(No Model.) 2 Sheets—Sheet 1.

W. H. BARNES.

CAR STARTER.

No. 264,221. Patented Sept. 12, 1882.

FIG. II.

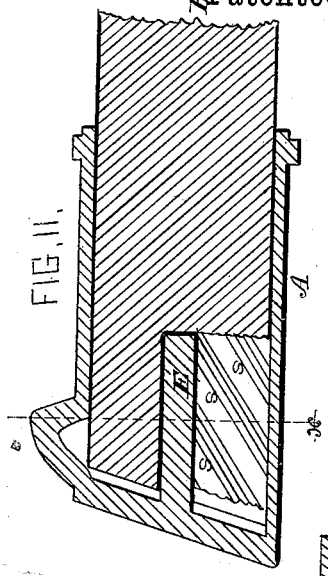


FIG. V.

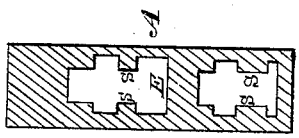


FIG. I.

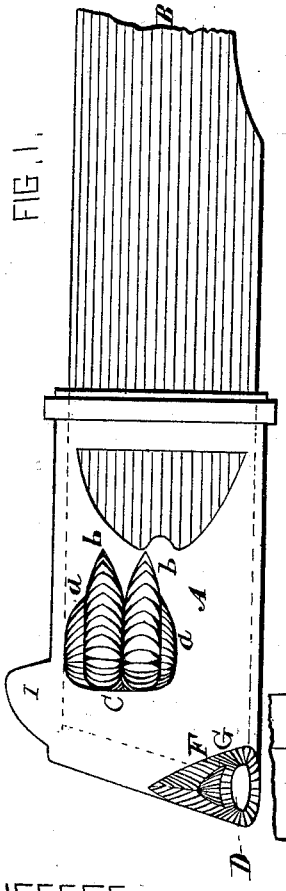


FIG. III

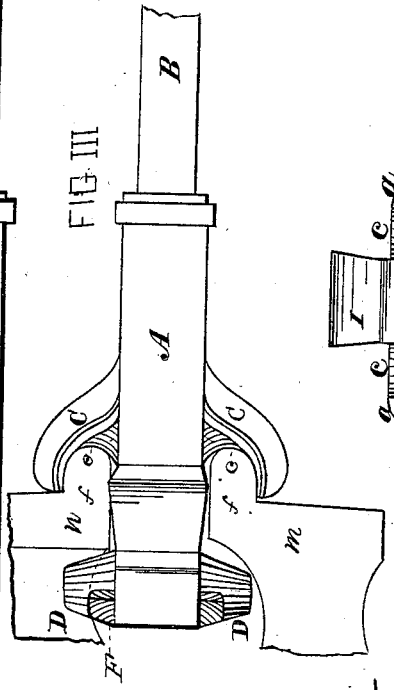
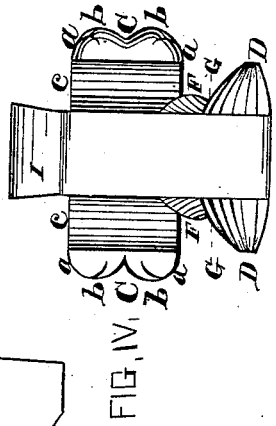


FIG. IV.



WITNESSES

J. S. Huey

F. H. Moore.

INVENTOR

William H. Barnes

By G. L. Chapin

Atty.

(No Model.)

2 Sheets—Sheet 2.

W. H. BARNES.

CAR STARTER.

No. 264,221.

Patented Sept. 12, 1882.

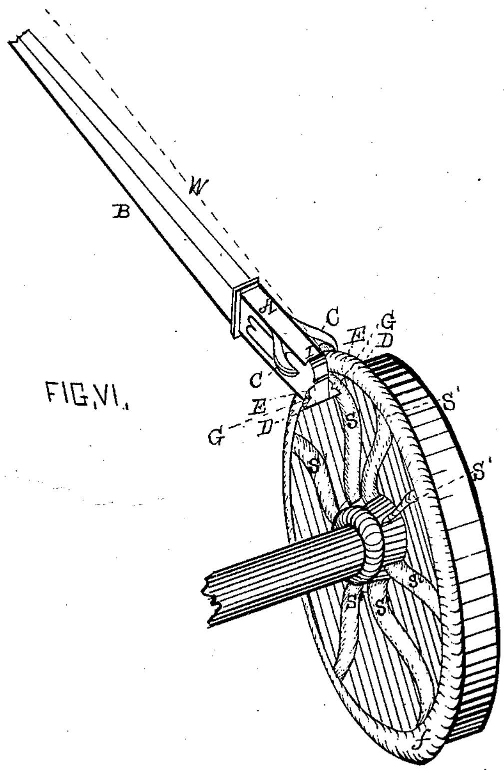


FIG. VI.

WITNESSES,
J. S. Huey
Henry W. Shepard

INVENTOR,
William H. Barnes,
By G. L. Chapin, Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. BARNES, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO JOHN F. GAINTY, OF SAME PLACE.

CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 264,221, dated September 12, 1882.

Application filed June 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BARNES, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Starters, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon, illustrating the invention and improvement, in which—

Figure I is an elevation of a car-starter embodying my improvement; Fig. II, a vertical longitudinal central section thereof; Fig. III, a top or plan view of the device; Fig. IV, a front end view of the same; Fig. V, a vertical section on line *x*, Fig. II. Fig. VI, Sheet 2, is a perspective representation of a car-wheel with my car-starter in position thereon as when in use.

The present invention relates to an improvement in double-clutch car-starters; and the particular improvement consists in the novel form of the lower clutches, whereby a proper hold is attained on different forms of car-wheels, and in the manner in which the shell is constructed to attain the required strength with the least possible iron, as the whole is hereinafter described and shown.

A represents a shell-casting, which is made solid in one piece, with the clutches C C and F D, a transverse bar, E, and diagonal ribs *s s*, &c. There is also a projection, I, at the top front end to prevent the device turning to one side when a strain to move the car is brought on the handle B. The clutches C C are formed of four ribs each, as shown at *a a b b*, to get strength with little metal. To prevent the shell from being broken by the strain on the clutches C F D, a bar, E, connects the two flat sides thereof and the front end, dividing the handle B. That portion of the end of the handle passing over the ribs *s* is made thinner, so as to extend in, as shown. One-half of the handle is broken away over the ribs below the bar E to show the construction of the inside of the shell, the same form of ribs being above the bar on both of the insides of A.

The form of the clutches E D is shown at Figs. I, III, and V, the parts D being the longer, and above them, and in the lower parts of F F, are formed notches G G, which act to let the clutches have a free movement on the wheel when the force on the handle B ceases, to enable the operator to get a new bite.

In Fig. III, *m* represents a portion of the solid end wheel and the car-starter thereon, the internal bearing, *c*, bearing on the flange *f* of the wheel *m*. The letter *n* shows a portion of a spoked car-wheel and the clutch D between the spokes.

At Fig. VI the clutch D on one side of the starter is represented as bearing on the side of one of the arms of the wheel, and the clutch C on the same side as locking onto the flange *f*, far enough over on the periphery thereof to form a fulcrum, the wheel being rotated by lifting upon the handle B. To lower the starter to get a new hold on the wheel, the handle B should be swung in the direction of the line W till the clutch D is made to pass past the edge of the arm S, at which time the starter will drop to the next position; and by bringing the handle B from the line W the clutch D will be thrown into the matrix of the wheel far enough for the clutch D to get a firm hold and the upper clutch, E, to hold the clutch C to its work on the flange *f*. The starter is to be removed from the wheel by swinging the handle outward past the dotted line W. It is well to observe that accuracy of construction is indispensable in the shell and clutches in order that the clutch D get a sufficient hold on the under part of flange *f*, and at the same time allow the clutch to pass the arms S of the wheel, and have the starter move on the wheel to a lower position without sliding off.

I claim as new and desire to secure by Letters Patent—

1. The clutches D F, with notches G G between them, in combination with the clutches C C, bar E, shell A, and handle B, as specified.

2. The shell A, provided with ribs *s*, bar E, and the forked handle B, narrowed between the ribs, arranged as specified and shown.

WILLIAM H. BARNES.

Witnesses:
G. L. CHAPIN,
JOHN F. GAINTY.