(No Model.)

A. H. TYLER & J. S. E. DE VESIAN.

PORTABLE MOTOR.

No. 512,527. Patented Jan. 9, 1894.

FIG. 1.

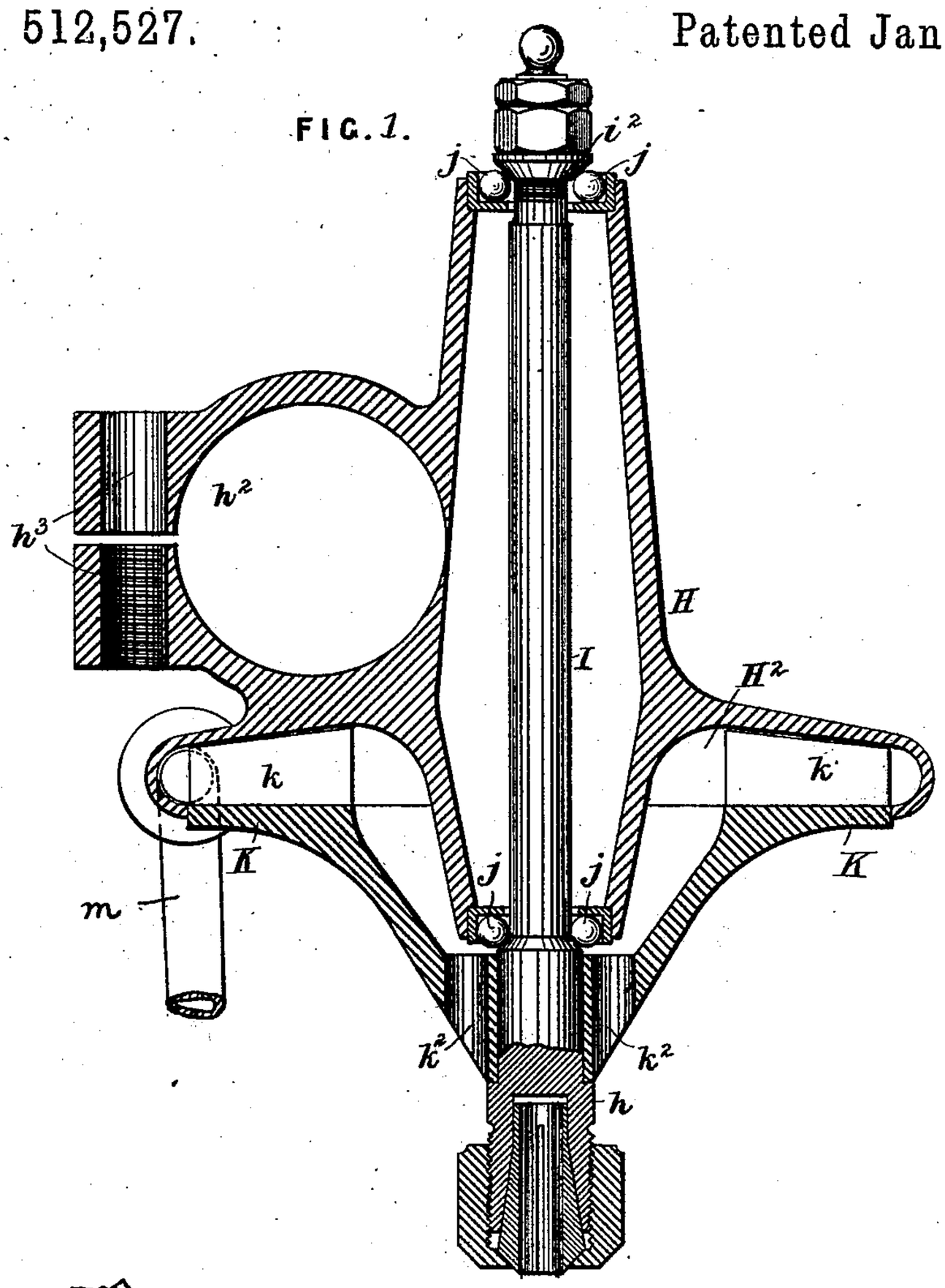
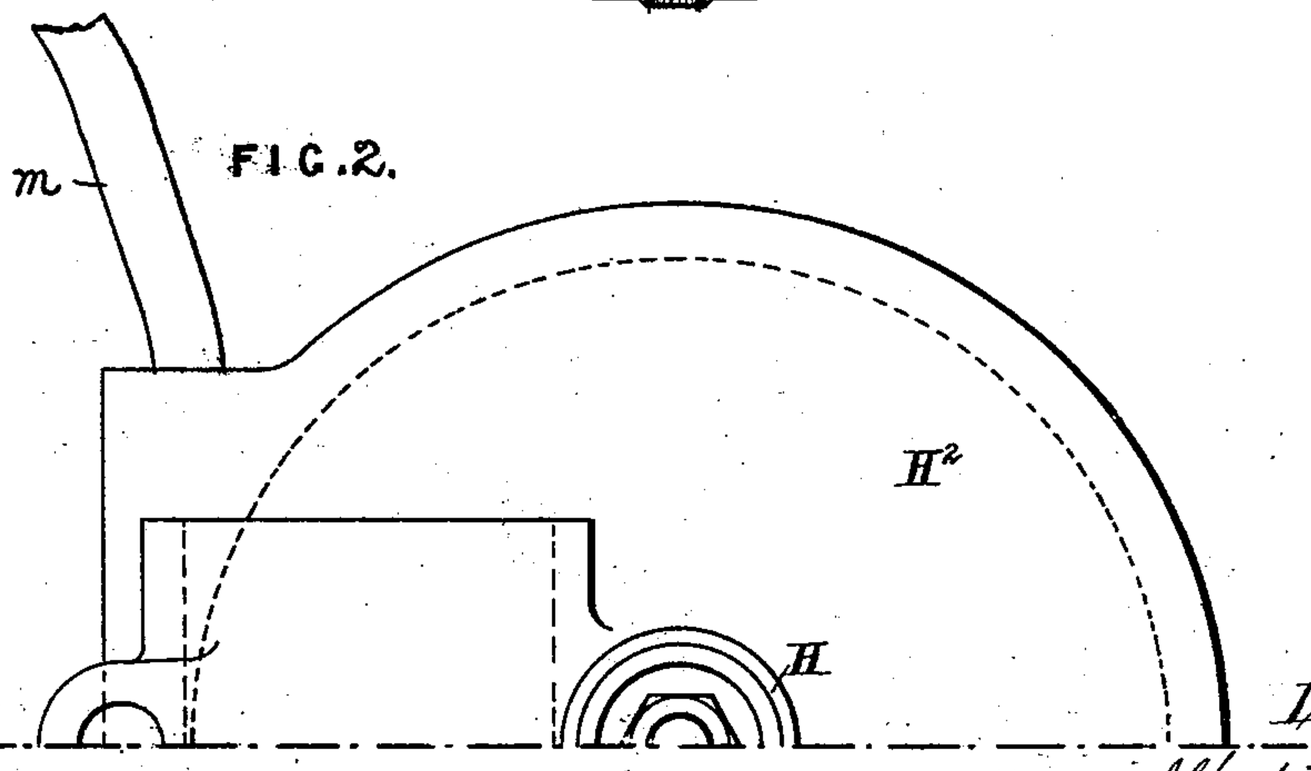


FIG. 2.



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UNITED STATES PATENT OFFICE.

ALFRED H. TYLER AND JOHN S. E. DE VESIAN, OF LONDON, ENGLAND, ASSIGNORS TO THE PNEUMATIC WOOD CARVING MACHINE SYNDICATE, LIMITED, OF SAME PLACE.

PORTABLE MOTOR.

SPECIFICATION forming part of Letters Patent No. 512,527, dated January 9, 1894.

Application filed April 24, 1893. Serial No. 471,539. (No model.)

To all whom it may concern:

Be it known that we, ALFRED HUGH TYLER and JOHN STUART ELLIS DE VESIAN, engineers, subjects of the Queen of Great Britian and Ireland, and both of the firm of Tyler & Ellis, of 5 Crown Court, Cheapside, in the city of London, England, have invented certain Improvements in Portable Motors, of which the following is a specification.

This invention has for its object to provide a simple and efficient motor adapted to work by air or other fluid pressure, and is so constructed that it may be held in the hand while it is working, or it may be attached to a movable part of a machine, such as a wood carving machine, or it may be attached to a stationary object to be used for any purpose to which such a motor is applicable.

In the accompanying drawings, Figure 1 is a vertical section, and Fig. 2 a partial plan of a motor constructed according to our invention.

The motor consists of a casing H which may be provided with an eye h^2 for the purpose of clamping the tool, by a screw passed through the hole h^3, to a stationary object or to a movable part of a machine as before stated. This casing H carries bearings for the axis or spindle I which preferably runs on ball bearings *j j*, the spindle being provided with shoulders at i^2 i^3 for the balls to bear on. The said casing at H^2 also constitutes a cylinder in which revolves a disk K secured to the spindle I, and provided with vanes *k*. The air pressure may be obtained by means of a bellows operated by hand or by a treadle or by any other suitable means and the compressed air is conveyed to the cylinder of the motor by means of flexible pipes *m* leading from the air reservoir of the bellows or other fluid compressing device. The air acts upon the vanes *k* and turns the disk K and the shaft I to which the disk is attached. The air after acting on the vanes *k* may pass from the casing through the disk K and through holes k^2 therein.

If the motor is to be used to rotate a tool the shaft I may be formed as a tool holder at *h*, and in case the tool used is for cutting or carving, the air coming through the holes k^2 will clear away chips or dust from the work.

We claim as our invention—

1. A motor comprising a shaft, a disk attached thereto and carrying vanes, a cylinder in which the disk and its vanes revolve, and means for conveying fluid under pressure to the said cylinder, and fluid outlet openings in the disk near the shaft substantially as set forth.

2. A motor comprising a shaft, a disk attached thereto carrying vanes, a cylinder closed at one end by said disk, and in which the disk and its vanes rotate, means for conveying fluid under pressure to the said cylinder and fluid outlet openings in the said disk near the shaft, substantially as set forth.

3. In a motor the combination of a casing, a cylinder formed on the casing, and means for conveying fluid under pressure to the cylinder, with a shaft having its bearings in the said casing, and a disk attached to the shaft and provided with openings and carrying vanes, the said disk and its vanes adapted to revolve in the said cylinder, substantially as set forth.

4. A motor comprising a shaft provided at one end with a tool-holder, a disk attached to the shaft and provided with holes near the tool holder, and also provided with vanes, a cylinder in which the disk and its vanes revolve, and means for conveying fluid under pressure to the said cylinder, all substantially as and for the purposes set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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Witnesses:
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