

(No Model.)

F. DAWSON, Sr., & F. DAWSON, Jr.

CAR STARTER.

No. 314,519.

Patented Mar. 24, 1885.

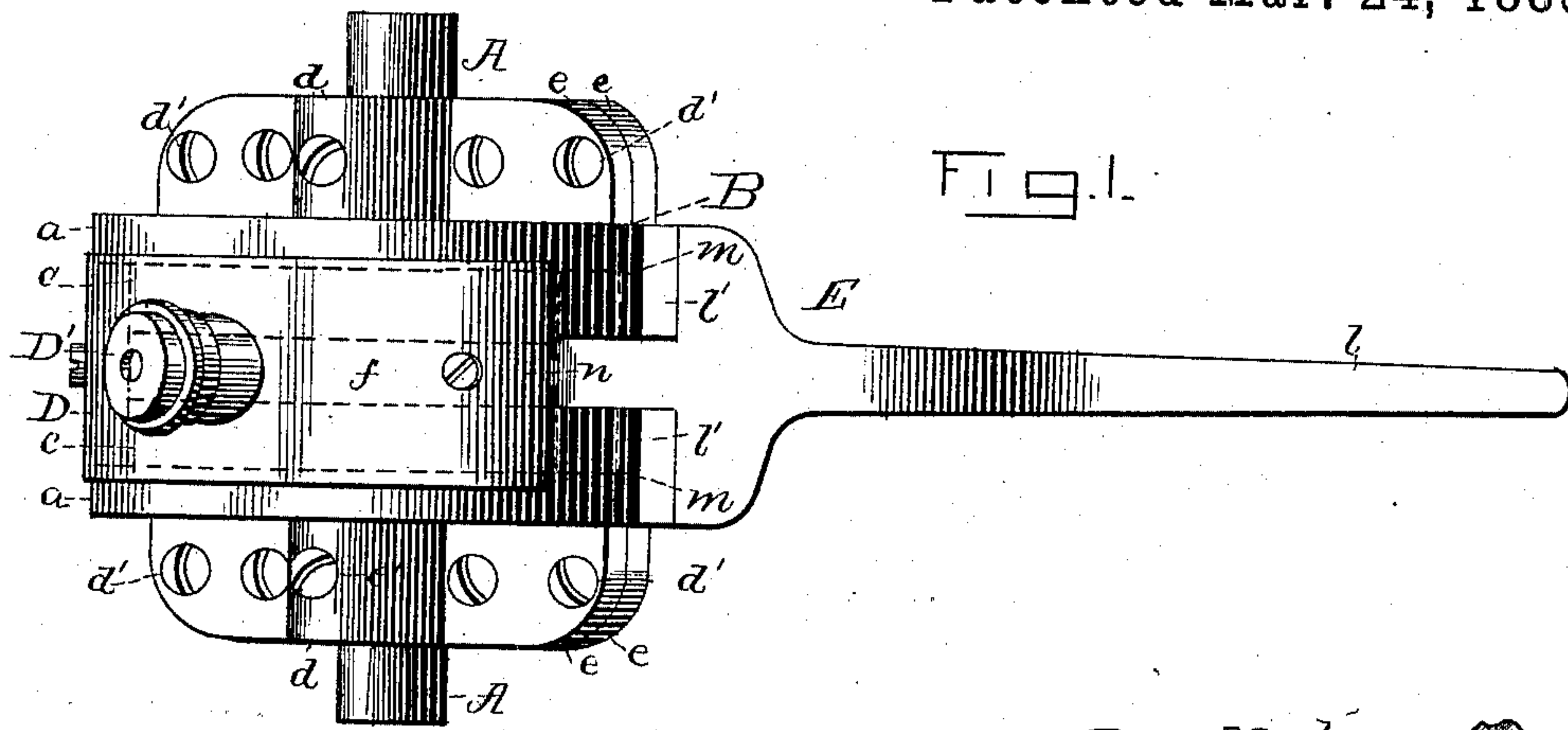


Fig. 1.

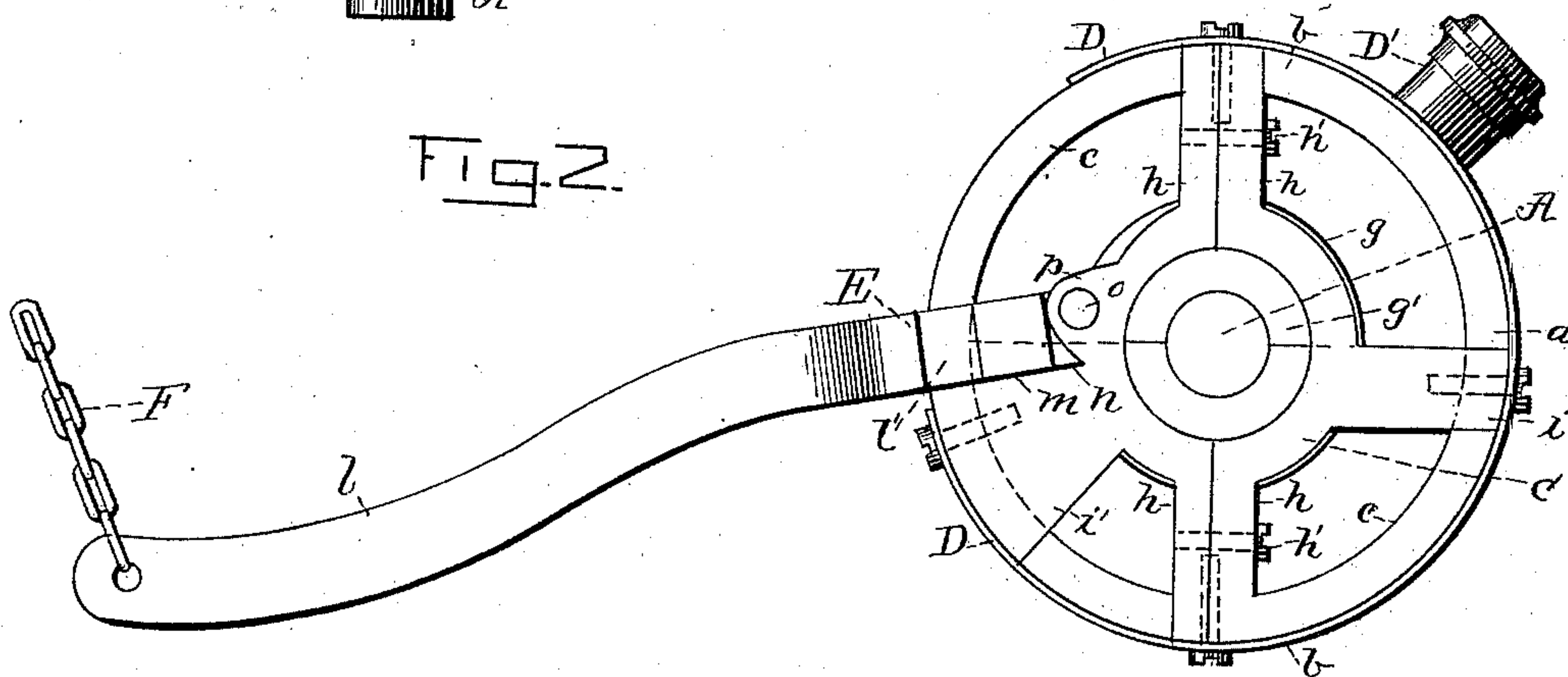


Fig. 2.

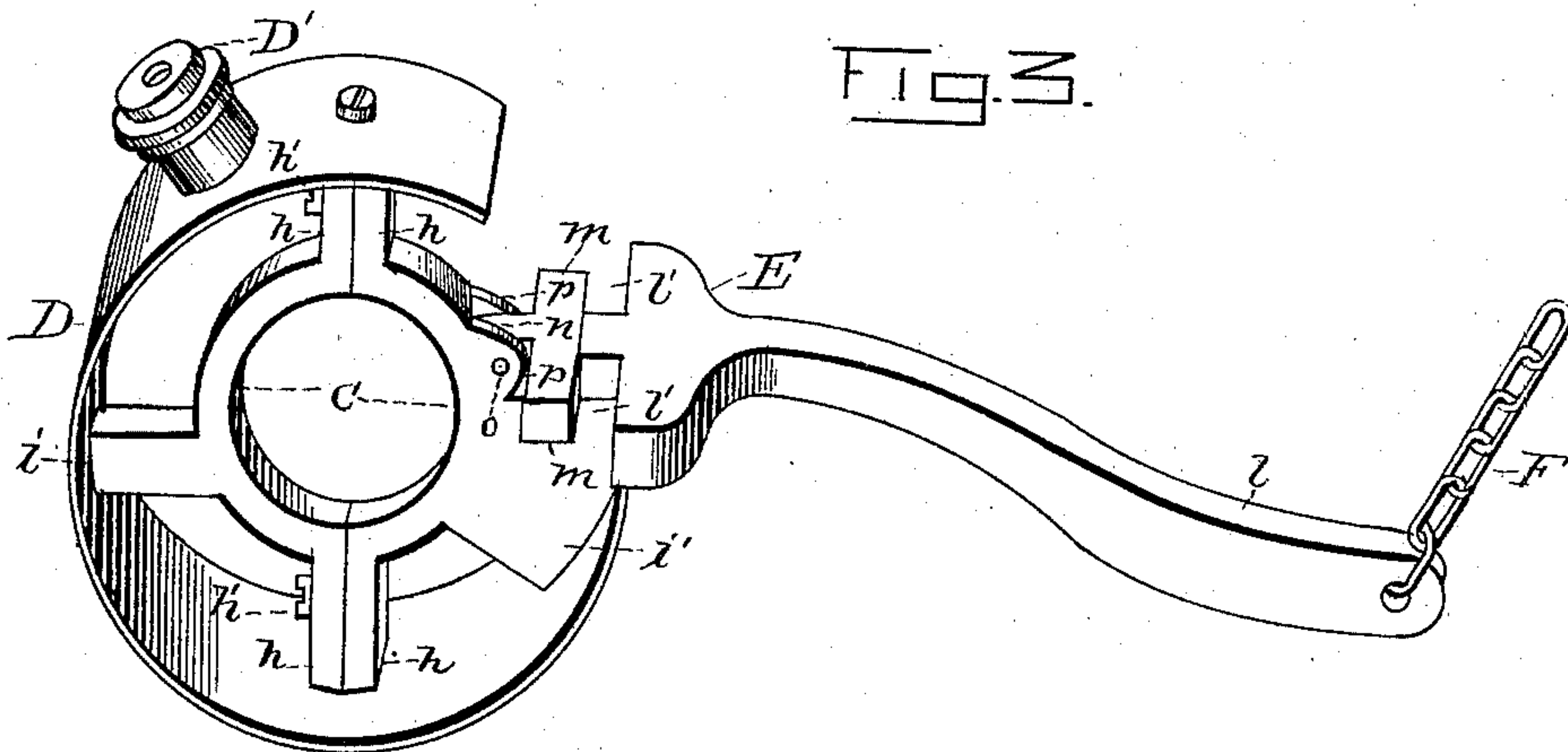


Fig. 3.

WITNESSES:

St. A. Clark.  
Jno. C. Schroeder.

INVENTOR:

Frank Dawson, Sr.  
Frank Dawson, Jr.  
by Geo. W. Allen  
att'y



# UNITED STATES PATENT OFFICE.

FRANK DAWSON, SR., AND FRANK DAWSON, JR., OF WILLIAMSPORT, PA.

## CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 314,519, dated March 24, 1935.

Application filed August 4, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, FRANK DAWSON, Sr., and FRANK DAWSON, Jr., of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Car-Starters; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to certain improvements upon the car-starter described in Letters Patent No. 300,698, granted to Dawson and Holleyhead, June 17, 1884; and our object is to reduce the original number of parts, to simplify their construction, and consequently effect a greater economy of first cost, and at the same time lessen frictional wear and exclude all dust and dirt from entrance to the axle and the bearings of the several parts.

The novelty of these improvements consists, mainly, in the construction and arrangement of the lever-clutch and its attachments, and in their combination with other parts of the device, all as more fully hereinafter described, and pointed out in the claims.

For the better understanding of these improvements attention is invited to the accompanying drawings, wherein is illustrated only that portion of the car-starter which embraces our improvements, and in which—

Figure 1 is a plan of the driving-wheel and lever-clutch; Fig. 2, a side view with one-half of the driving-wheel removed; and Fig. 3, a detail of the lever-clutch and the collar to which it is attached.

As illustrated, A denotes the axle, upon which is placed a driving-wheel, B, consisting of two separate sections, *a a*, each made in two equal parts, *b b*, so as to be readily placed upon or removed from the axle. Each section *a* of the wheel B is recessed on its interior to form a flange or rim, *c*, around its periphery, and the parts *b b*, composing the sections of the wheel, are each provided on one side with an equal section of a hub, *d*, and a clamping-arm, *e*, which parts are secured together and are made to closely embrace the axle by means of screws *d' d'*, as shown. The sections *a a*, as thus constructed, are placed upon the axle, so as to leave an intervening space, *f*, between

their flanges or rims *c*, and are firmly held in their positions by means of set-screws *e'*, passing through the sides of the hubs *d d* into the axle.

Both sections of the driving-wheel have an interior hub, *g*, the thickness of which is about twice that of the hubs *d*, and one of which is provided with an additional smaller hub, *g'*, which supports a collar, C, made in two equal parts, having ears *h h*, secured together by screws *h' h'*, passing through said ears. This collar is placed loosely over the hub *g'*, so as to have easy rotation thereon, and is restrained from lateral movement by the ends of the interior hubs, *g g*. This loose collar is also provided with a radial arm, *i*, and a segment, *i'*, which, together with the ears *h h*, extend out through the space *f*, between the sections *a a*, to the periphery of the flanges or rims *c c*, and are of a thickness about equal to the width of space *f*. This space *f* is covered, for the purpose of excluding all dust and dirt, by means of a casing, D, secured to the ends of the ears and arms of the loose collar C, and partly inclosing the external periphery of the driving-wheel, with a portion cut out to give free movement to a lever-clutch, E, and having an oil box or chamber, D', opening at its bottom into the space *f*, for supplying a lubricant to the bearings of the several parts located between the sections of the driving-wheel.

This lever-clutch E, above referred to, has a lever-arm, *l*, two jaws, *l' l'*, which embrace the flanges or rims *c c* of the driving-wheel, two hooks, *m m*, conforming in size to said flanges or rims, and a central lug or extension, *n*, pivoted by means of a pin, *o*, between two ears, *p p*, which are secured to the loose collar C just above its radial segment *i'*.

To the outer end of the lever-arm *l* is attached a chain, F, which has connection with mechanism upon the car-bottom like, or substantially like, that described in the patent hereinbefore mentioned, and the operation of this mechanism upon the lever-arm transmits movement to the clutch and its several connections and causes them to act substantially like the corresponding parts of the device described in said former patent.

The advantages and the benefits derived from our improvements are that but little or no



dust can enter to the bearings of the several parts, and at the same time better facilities are instituted for lubrication.

By making the driving-wheel in two removable sections the lever-clutch and its loose collar may be removed and replaced by merely slipping one of said sections off and on its axle without separating the two parts of said sections, as was necessarily done in our other device, and that the employment of but one collar greatly lessens the friction and enables us to effect greater economy in the cost originally involved.

We claim—

1. The combination, in a car-starter, of a driving-wheel made in two removable sections, a loose collar mounted between said sections, and a lever-clutch pivoted to said collar, substantially as described.

2. The combination, in a car-starter, of a driving-wheel made in two removable sections, a loose collar mounted between said sections, with a casing partly inclosing the periphery of the driving-wheel, and a lever-clutch pivoted to said collar and having jaws embracing the rim-flanges of said sections, substantially as described.

3. A lever-clutch, *l E*, for a car-starter, having two jaws, *l' l'*, two hooks, *m m*, and a central lug or extension, *n*, substantially as described.

4. The combination, in a car-starter, of a driving-wheel made in two removable sections, *a a*, each made in two equal parts, *b b*, with lateral rim-flanges *c c*, and a lever-clutch, *E*, having two jaws, *l' l'*, hooks *m m*, and a lug or extension, *n*, substantially as and for the purpose set forth.

5. The combination, in a car-starter, of the driving-wheel *B*, made in two removable sections, the loose collar *C*, made in two parts, mounted between said sections, and the lever-clutch *E*, having the two jaws *l' l'*, hooks *m m*, and lug or extension *n*, pivoted between ears *p p* on said collar, substantially as described.

6. The combination, in a car-starter, of the driving-wheel *B*, made in two removable sections, the loose collar *C*, mounted between said sections, the casing *D*, provided with chamber *D'* and secured to said collar, and the lever-clutch *E*, all combined and arranged as described and shown.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK DAWSON, SR.  
FRANK DAWSON, JR.

Witnesses:

J. C. MARTIN,  
H. B. ARNESLING.