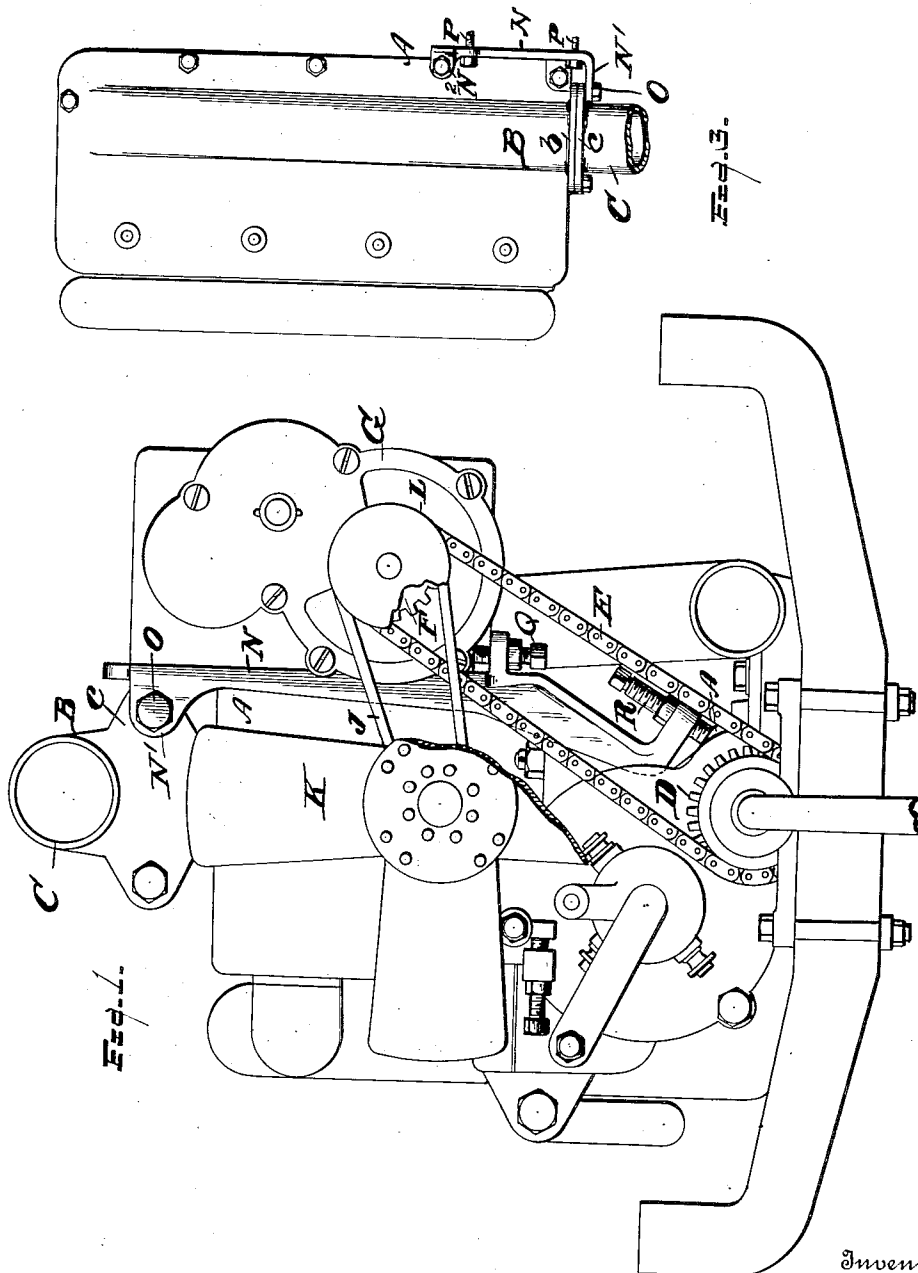


F. E. FISHER.
MEANS FOR SUPPORTING ELECTRIC LIGHTING AND STARTING UNITS.
APPLICATION FILED JUNE 15, 1916.

Patented July 23, 1918.
2 SHEETS—SHEET 1.



Witnesses

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Lloyd E. Thomas

By

Frank E. Fisher

S. B. Thomas

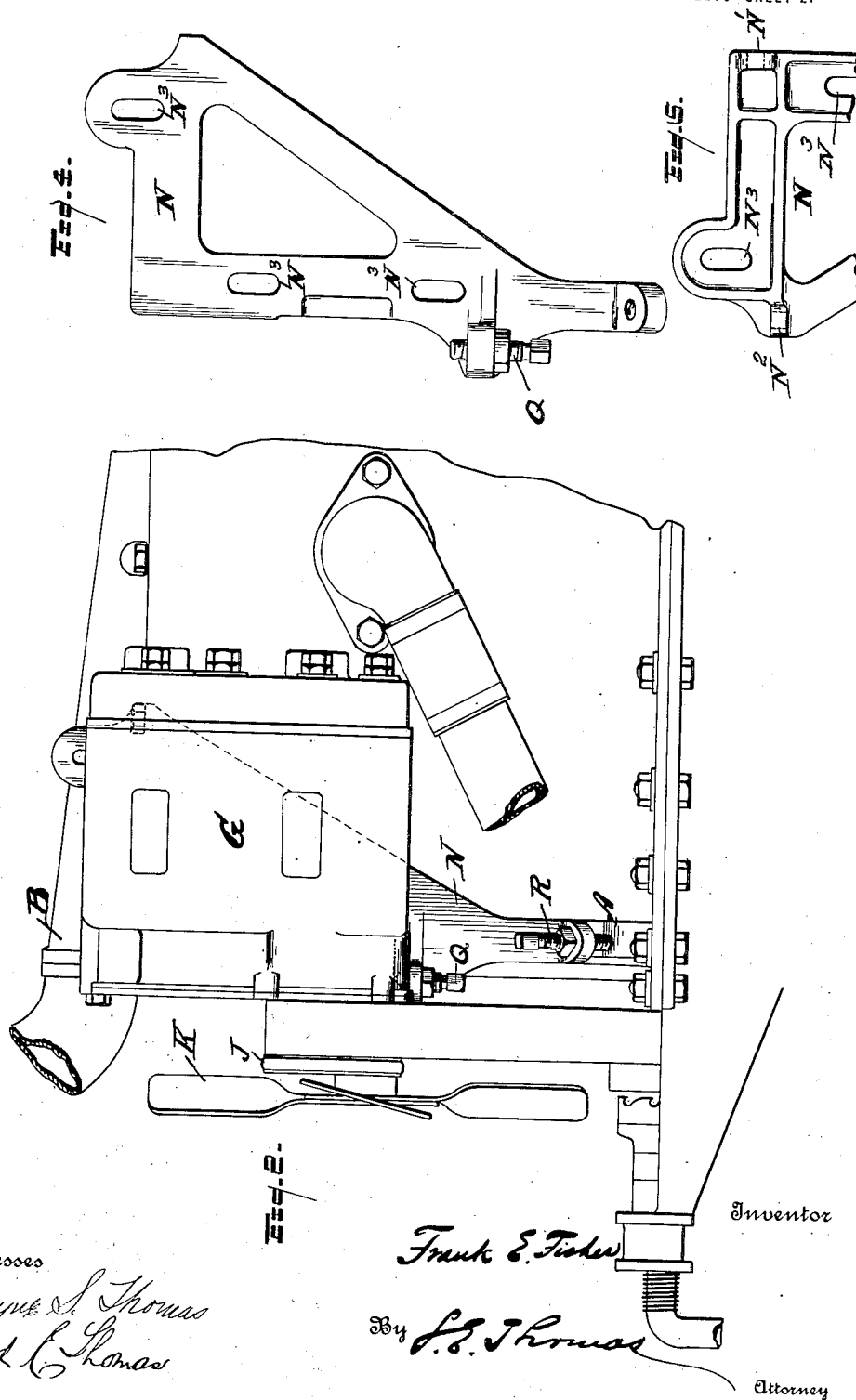
Attorney

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UNITED STATES PATENT OFFICE.

FRANK E. FISHER, OF DETROIT, MICHIGAN.

MEANS FOR SUPPORTING ELECTRIC LIGHTING AND STARTING UNITS.

1,273,170.

Specification of Letters Patent.

Patented July 23, 1918.

Application filed June 15, 1916. Serial No. 103,856.

To all whom it may concern:

Be it known that I, FRANK E. FISHER, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Means for Supporting Electric Lighting and Starting Units, and declare the following to be a full, clear, and exact description of the same, such as 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.

My invention relates to an adjustable means for supporting an electric starter unit upon the frame of an internal combustion engine, shown in the accompanying drawings and more particularly set forth in the following specification and claims.

One of the objects of the present invention is to provide a supporting member for an electric starter unit especially adapted for use in connection with the so-called "Ford" engine or motor, the construction being such that no alteration or change is required in the engine frame to adapt it to receive the supporting member.

Another object of the invention is to provide for the ready adjustment of the supporting member upon the engine frame in order that any slack in the chain connection between the engine shaft and starter unit may be taken up.

Other advantages and improvements will hereafter appear.

In the drawings accompanying this specification:

Figure 1 is an end elevation of the frame of a "Ford" engine and chassis, with parts broken away, showing an electric lighting and starting unit, secured to the adjustable supporting member carried by the frame of the engine.

Fig. 2 is a side elevation of the same.

Fig. 3 is a plan view of an engine casing and the member attached thereto for supporting an electric starter unit upon the former.

Fig. 4 is an elevation of the supporting member showing the side to which the frame of the electric "starter" is secured.

Fig. 5 is a fragmentary elevation of the supporting member as viewed from the side opposite that shown in Fig. 4.

Referring now to the letters of reference placed upon the drawings:—

A, denotes the wall of the engine or motor,—B, its manifold and *b*, the flange of the manifold to which is bolted the flange *c*, of the pipe C. D, indicates a pinion mounted upon the engine shaft, connected by a driving chain E, with the gear F, of the starting and lighting unit G. J, is a belt connection between the pulley of the fan K, and the pulley L, of the starting and lighting unit G. N, designates an adjustable supporting member or bracket to which the lighting and starting unit G, is secured having an inwardly directed lug N', provided with an aperture to receive the bolt O, joining the flange of the manifold with that of the connecting pipe, (see Figs. 1 and 3). The bracket is also provided with an overlapping lug N², engaged by one of the bolts employed to secure the manifold to the wall of the engine. The supporting member or bracket is also provided with a plurality of slots N³, for the passage of bolts P, for securing the starting and lighting unit thereto. Q, is an adjustable bolt supported in a lug projecting from the bracket and adapted to bear against the underside of the starting unit to regulate its adjustment. R, is a downwardly projecting bolt supported in the bracket N, adapted to bear against the wall A, of the engine,—by adjusting which the supporting bracket may be held in rigid relation thereto.

Having indicated the several parts by reference letters, the construction and manner of installing the device will be readily understood. To secure the supporting member or bracket N, to the engine,—one of the bolts connecting the manifold with its wall, and one of the bolts connecting the flanges of the manifold and its pipe connection are first removed. The bracket is then placed in position and bolted to the engine and to the flange of the manifold by bolts of suitable length, which take the place of those removed. The bolt R, is then adjusted to bear against the wall A, of the engine, thus rigidly securing the bracket thereto. The electric starting unit is then secured to the bracket by the bolts P, which engage the inclosing wall of the starter through the elongated slots N³, provided for its adjustment. The sprocket wheel D, of the engine

shaft is then connected with the sprocket gear F, of the starting unit through the driving chain E,—the belt J, connecting the fan pulley with the pulley L. The bolts P, being slightly released, the bolt Q, is then turned to adjust the position of the starting unit to take up slack in the driving chain and fan belt,—the bolts P, are then readjusted to secure the starter to the bracket, and thereby to the engine.

Having thus described my invention what I claim is:

1. Means for attaching an electric starting unit to the frame of an internal combustion engine, the same consisting of a supporting member having means for mounting a starting unit adjustable on its upper portion and provided also at the top with attaching means for securing it to the frame of an engine, said member being provided intermediate of its ends with an adjusting screw located below the starting unit in position for adjusting the same, the lower portion of the said member being extended downwardly and inwardly and provided at the lower end with an adjusting screw arranged to rest upon the lower part of the frame of

the engine to prevent the said member from swinging and to hold the same and the starting unit in rigid relation with the engine frame.

2. In combination with an engine frame and starter unit, a device of the character described, comprising a supporting bracket having a plurality of slotted ways for the passage of bolts to secure the starter to the bracket, an adjustable screw carried by the bracket for shifting the position of the starter unit with reference to the slotted ways of the bracket, lugs integral with the bracket having a bolt opening registerable with bolt openings in the engine frame, whereby the bracket may be secured thereto without alteration of the frame, and an adjustable bolt carried by the bracket adapted to co-act in rigidly securing the bracket to the engine frame.

In testimony whereof, I sign this specification in the presence of two witnesses.

FRANK E. FISHER.

Witnesses:

WAYNE S. THOMAS,
SAMUEL E. THOMAS.