

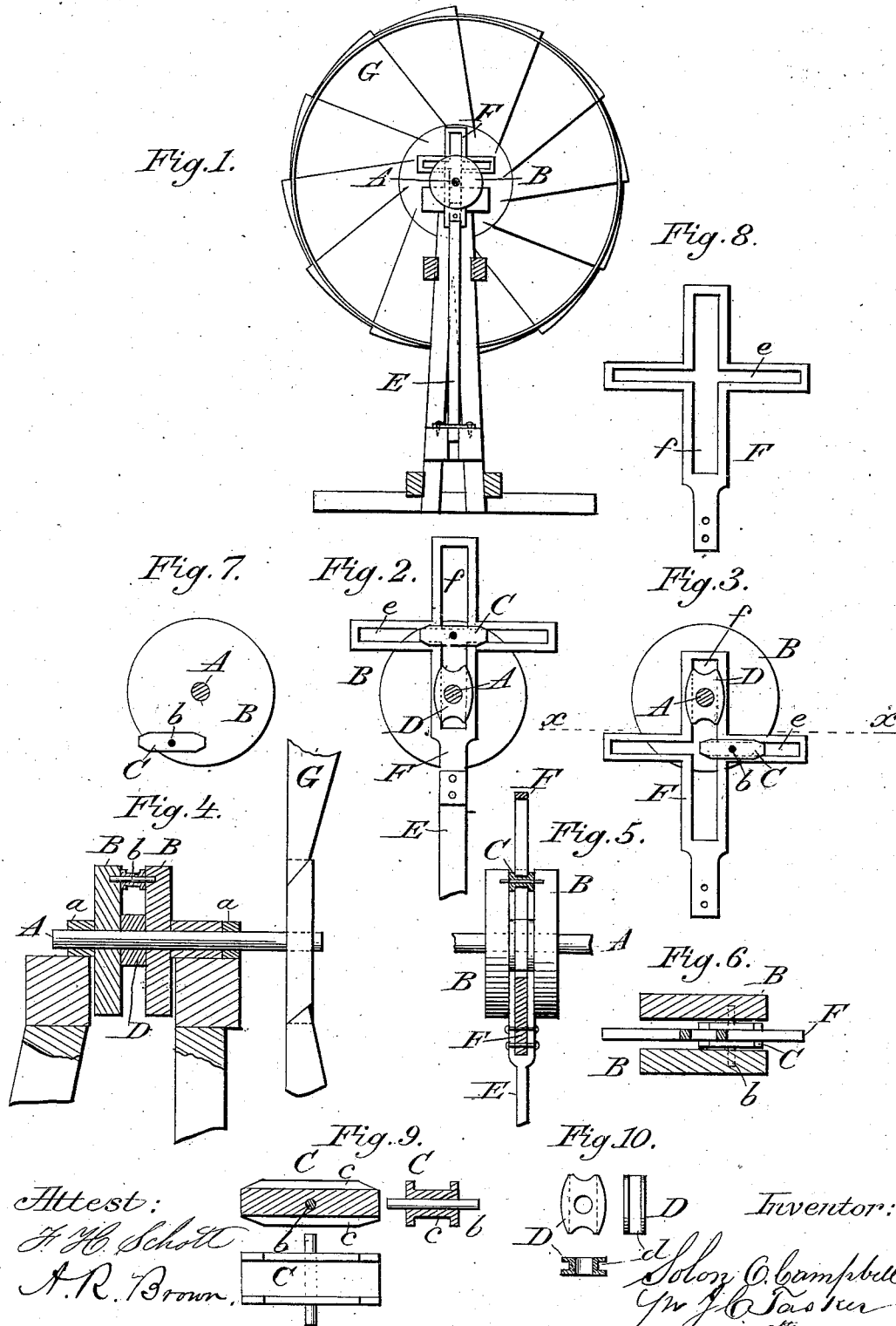
(No Model.)

S. O. CAMPBELL.

DEVICE FOR CONVERTING MOTION.

No. 260,452.

Patented July 4, 1882.



# UNITED STATES PATENT OFFICE.

SOLON O. CAMPBELL, OF VAN WERT, IOWA.

## DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 260,452, dated July 4, 1882.

Application filed May 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, SOLON O. CAMPBELL, a citizen of the United States, residing at Van Wert, in the county of Decatur and State of Iowa, have invented certain new and useful Improvements in Devices for Converting Motion; 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 make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in devices for converting motion; and it consists in the construction and arrangement of parts, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a view of a wind-wheel, showing one application of my improvements to converting rotary into reciprocating motion. Fig. 2 is an enlarged detail, showing the connection of the pitman-head with the shaft, the pitman being at its highest point. Fig. 3 is a similar view, in which the pitman is shown at its lowest point. Fig. 4 is a transverse section. Fig. 5 is a sectional detail. Fig. 6 is a section on the line *xx* of Fig. 3. Fig. 7 is a side view of one of the shaft-wheels, showing the wrist-block. Fig. 8 is an enlarged side view of the pitman-head. Fig. 9 shows a plan and sections of the wrist-block; and Fig. 10 shows an edge view, side view, and section of the guide-block that is journaled centrally on the shaft.

Like letters of reference are used to designate the same parts in the several views.

A represents a shaft, which is journaled in suitable bearings, *aa*, and provided with wheels B B, either or both of which may be fixed thereto. These wheels are connected by a wrist-pin, *b*, upon which is journaled a wrist-block, C, having longitudinal grooves *c* upon its upper and lower edge. A guide-block, D, having grooved edges *d*, is journaled upon the shaft A, between the wheels B B.

The pitman E is provided with a cross-shaped head, F, having a transverse or horizontal slot, *e*, and a longitudinal slot, *f*, said slots intersecting each other, as shown in Fig.

8. The pitman-head F is arranged with relation to the guide-block D, which is inclosed in the slot *f*, in such a manner that when reciprocated it will move in the grooves *d d*, that are formed in the edges of said block. The grooved wrist-block C is inclosed in the slot *e*, and slides back and forth therein as the shaft is rotated, the rotary motion of the shaft being thus caused to impart a reciprocating movement to the pitman; or the reciprocation of the pitman may be made to rotate the shaft.

A wind-wheel, G, of any suitable construction may be mounted on the shaft A, or the latter may be attached to a water-wheel, or be provided with any convenient means of receiving and communicating motion.

By this construction of pitman-head and manner of connecting the same with the shaft it will be seen that the strain upon the parts when in operation is equally distributed, so as to produce a smooth, uniform motion. It is obvious that the devices may be applied to advantage in connection with steam-engines, reaping and mowing machines, and other like situations in which a piston or pitman is employed.

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

1. The combination, with the shaft A, having wheels B B, connected by a wrist-pin, *b*, of the grooved wrist-block C, journaled on said pin, the grooved guide-block D, journaled on the shaft, between its wheels, and the pitman-head F, having intersecting slots *ef*, engaging with the grooved blocks C D, respectively, substantially as and for the purpose described.

2. The combination, with the wheels B B, connected by pin *b*, of the grooved wrist-block C and slotted piston-head F, substantially as and for the purpose described.

3. The combination, with the shaft A and slotted pitman-head F, of the grooved guide-block D, substantially as and for the purpose described.

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

SOLON OWEN CAMPBELL.

Witnesses:

JNO. MORAN,  
T. H. SANFORD.