

(No Model.)

J. BARCLAY.
WRIST PLATE.

No. 473,810.

Patented Apr. 26, 1892.

Fig: 1.

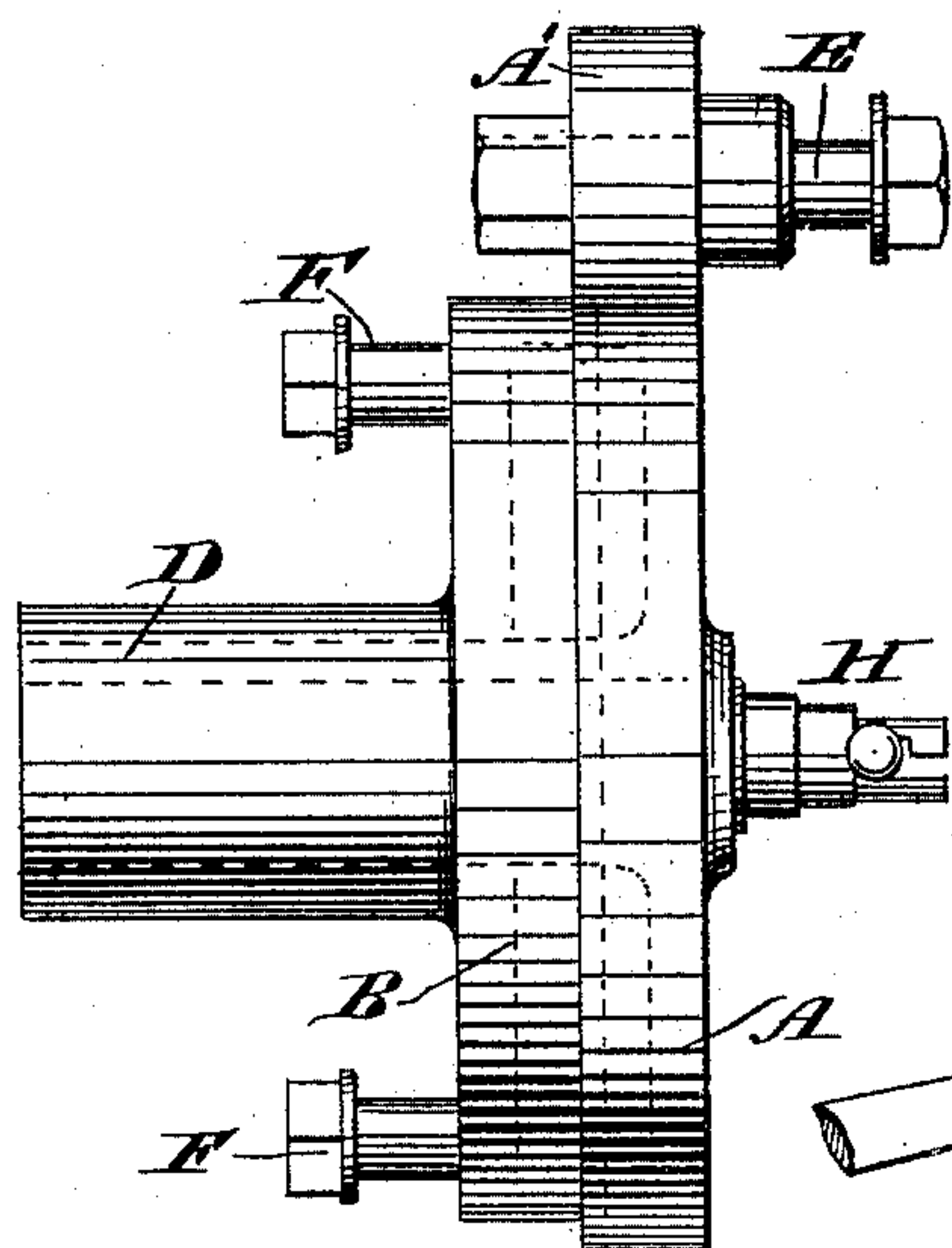


Fig: 2.

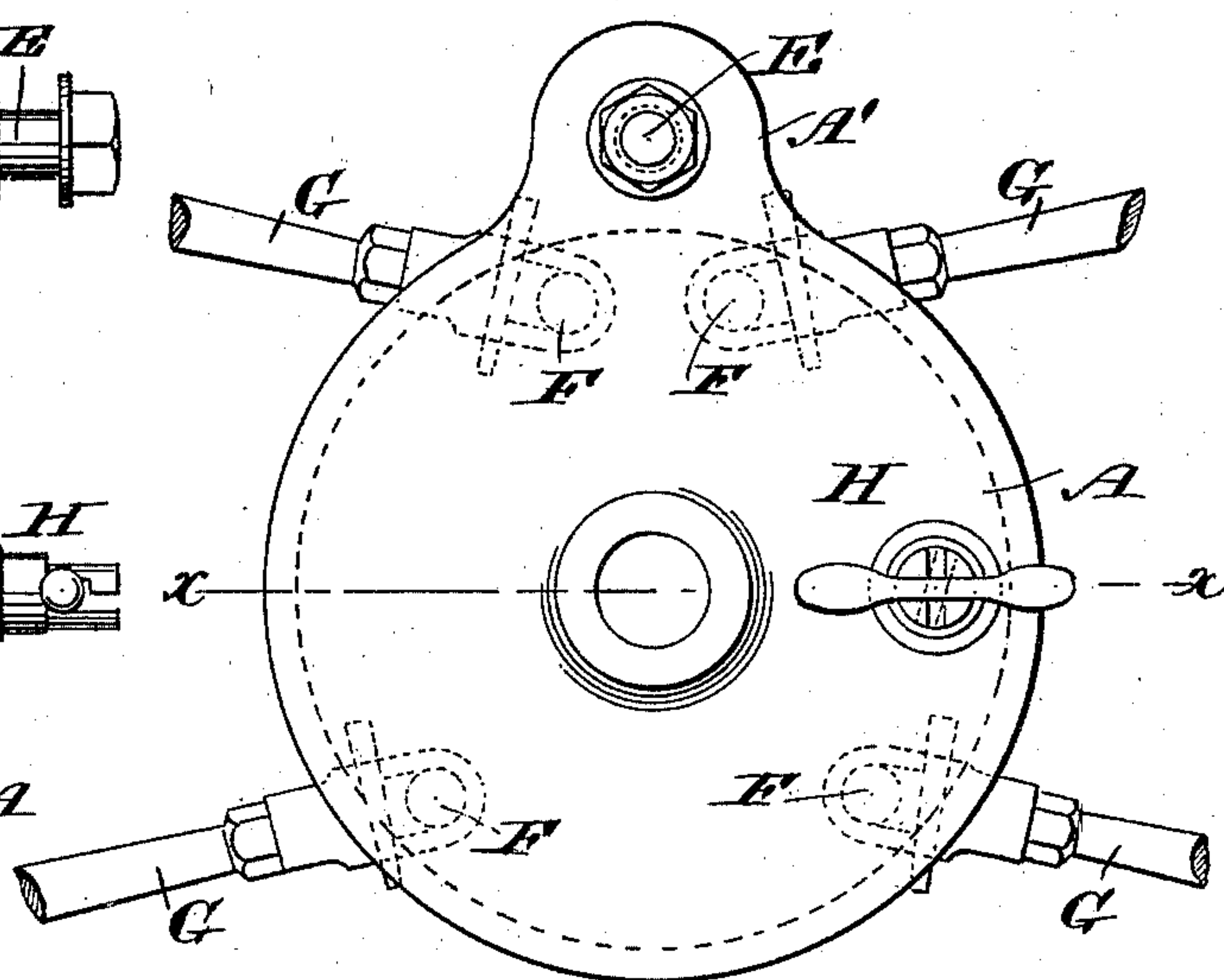


Fig: 3.

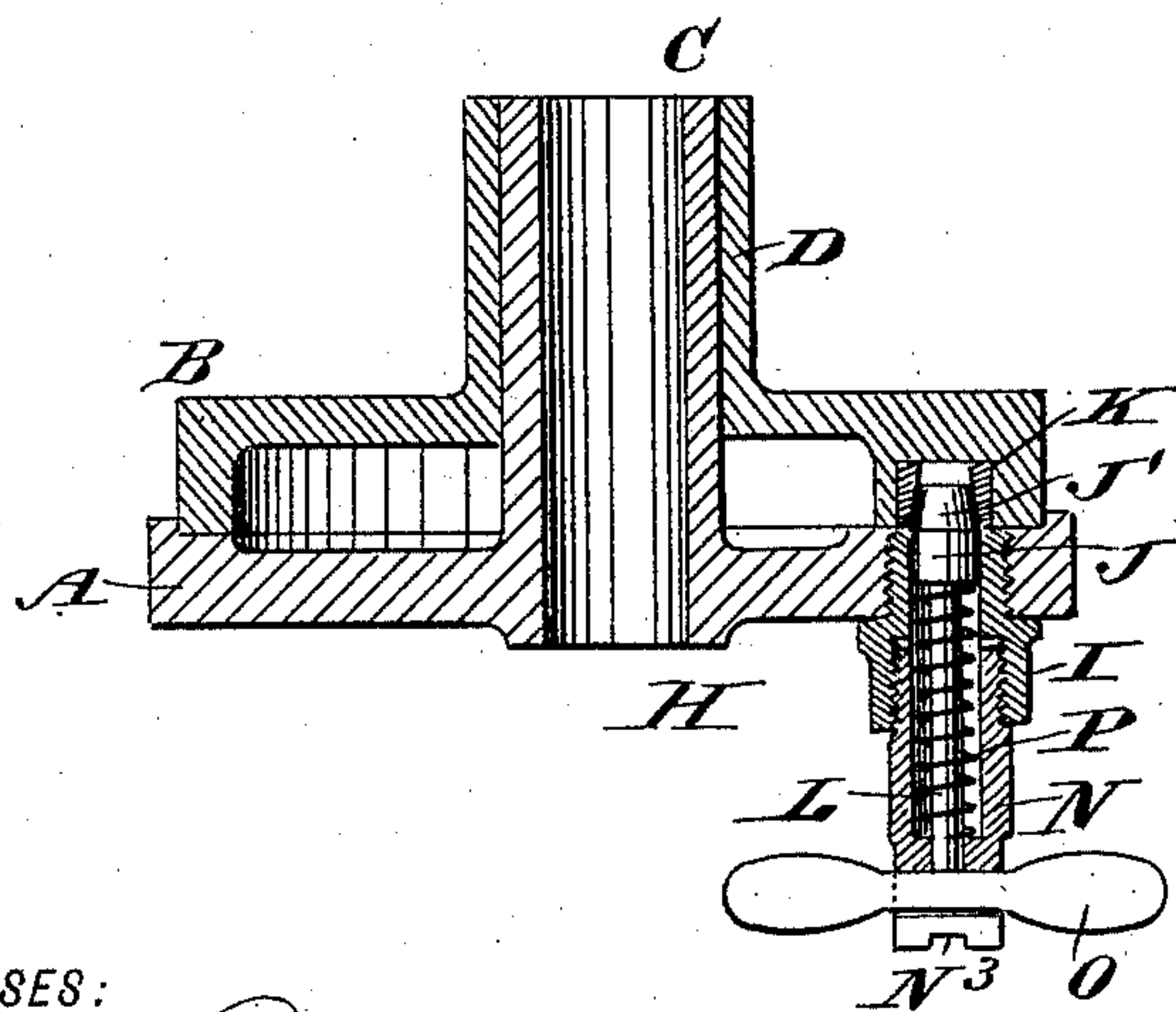
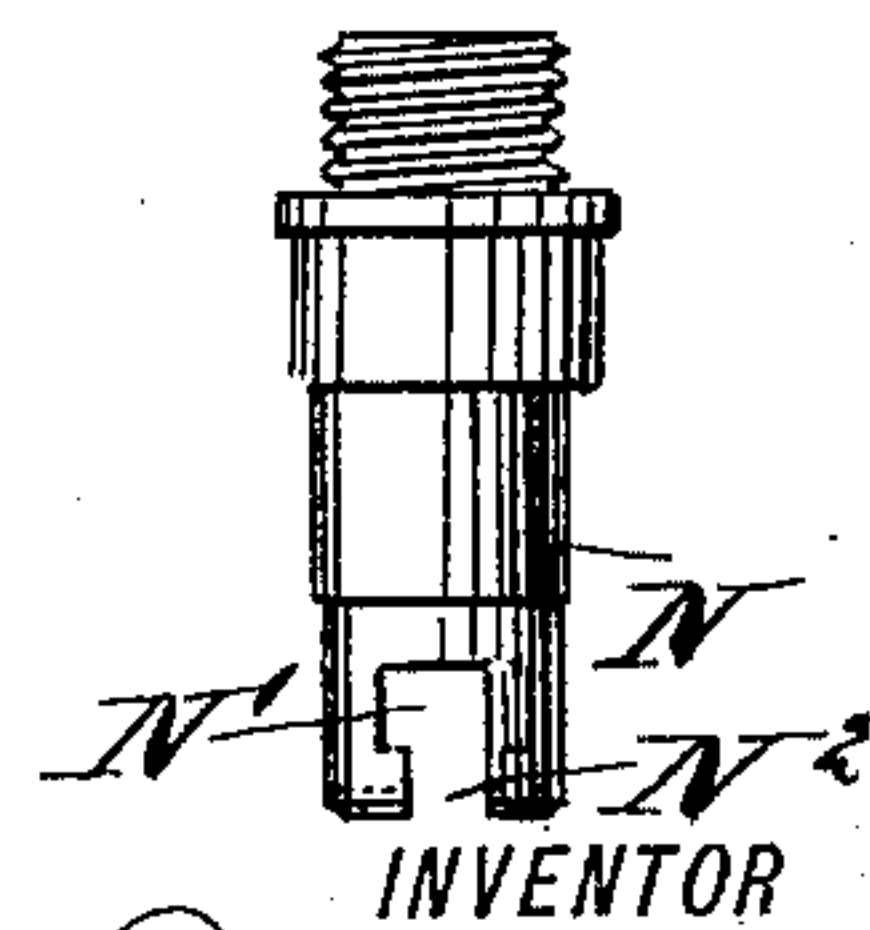


Fig: 4.



WITNESSES:

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JAMES BARCLAY, OF SIOUX CITY, IOWA.

WRIST-PLATE.

SPECIFICATION forming part of Letters Patent No. 473,810, dated April 26, 1892.

Application filed October 22, 1891. Serial No. 409,465. (No model.)

To all whom it may concern:

Be it known that I, JAMES BARCLAY, a citizen of Canada, residing at Sioux City, in the county of Woodbury and State of Iowa, have
5 invented certain new and useful Improvements in Wrist-Plates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same.

My invention relates to wrist-plates for engines, being especially adapted to those of the "Corliss" type.

The object of the invention is to provide a
15 new and improved wrist-plate which is simple and durable in construction and arranged to permit the engineer to easily start the engine without being compelled to lift the hook-rod and hold it up while manipulating the
20 throttle-valve and starting-bar.

The invention therefore consists in the novel construction and arrangement of the parts and the combination thereof, as will be hereinafter fully set forth, and specially
25 pointed out in the claims.

The invention consists of two plates mounted to turn independently one of the other and arranged one for the valve-rods and the other for the hook or eccentric rod.

30 The invention further consists of a device for locking the two plates together.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
35 corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement. Fig. 2 is a face view of the same. Fig. 3 is a sectional plan view of the same on the line $x x$ of Fig. 2. Fig. 4 is a side elevation of
40 the cap portion of the locking device.

Referring now to the illustrations, the improved wrist-plate is provided with two plates or disks A and B, of which the disk A is provided with a central hub C, mounted to turn on
45 a suitable stud, said stud being suitably fastened to the side of the cylinder in the usual manner. On the hub C is mounted to turn the hub D, formed centrally on the second disk or plate B, so that the latter is concentric to
50 the plate and both can turn independently one of the other. On the front disk A and on the upper end of the same is formed a projec-

tion A', carrying the wrist-pin E, adapted to be engaged by the hook of the eccentric-rod, so that a turning motion is imparted to the
55 said disk A from the eccentric. On the back of the other disk B are secured the rearwardly-extending wrist-pins F, connected in the usual manner with the valve-rods G for operating the valves of the engine.

In order to connect the two disks A and B with each other, a locking device H is provided, having a casing I, screwing in the disk A and in which is mounted to slide a pin J, formed at its inner end with a conical offset
60 J', adapted to engage a correspondingly-shaped bushing K, held in the face of the disk B. The pin J is secured on the rod L, extending through and having its bearing in a cap N, screwing in the casing I. Said cap
65 N is threaded on its upper portion, so as to screw into the threaded portion of said casing I for the following reason: When the cap N is unscrewed by means of handle O, the threaded upper portion of said cap unscrews
70 and draws out or releases the conical offset J' from the seat K, the operator then withdrawing the handle O from the slot, and by giving it a quarter-turn the disks A and B are allowed to turn independently of each other.

On the outer end of the rod L is secured a handle O, and on the rod L, within the casing I and the cap N, is coiled a spring P, pressing with one end against the pin J and with its other end at the outer end of the cap N. The
85 pin P has the tendency to force the conical end J' to the seat in the bushing K to lock the two plates A and B together.

The operation of my invention is as follows: To unlock or disconnect the two disks A and
90 B, the operator unscrews the cap N, which acts as a jack-screw to draw out or release the conical-shaped offset J' from the bushing K. The operator then withdraws the handle O from the slot N², in which it falls, and then
95 by giving it a quarter-turn he can conveniently seat the same in the transverse notch N³, so that the pin J is held in an outward position or is withdrawn sufficiently into the cap
100 portion so that the two plates or disks are unlocked or disconnected, so that they can turn independently of each other. Thus when the engineer desires to start the engine he simply disconnects the two disks A and B by with-

drawing the pin J from the bushing K in the disk B. The latter can then be turned so as to bring the valves in the proper position without the engineer touching the hook-rod connected with the stud E. As soon as the engine is started and the eccentrics commence to turn, the disk A is rotated and the operator by releasing the handle O from the notch N³ and putting it in position for entrance to the slot N² permits the pin J to drop into its seat in the bushing K whenever the pin comes opposite the said bushing K on the revolving of the disk. Then by means of handle O the cap N is screwed into the casing I, causing the conical-shaped offset J' to be pressed into seat K. The two disks A and B are then locked together and the wrist-plate operates in the usual manner. Thus it will be seen that the engineer does not disconnect the eccentric-rod or hook-rod from the wrist-pin E at the time of starting the engine, so that the engineer can give full attention to actuating the throttle-valve and starting-bar without giving any attention to the wrist-plate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A wrist-plate comprising two plates or disks arranged concentrically and mounted to turn independently one of the other, one of the said disks being connected with the valve-rods and the other with the hook or eccentric rod, and a locking device, substantially as described, for connecting the two disks with each other, as set forth.

2. The combination, with two disks or wrist-plates, of which one is connected with the valve-rods and the other with the hook or eccentric rod, of a locking mechanism for connecting the two disks with each other and comprising a spring-pressed pin, a casing carrying the said pin and secured on one of the wrist-plates, and a seat held in the other wrist-plate and adapted to be engaged by the said spring-pressed pin, substantially as described.

3. A wrist-plate comprising two plates or

disks mounted to turn independently one of the other, one of said disks being connected with the valve-rods and the other with the hook or eccentric rod, and a locking mechanism consisting of a spring-pressed pin adapted to engage a seat provided in the other wrist-plate, a casing secured on one of said wrist-plates, a cap screwing into said casing, enclosing said spring-pressed pin, and a handle connected with the said spring-pressed pin and adapted to engage notches provided in said cap to rotate it in either direction and to hold the pin in or out of contact with the said bushing or seat, all constructed, arranged, and adapted to operate substantially as and for the purpose specified.

4. The combination, with two disks or wrist-plates, of which one is connected with the valve-rods and the other with the hook or eccentric rod, of a locking mechanism for connecting the two disks with each other and comprising a spring-pressed pin, a casing, and cap carrying the said pin and secured on one of the wrist-plates, a seat held in the other wrist-plate and adapted to be engaged by the said spring-pressed pin, and a handle connected with the said spring-pressed pin and adapted to engage notches in the said cap to hold the pin in or out of contact with the said bushing or seat, all constructed, arranged, and intended to operate substantially as set forth.

5. In a wrist-plate, the combination of the disks A and B, one of which is connected with the valve-rods and the other with the hook or eccentric rod, the pin J, the casing I, the cap N, provided with the notches N' and N², the conical offset J', the bushing K, held in the face of disk B, the handle O, and the rod L, and the notch N³, formed in the face of cap N, all as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES BARCLAY.

Witnesses:

W. H. HOYT,
ALBERT WORTH.