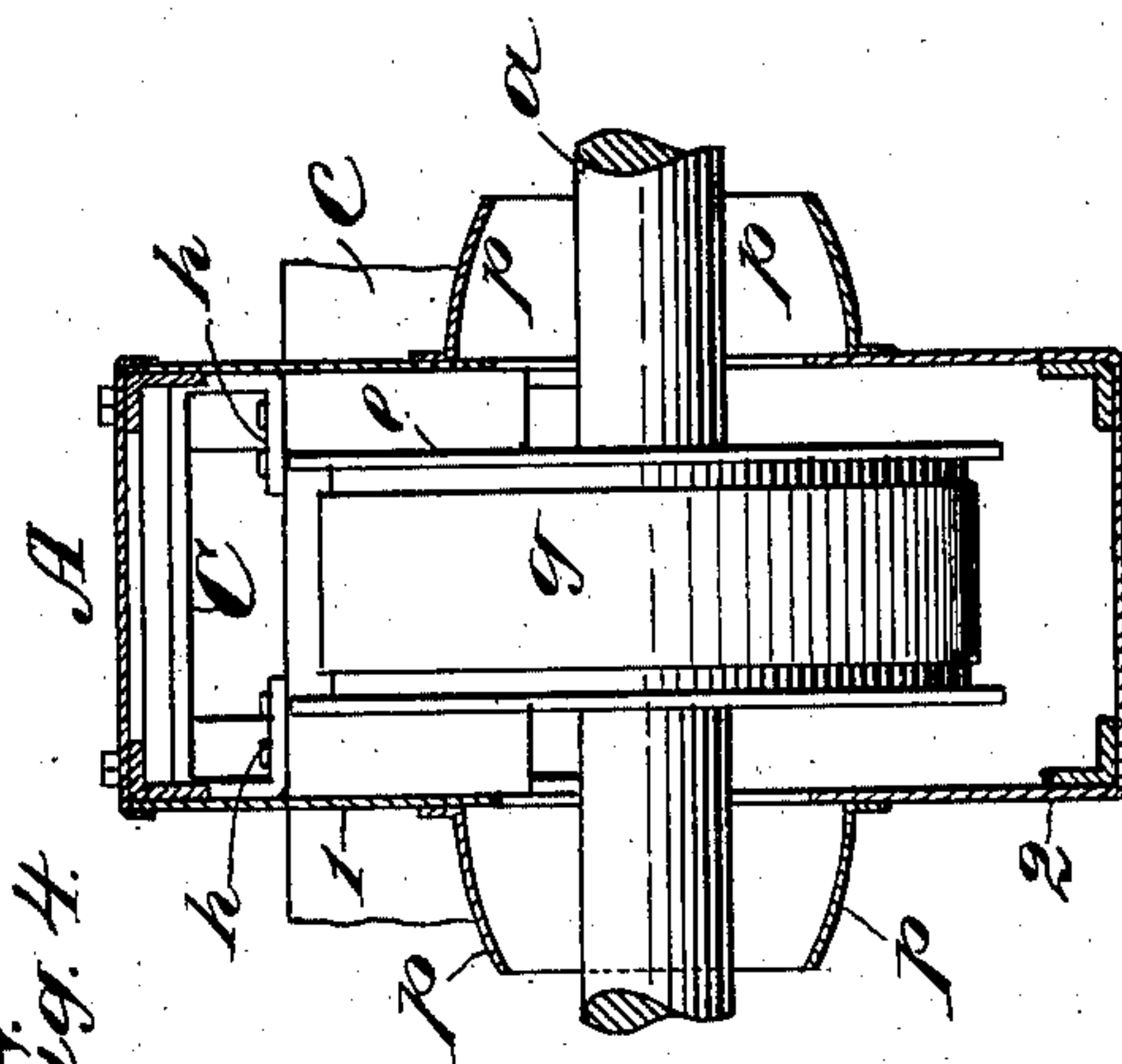
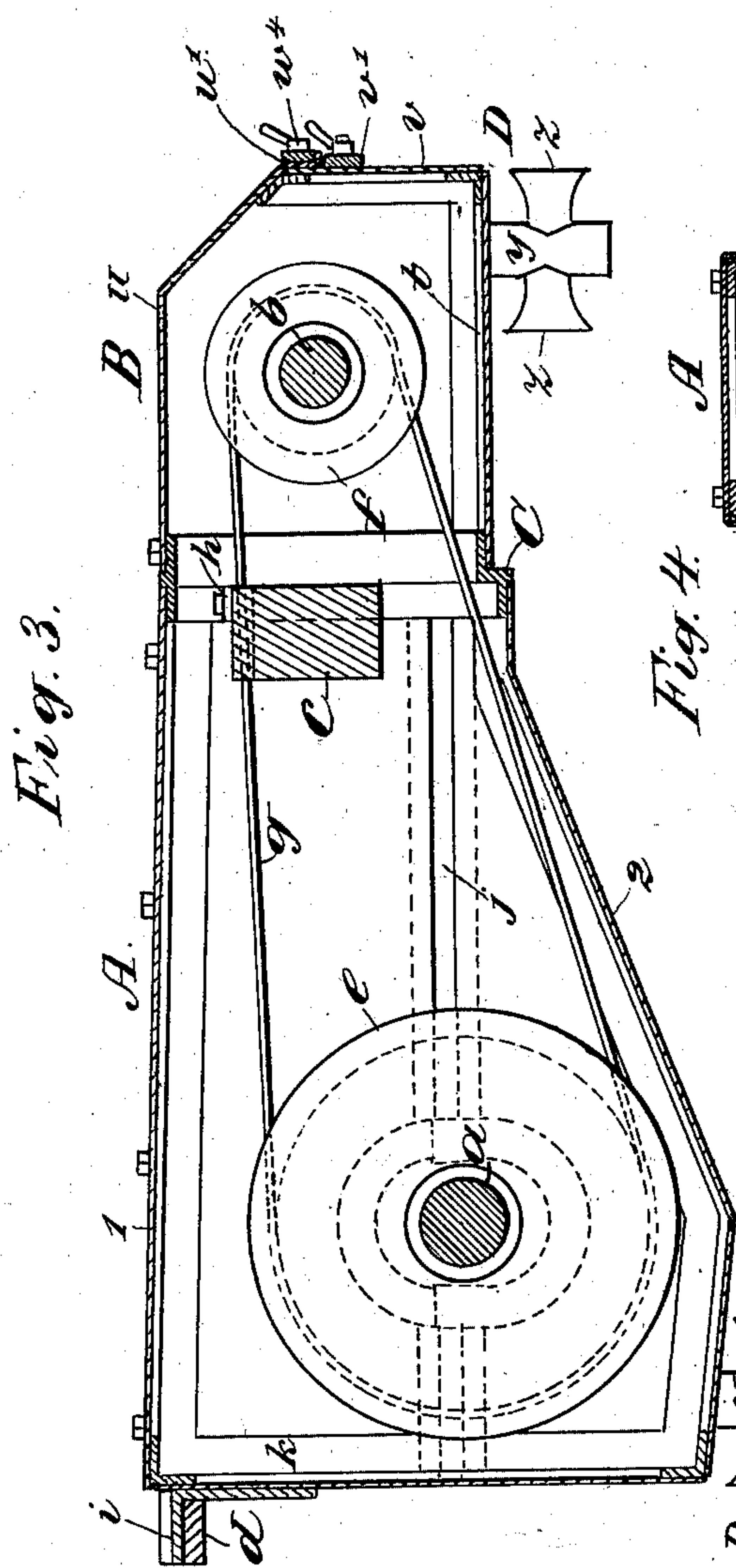
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

PATRICK KENNEDY, OF NEW YORK, N. Y., ASSIGNOR TO CONSOLIDATED RAILWAY ELECTRIC LIGHTING & EQUIPMENT CO., A CORPORATION OF NEW JERSEY.

INCLOSING CASING FOR THE DRIVING-GEAR OF CAR-DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 741,971, dated October 20, 1903.

Application filed April 27, 1903. Serial No. 154,398. (No model.)

To all whom it may concern:

Be it known that I, PATRICK KENNEDY, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings and city and State of New York, have invented certain new and useful Improvements in Inclosing Casings for the Driving-Gears of Car-Dynamos, of which the following is a specification.

10 This invention relates to means for lighting cars by electricity derived from dynamos driven from the axles of the cars.

In the United States Patent No. 685,516, granted October 29, 1901, on my application 15 is shown a dynamo pivotally mounted on the truck-frame of a car and driven from the car-axle by a belt and pulleys, one of the latter being on the car-axle and the other on the armature-arbor of the dynamo. The dynamo 20 is, as stated, pivotally mounted on the truck-frame and a spring device is employed to so rock the dynamo on its pivot as to keep the driving-belt taut and take up any slack therein.

25 The object of the present invention is to provide a means for excluding snow, dust, and the like from the pulleys and belt by which the dynamo is driven, so as to preserve the same from undue deterioration and wear.

30 This is a matter rendered the more difficult from the fact that in running, the truck-frame of the car has a constant vibrating movement with respect to the axle thereof, and the arbor of the dynamo has also a movement toward and from the car-axle. It is also necessary to provide means whereby access may be had at all times to the belt and pulleys for inspection. As it is not possible by any known means to wholly exclude the entrance of snow 40 and dust (one or both) to a protecting-casing about the axle of the car, means are provided herein for expelling or exhausting such snow or dust while the car is in motion.

45 In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a side elevation of the protecting-casing as seen from the lower side in Fig. 2. Fig. 2 is a horizontal section taken substantially along the line x^2 in Fig. 1. In this view the

belt and pulleys are represented in plan and 50 only the casing in section. Fig. 3 is a vertical section taken substantially at line x^3 in Fig. 2. Fig. 4 is a transverse section at line x^4 in Fig. 1. Fig. 5 is a view of the cast-iron connecting-frame detached. 55

In the drawings it has not been deemed necessary to show the entire truck-frame of the car, the car-wheels, and the dynamo. All that has been shown aside from the protecting device are the car-axle a , the arbor b of 60 the dynamo, the transverse truck-beam c , a transverse supporting-bar d of the truck-frame, the pulley e on the axle, the pulley f on the arbor of the dynamo, and the belt g on said pulleys. These will suffice to illustrate the application of the invention in use. 65

The protecting-casing is of sheet metal stiffened with angle-iron, and it comprises two sections or parts A and B, which are connected by a frame C, which may be of cast-iron. 70 This frame is shown detached in Fig. 5 and is of rectangular form, with flanges on its faces to enter and form supports for the sheet metal of the casing. The frame is provided with flanges h , whereby it is supported on and 75 secured to the truck-beam c . The larger section A of the casing houses the pulley e and is in two parts, the lower portion 2 being removable, while the upper portion 1 is fixed. This upper portion has a bracket i , whereby 80 it is supported at one end on the transverse bar d , while at the other end it is carried on the truck-beam c through the frame C, to which it is secured. The lower section 2 is fitted up to the upper section, the line of junction being covered by a strip or plate j , secured to the upper section. This removable section 2 is secured at its deeper end to the pendent angle-irons k , Fig. 2, by screws m , and at its other end it is secured to the frame 90 C by screws n . It may have handles o for holding it when removed. The car-axle a passes through the section A at the line of junction of the parts 1 and 2, and where it passes through the sides of the casing the latter is provided with dust-guards, of leather or 95 the like. Each of these dust-guards consists of two like or similar parts p , which are of

somewhat conical, or rather semiconical, form. The upper one of these parts *p* is secured to the upper part 1 of the section A and the other to the lower part 2 thereof, and their edges overlap, as clearly shown in Fig. 1. The dust-guard does not fit snugly about the axle, but is of such size as to allow the casing to move up and down without putting the leather into rubbing contact with the axle, which would soon wear it away. These guards do not wholly exclude the dust, snow, or other flying particles, but they aid greatly in keeping the inclosed parts clean.

The section B, which incloses the pulley *f* and forms a continuation of the part A, is borne wholly by the frame C. This section receives the arbor *b* of the dynamo, said arbor projecting through one side of the same, as seen in Figs. 1 and 2. As the dynamo has a rocking movement, as before explained, the arbor *b* rotates in a packed aperture in a plate *g*, which is slidably mounted in keepers *r* on the side *s* of the casing. This side is fixed to the frame C as well as the bottom *t*. The other side, *s'*, (seen in Fig. 2,) as well as the top *u* and front *v*, are removable, being held in place partly by swing-bolts *w* and *w'*, which engage slots in the respective ends of a bar *v'* on the front *v*. The swing-bolt *w* is hinged to the fixed side *s*, and the opposite swing-bolt, *w'*, is longer and extends back to a bracket *w³* on the frame C, the bolt being hinged to said bracket. When the nuts on the outer ends of these bolts are loosened, the bolts may be swung out laterally, so as to free the removable parts of the section B. The cover or top plate *u* is held in place also by screws *w³*, although there need be only a few of these. The pendent flange on the front end of the cover *u* takes over the upper edge of the front plate *v*, and the two plates are clamped together by a bolt and nut *w⁴*, the said bolt being attached to the front plate and engaging an aperture or way in the reinforced flange *u'* on the top plate or cover.

The object in making parts of the casing readily removable is to afford access to the interior thereof for inspection and cleaning.

In spite of all efforts to keep out snow or the like from the casing some will get in, owing to the necessity for leaving a space about the car-axle, and such particles—usually snow in winter—ordinarily collect in the end of the casing near the axle (at the left in Fig. 1) and is carried forward to some extent by the belt *g*, (to the right-hand end in said figure.) To remove any accumulation in the casing from the cause named, the latter is provided at the respective ends of its bottom with ejector devices D for exhausting such accumulation when the car is in motion. This exhaustor or ejector device consists of a pendent tube or pipe *y*, having in its sides

oppositely-disposed openings each provided with a flared mouthpiece *z*. When the car is in motion, the cross-current of air through the mouthpieces and transversely of the pipe creates a partial vacuum, and the flow of air from the casing carries with it the snow, dust, and the like.

The casing will be substantially rectangular in cross-section, as seen in Fig. 4. The truck-beam *c* may be cut away, as indicated in the drawings, to provide room for the belt should the construction and disposition of parts require such cutting.

Having thus described my invention, I claim—

1. A casing for the purpose specified, comprising the two sections A and B, the former having dust-guards at its sides and the latter having at one side an apertured slide to embrace the arbor of the dynamo, and a frame connecting said sections and having flanges to rest on the transverse beam of the truck.

2. A casing for the purpose specified, comprising the section A, having a removable lower portion 2, and dust-guards at its sides to embrace the car-axle, the section B, having a slide at one side to embrace the arbor of the dynamo, and a connecting-frame C between said sections and connecting the same.

3. A casing for the purpose specified, having means for supporting it from the truck-frame, dust-guards at its sides to embrace the car-axle, an aperture in one side for the passage of the arbor of the dynamo, a slide-plate over said aperture and adapted to embrace said arbor, and keepers for said plate.

4. A casing for the purpose specified, having a lower, removable portion 2, apertures in its sides for the car-axle, and dust-guards on its sides, each of said guards consisting of an upper and lower conical or tapered part *p*, the upper part being secured to the fixed side of the casing and the lower part secured to the removable portion 2 thereof, the margins of the parts *p* overlapping, as set forth.

5. The combination with the cross-beam C and transverse bar *d*, of a car-truck, of a casing for the purpose specified, comprising the main, or larger section A, the smaller section B, and the frame C secured to the truck-beam *c*, said section A being provided with a bracket *i* supported on the bar *d* at one end and secured to the frame C at the other end, and said section B being provided with a removable side, substantially as set forth.

In witness whereof I have hereunto signed my name, this 24th day of April, 1903, in the presence of two subscribing witnesses.

PATRICK KENNEDY.

Witnesses:

HENRY CONNETT,
PETER A. ROSS.