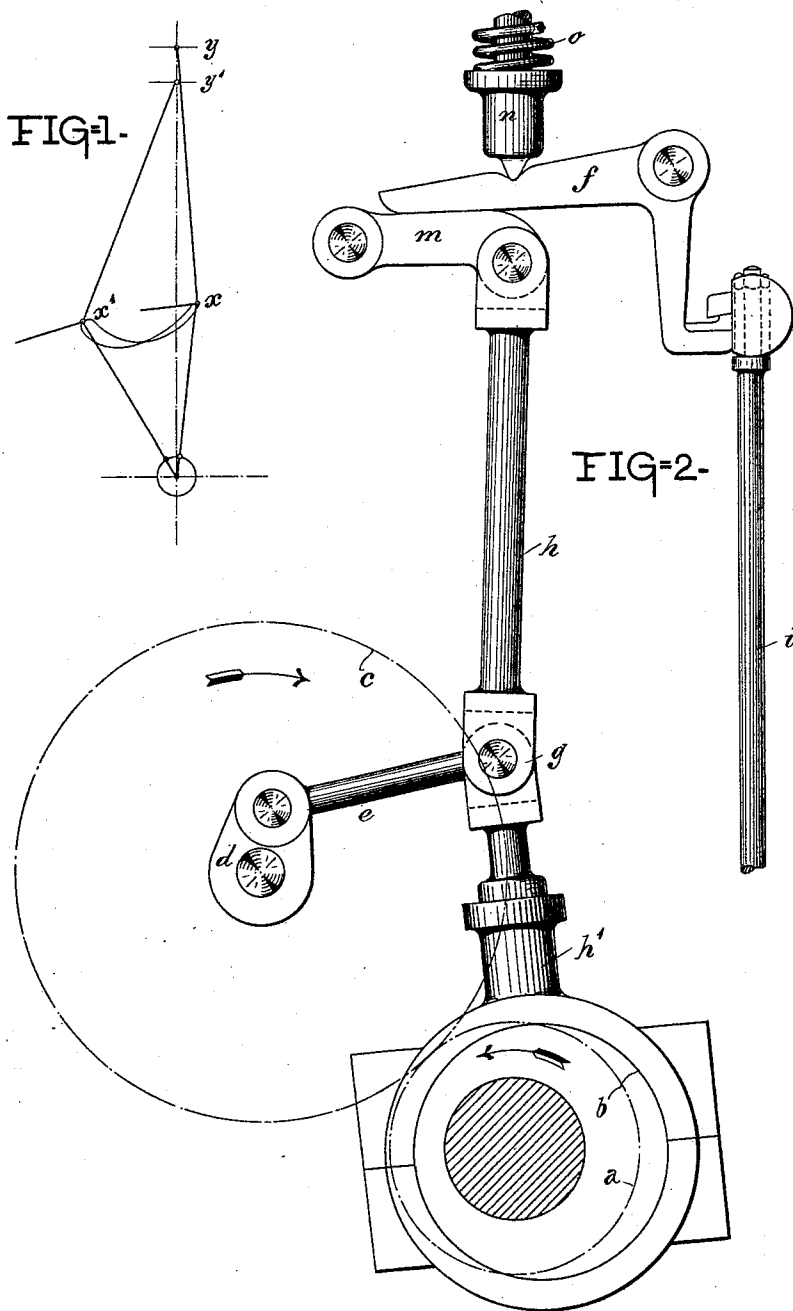


(No Model.)

A. NIEMCZYK.
GAS OR PETROLEUM MOTOR.

No. 480,737.

Patented Aug. 16, 1892.



Witnesses:
Caul Hirschke
Theodor Staudel.

Inventor:
Anton Niemczyk
per Gerson and Jackie
His Attorneys.

UNITED STATES PATENT OFFICE.

ANTON NIEMCZYK, OF LEIPSIC, GERMANY.

GAS OR PETROLEUM MOTOR.

SPECIFICATION forming part of Letters Patent No. 480,737, dated August 16, 1892.

Application filed September 12, 1891. Serial No. 405,561. (No model.)

To all whom it may concern:

Be it known that I, ANTON NIEMCZYK, a subject of the Emperor of Germany, and a resident of Leipsic, in the Empire of Germany, have invented a new and useful Gas or Petroleum Motor, of which the following is a specification.

The object of this invention is an improved link-motion for opening the discharge-valve of gas or petroleum motors with four-time working. In order to open the discharge-valve in such motors once with each second revolution of the shaft, generally toothed-wheel transmission one to two is applied, in which the pressure is received during the lifting of the valve by single determined teeth, which wear more than the rest of the teeth. The present improvement is intended to relieve the toothed wheels from the greater part of this pressure.

In the annexed drawings, Figure 1 is a diagram, and Fig. 2 a side view, of the new device.

To accomplish the said purpose, the small toothed wheel *a* is connected with an eccentric *b* and the large toothed wheel *c* with an eccentric or with a crank *d*. Both eccentric-rods or the eccentric-rod *h'* of the eccentric *b* and the link *e* of the crank *d* are revolvably connected with each other by a pivot *g*, which by the revolution of the two toothed wheels *a c* describes a loop or figure *xx'*, Fig. 1, so as to alternately occupy a higher and lower posi-

tion. By connecting with said pivot *g* a rod *h*, the upper end of which is given guide motion in a straight or nearly straight line—as, for example, by connecting it to the end of the lever *m*, which acts on the discharge-valve lever *f*—this rod *h* at one revolution of the small toothed wheel is raised to the point *y'*, Fig. 1, but not sufficiently high to open the discharge-valve, while at the second revolution it is raised to its highest position—that is, to the point *y*—so as to open the valve *n*. On the lever *f* acts, on the other hand, a connecting-rod *i*, being part of the governor, but forming no part of this present invention. By this arrangement the pressure of the spring *o* of the valve *n* does not act upon the teeth of the toothed wheels *a* and *c*, but by means of connecting-rod *h* and eccentric *h'* on the eccentric *b*.

What I claim is—

In a gas or petroleum motor, the combination of the small toothed wheel *a*, connected with an eccentric *b*, and the large toothed wheel *c*, connected with a crank *d*, with a link *e*, a pivot *g*, an eccentric-rod *h'*, a connecting-rod *h*, a valve-lever *f*, and a valve *n*, as set forth.

ANTON NIEMCZYK.

Witnesses:

CARL BORNGRAEBER,
EMIL PINKA.