

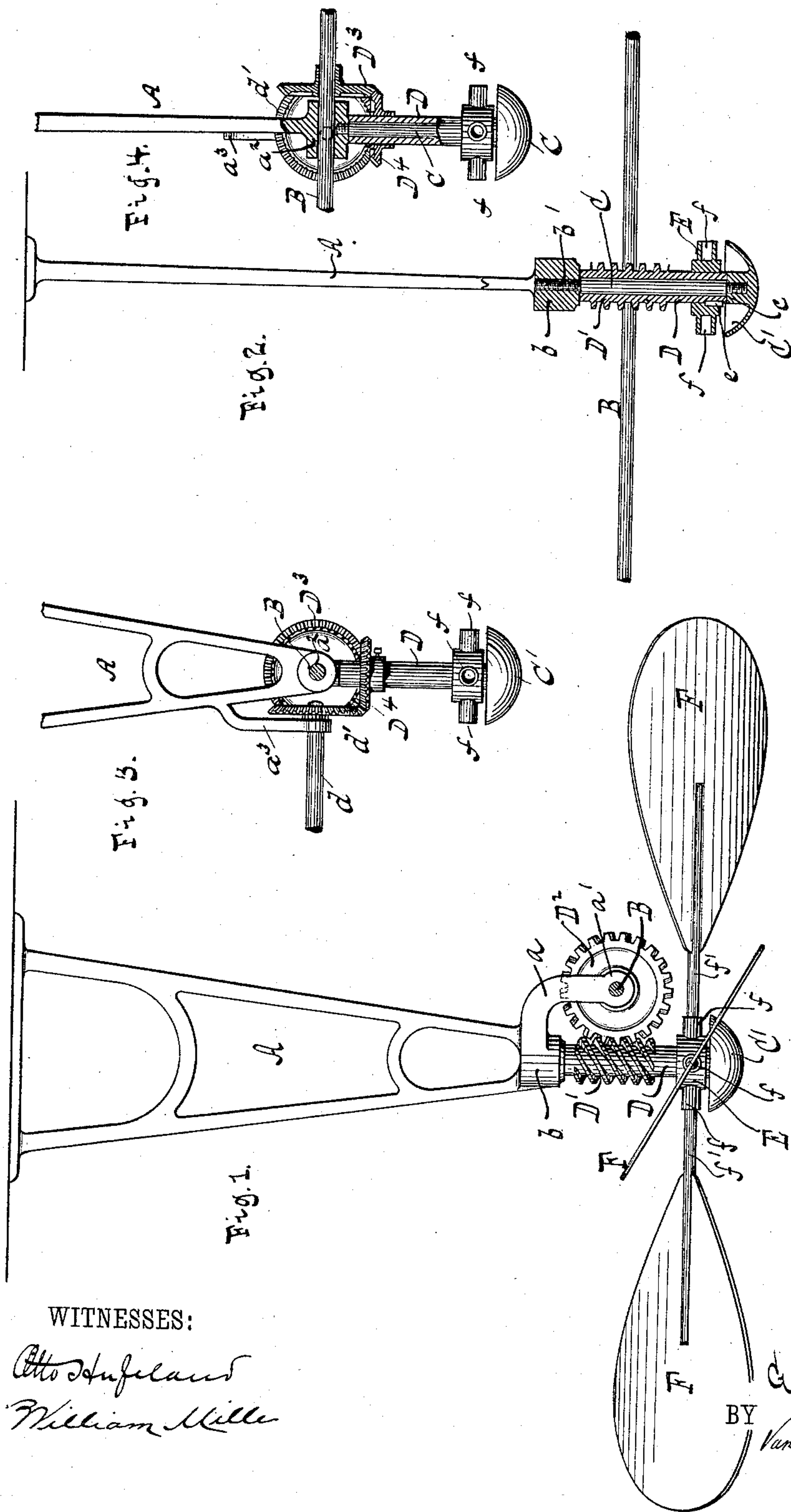
(No Model.)

G. LIEB.

MECHANISM FOR TRANSMITTING MOTION.

No. 324,709.

Patented Aug. 18, 1885.



WITNESSES:

Otto Hufeland
William Miller

INVENTOR

George Lieb

BY

Van Santvoord & Haupp

ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE LIEB, OF NEW YORK, N. Y.

MECHANISM FOR TRANSMITTING MOTION.

SPECIFICATION forming part of Letters Patent No. 324,709, dated August 18, 1885.

Application filed July 2, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LIEB, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Mechanism for Transmitting Motion, of which the following is a specification.

My invention relates to improvements in mechanism for transmitting motion to fans and the like; and it consists in the combination, with a hanger and an arm thereof having a bearing for a line-shaft, of a stationary spindle on the lower end of the hanger, a hollow shaft fitting the spindle and geared to the line-shaft, a socketed collar on the hollow shaft, which rotates with the same, and a drip-cup secured to the end of the spindle below the collar, all of which, together with other novel features, are more fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a face view of my improved mechanism for transmitting motion applied for the purpose of actuating a series of fans. Fig. 2 is a central vertical section thereof with the fans removed. Fig. 3 is a face view, part in section, of a modification of the same. Fig. 4 is a sectional view thereof.

Similar letters indicate corresponding parts. In the drawings, the letter A designates the hanger, which is constructed to be secured to the ceiling in the usual manner, and is provided near its lower end with an overhanging bent arm, a , Fig. 1, which has therein a bearing, a' , for a line-shaft, B, which extends between several such hangers A and is rotated in the usual manner by steam or water power. On the lower end of the hanger is cast a lug, b , which has formed therein an internal screw-thread, b' , Fig. 2, which is engaged by a thread upon the end of a spindle, C, firmly screwed therein, and having secured to its lower end a suitable drip-cup, C'.

D is a hollow shaft which neatly fits the spindle C, abutting against the lug b on the hanger and resting upon a suitable lug, c , in the interior of the drip-cup C', whereby it is held in place and prevented from shifting longitudinally, while at the same time it is free to be rotated. Upon the surface of this hollow shaft is cut a worm, D', which is engaged by a worm-gear, D², Fig. 1, upon the line-shaft B, whereby

a rotary motion is imparted to the shaft D, and in order to obtain the requisite strength for the necessarily high speed of rotation of the shaft when my mechanism is to be used for imparting motion to fans, I make this worm either triple or quadruple threaded, as shown in the drawings.

Instead of employing a worm and worm-gear for imparting a rotary motion to the hollow shaft, the same purpose can be accomplished by the use of several ordinary bevel-gears, Figs. 3 and 4, which are properly placed on the hollow shaft and the line-shaft to engage with each other; but for some specific purposes I prefer to use the worm and worm-gear as being more simple and compact.

In the modification previously referred to the line-shaft B passes directly through a bearing, a^2 , in the hanger, and is provided with a suitable bevel-gear, D³, which engages with a similar wheel, D⁴, on the hollow shaft D, whereby a rotary motion is imparted to the latter. When a line-shaft running at right angles from the line-shaft B is to be driven in order to rotate similar fans or the like to the right or left of the line-shaft B, the hanger is provided with an overhanging bent arm, a^3 , Fig. 3, which is provided with a bearing for such a line-shaft, d , and the latter has secured thereto a bevel gear-wheel, d' , which is engaged by the gear-wheel D³ on the line-shaft B.

When my mechanism is to be used for transmitting motion to fans, for which purpose it is especially adapted, a collar, E, is secured to the lower end of the rotary shaft by means of a feather-key, Fig. 2, as shown in the drawings; but it may be cast thereon or secured thereto in any convenient manner, and this collar has formed thereon suitable sockets, ff , &c., which are adapted to receive and retain the shanks $f' f'$, &c., of the radiating fans F F, &c., which latter consequently rotate with the hollow shaft D.

In the example shown in the drawings four such fans are employed, the shanks of which are held in their sockets by frictional contact only; but more or less fans can be used by providing the collar E with a corresponding number of sockets, while each of the sockets may also be provided with a thumb-screw or other additional means for holding the shanks in their sockets. The fans which I prefer to use

are of the type known as "Japanese fans," which are exceedingly light, and consequently more suitable for the purpose than the heavy wooden fans usually employed.

5 It will be observed that by the use of my mechanism for transmitting motion the said motion is transformed from a comparatively low speed into a correspondingly high rate of speed during the transmission, while at the
10 same time the mechanism in itself is very compact, taking up but little more room than an ordinary hanger.

What I claim as new, and desire to secure by Letters Patent, is—

15 1. The combination, substantially as hereinbefore described, with the hanger and the arm thereof, having a bearing for a line-shaft, of a stationary spindle on the end of the hanger, a hollow shaft fitting the spindle and geared to
20 the line-shaft, the sockets on the hollow shaft, which rotate with the same, and a drip-cup secured to one end of the spindle below the collar.

25 2. The combination, substantially as hereinbefore described, with the hanger and the arm

thereof having a bearing for a line-shaft, of the stationary spindle on the end of the hanger, the hollow shaft fitting the spindle, the worm thereof, the worm-gear on the line-shaft, which engages the worm, the socketed collar 30 on the hollow shaft, rotating with the same, and a drip-cup secured to the end of the spindle below the collar.

3. The combination, substantially as hereinbefore described, with the hanger having a 35 bearing for a line-shaft, of an overhanging arm provided with a bearing for a branch line-shaft, the stationary spindle on the end of the hanger, the hollow shaft fitting the spindle and geared to the line-shaft, the sockets on the 40 hollow shaft, which rotate with the same, and the gear on the branch shaft engaging the gear on the line-shaft.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 45 witnesses.

GEORGE LIEB.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.