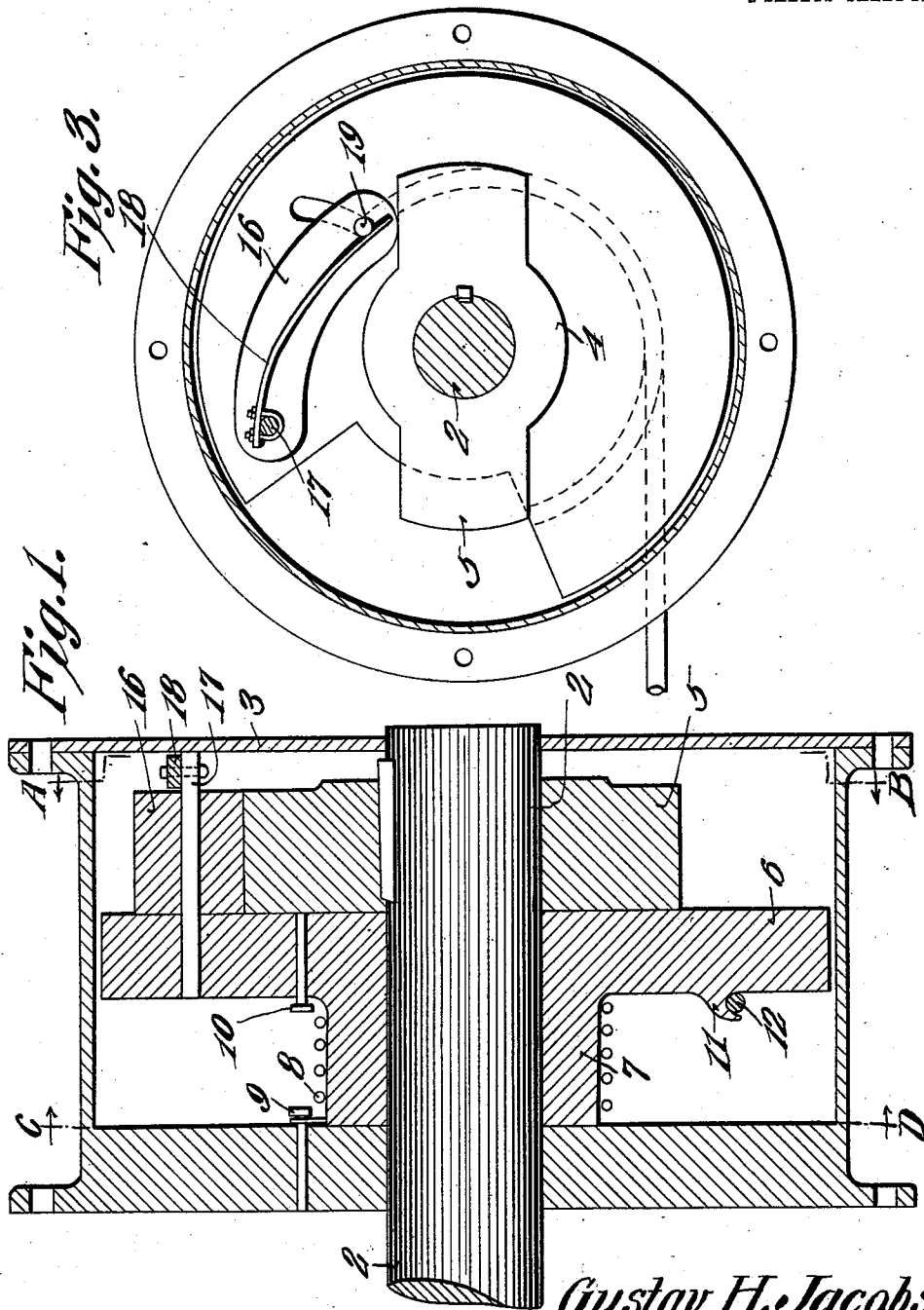


G. H. JACOBS.
ENGINE STARTER.
APPLICATION FILED OCT. 1, 1910.

1,001,145.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

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Fig. 2.

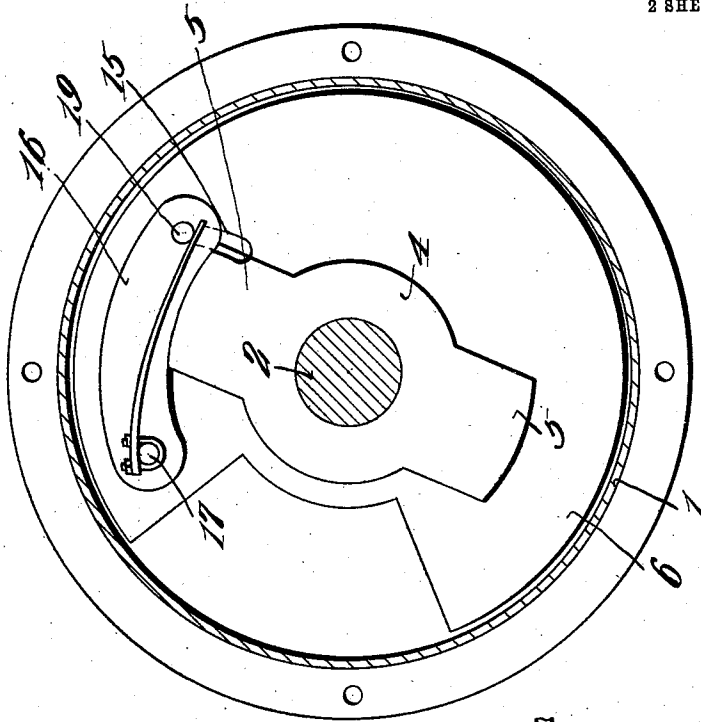
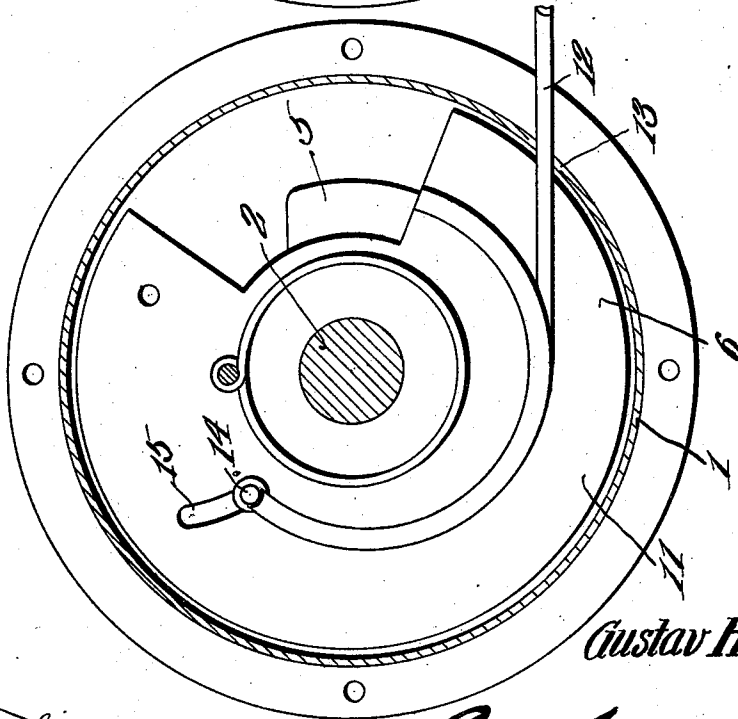


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAV H. JACOBS, OF OKAWVILLE, ILLINOIS.

ENGINE-STARTER.

1,001,145.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed October 1, 1910. Serial No. 584,883.

To all whom it may concern:

Be it known that I, GUSTAV H. JACOBS, a citizen of the United States, residing at Okawville, in the county of Washington and State of Illinois, have invented a new and useful Engine-Starter, of which the following is a specification.

This invention relates to starters for use in connection with hydrocarbon engines, its object being to provide simple means which can be operated by the driver without leaving the seat and which will operate in such a manner as to entirely eliminate all danger ordinarily resulting from the back kicking of the motor.

Another object is to provide a starting device which is simple and compact in construction and which can be readily applied to hydrocarbon engines such as commonly employed.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the claim without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,—Figure 1 is a central transverse section through the starter. Fig. 2 is a section on line A—B Fig. 1, the dog being shown in its normal position. Fig. 3 is a view similar to Fig. 2 but showing the relative positions of the dog and shaft during the cranking or starting of the motor. Fig. 4 is a section on line C—D Fig. 1.

Referring to the figures by characters of reference, 1 designates a cylindrical housing adapted to be bolted or otherwise secured to the structure carrying the motor, the motor shaft 2 being mounted for rotation within this housing and there being a removable head 3 secured to one end of the housing and about the shaft so as to completely house and protect the parts constituting the starter.

A collar 4 is keyed or otherwise secured upon the shaft 2 adjacent one end of the housing and has oppositely extending wings 5. A disk 6 is mounted for rotation on the shaft 2 and is provided with a tubular ex-

tension or boss 7 about which is coiled a spring 8, one end of this spring being attached to the housing, as indicated at 9, while the other end thereof is attached to the disk 6, as shown at 10. A channeled flange 11 is formed on one face of the disk 6 and is preferably concentric therewith, this flange overhanging the boss 7 and constituting a bearing or support for a cord 12 which projects through an opening 13 in the housing and is connected to a pedal or other operating device mounted adjacent the feet of the operator. One end of this cord is attached to the lug 14 which is slidably mounted within a slot 15 formed in the disk 6 and extends laterally from a dog 16 which is fulcrumed, as at 17, upon a pin extending laterally from the disk. A spring 18 is secured to this pin and bears upwardly against another lug 19 extending laterally from the dog, this spring thus serving to hold the lug 14 normally pressed against the outer end of the slot 15. The pivoted end of the dog is so located as to offer no obstruction to the wings 5 while rotating, and the spring 18 holds the movable end of the dog normally out of the path of said wings so that, during the rotation of the shaft 2 and the wings 5, the dog 16 will not be contacted by the wings and the operation of the shaft will therefore be noiseless.

It is to be understood of course that the spring 8 is normally relaxed and serves to hold the dog 16 normally in a predetermined position within the housing 1. When it is desired to start the motor, the operator pulls upon cord 12 by means of any suitable device provided for that purpose and as this cord is connected to the lug 14, it first draws said lug downwardly or inwardly within the slot 15 and brings the movable end of the dog into position to strike a wing 5 on the shaft 2. Upon the completion of the inward swinging movement of the dog, a further pulling of the cord will result in the drawing of the dog about the shaft and the rotation of the disk 6, the dog pressing the wing in the path thereof so as to cause the shaft 2 to rotate. During this movement of the dog 16, the spring 8 is placed under stress, and as soon as the cord 12 is released, the spring will return the dog to its initial position. Should the first movement of the dog be insufficient to properly start the engine, this dog can be permitted to return to its initial posi-

tion and again actuated in the manner here-
inbefore described. As soon as the motor
is started, the dog is thrown outwardly by
one of the wings 5 moving thereagainst and
is maintained in such position by the spring
18 so that said dog will not be contacted by
the wing during the further rotation of the
shaft 2.

What is claimed is:—

- 10 An engine starter including a shaft, a
spring controlled member mounted for ro-
tation upon the shaft and having a slot, a
dog pivotally connected to said member and
movable therewith, a projection on the dog
15 and movable in the slot, a channeled flange
upon and concentric with said member and

extending from that end of the slot nearest
the shaft, elements secured to the shaft and
revolvable therewith for engagement by the
dog, and flexible means normally seated 20
upon the flange and secured to said projec-
tion for successively shifting the dog into
engagement with said means on the shaft,
and rotating the member to revolve the
shaft and place the spring under stress. 25

In testimony that I claim the foregoing
as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

GUSTAV H. JACOBS.

Witnesses:

A. R. OCHS,
JOHN PIETSAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
