No. 843,432. PATENTED FEB. 5, 1907.

S. C. BAUCUM.

FAN MOTOR.

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Fig. 1.

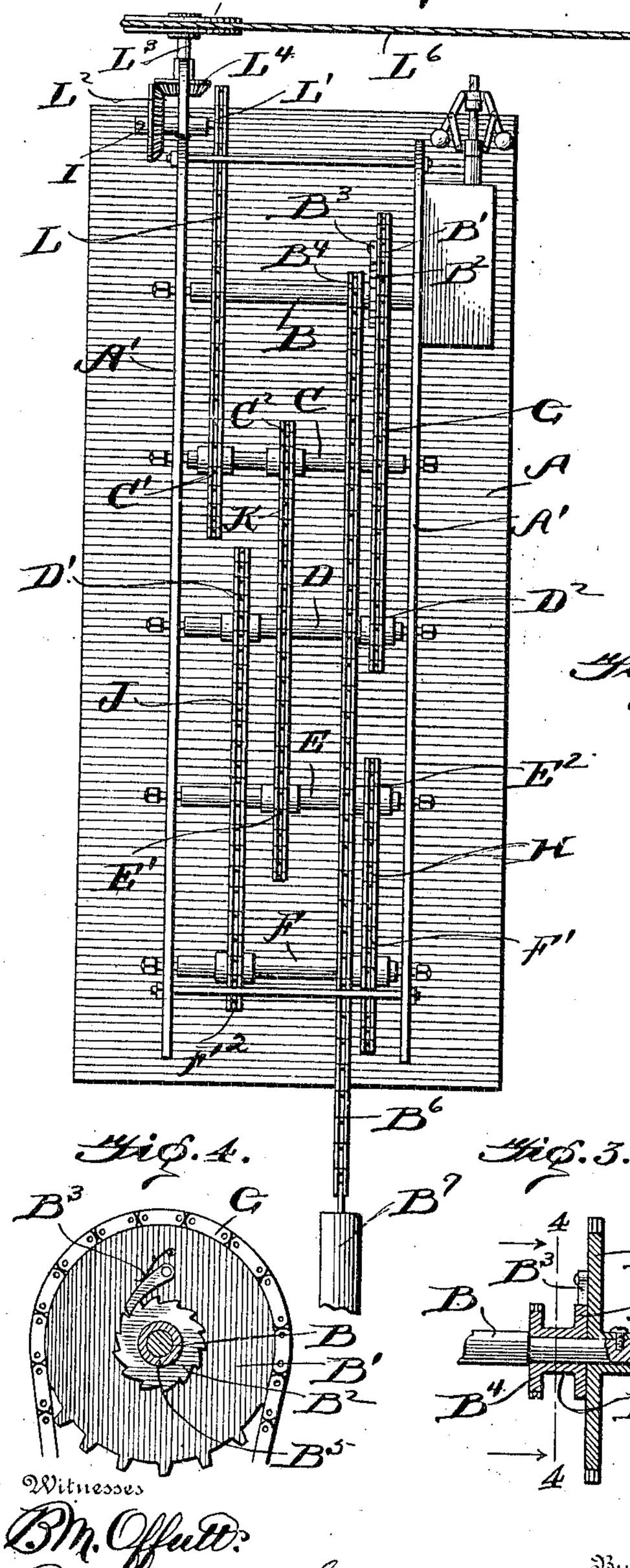

Fig. 2.

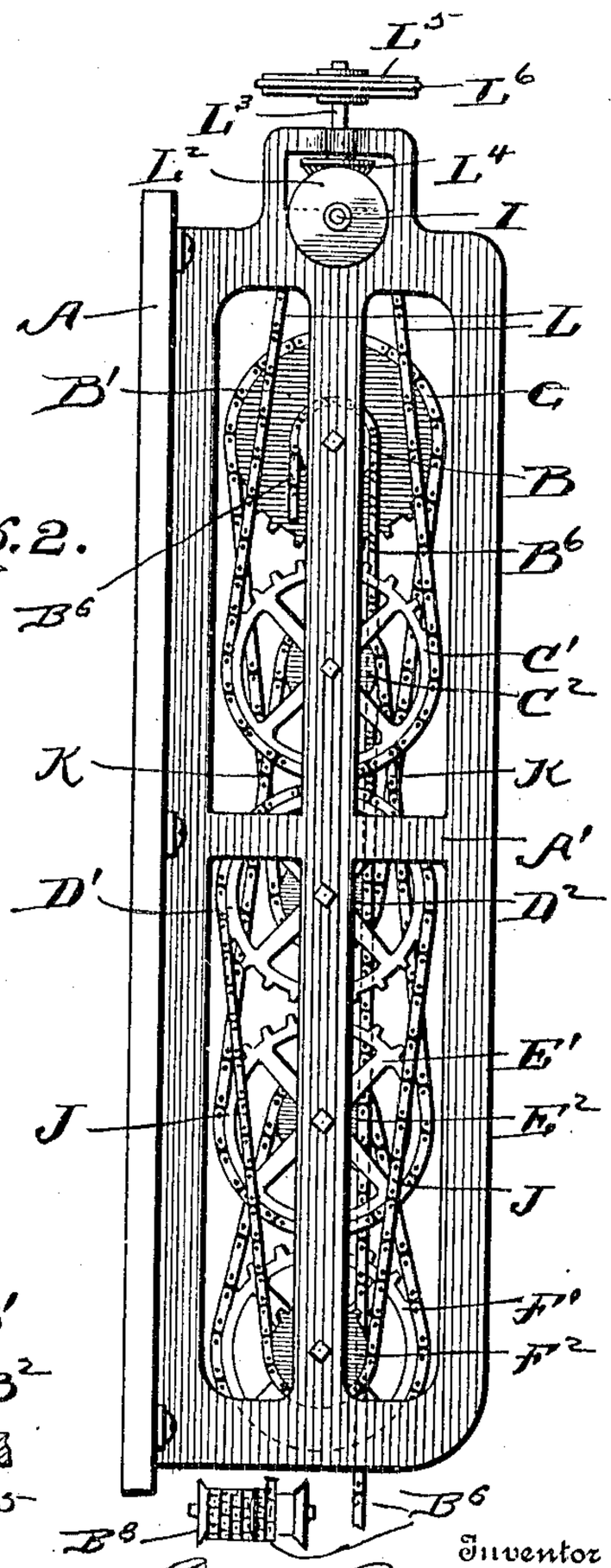

Fig. 4.

Fig. 3.

Witnesses

B. M. Offutt.

E. B. McBath.

Inventor

S. C. Baucum.

By Omeara & Brock

Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL C. BAUCUM, OF KREBS, INDIAN TERRITORY.

FAN-MOTOR.

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To all whom it may concern:

Be it known that I, SAMUEL C. BAUCUM, a citizen of the United States, residing at Krebs, Choctaw Nation, in the Indian Territory, have invented a new and useful Improvement in Fan-Motors, of which the following is a specification.

This invention relates to a fan-motor; and the object of the invention is a motor operated by a weight and adapted to drive a fan at a high rate of speed for several hours at a time and with a very slow descent of the weight.

The invention consists in the novel form of gearing hereinafter fully described, pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of my device. Fig. 2 is a side elevation. Fig. 3 is a sectional view of a gear-wheel, a ratchet, and a pinion, a part of the shaft being also in section. Fig. 4 is a section on the line 4 4 of Fig. 3.

In the drawings, A represents the baseboard or back, upon which is carried a metal frame A′, and in the frame are journaled shafts B, C, D, E, and F, all in vertical alinement, as shown in Fig. 2.

The shaft B carries a gear-wheel B′, which is fastened to the shaft, and a ratchet B^2 is arranged loosely upon the shaft B, adjacent the gear-wheel B′, and a pawl B^3, carried by the gear-wheel B′, engages the teeth of the ratchet B^2. A pinion B^4 is formed upon a hub B^5, which hub is integral with the ratchet B^2. A sprocket-chain B^6 runs over the pinion B^4 and at its free end has a weight B^7. The other end of the chain is connected to a suitable drum B^8, and a portion of the chain is adapted to be wound upon the drum, thus drawing the weight B^7 upwardly. When the weight descends, the chain will be unwound from the drum and will rotate the sprocket B^4 and the ratchet B^2, and the gear-wheel B′, being locked by the pawl B^3 to the ratchet B^2, will also be rotated by the descent of the weight. A gear-wheel C′ is fixed on the shaft C, and the pinion C^2 is also fixed upon said shaft. The shaft D carries a gear-wheel D′ and a pinion D^2. The shaft E carries a gear-wheel E′ and a pinion E^2. The shaft F carries a gear-wheel F′ and a pinion F^2. It will be understood that all of these wheels are sprocket-wheels and are driven by means of sprocket-chains and that each shaft carries a wheel of considerable size and having any desired number of teeth and also a wheel of much less size, and to distinguish between these two classes the larger wheels are termed "gear-wheels" and the smaller ones "pinions." These wheels are connected by sprocket-chains in the following manner: A sprocket G runs over the gear-wheel B′, the pinion D^2, and drives the shaft D. A sprocket-chain K runs over the pinion C^2 and the gear-wheel E′. A sprocket-chain J runs over the gear-wheel D′ and over the pinion F^2. Adjacent the upper end of the frame is a short stub-shaft I, having a pinion L′ at one end and a beveled gear L^2 at the opposing end, and a sprocket-chain L runs over the gear-wheel C′ and over the pinion L′.

It will thus be noticed that the shaft D is driven from the shaft B by the sprocket-chain G, and the speed of the shaft D will be greater than that of the shaft B; that the shaft F is driven by the sprocket-chain J from the shaft D, and that another increase in speed is gained; that the shaft E is driven by a sprocket-chain H, which runs over the gear-wheel F′ and the pinion E^2, thus further increasing the speed; that the shaft C is driven from the shaft E by the sprocket-chain K, and that the stub-shaft I is driven by the chain L from the gear-wheel C′ on the shaft C. It will therefore be noted that commencing with the top and going downward each shaft drives alternate shafts, and that commencing with the bottom the remaining shafts are driven from the bottom shaft F, the speed increasing with each shaft driven. A stub-shaft L^3 is journaled at the top of the frame at right angles to the shaft I and at its lower end carries a beveled gear L^4, which meshes with the beveled gear L^2, and at its upper end the shaft L^3 carries a pulley L^5, from which runs a cable or belting L^6, which in turn drives a fan M of any construction.

It will be obvious from this description and the drawings that by winding the chain B^6 upon the drum B^8 and then throwing the pawl B^3 into the position shown in Figs. 4 and 5, thus locking the gear-wheel B′ to the ratchet B^2, that the descent of the weight, which is of course regulated by the governor O′, will drive the gear-wheel B′, and that while the said wheel may be driven at very slow rate of speed, the weight falling, for example, at the rate of a foot per hour, the constant increase in the rate of rotation of the shafts D, F, E, C, and I in the order named

will impart to the fan several hundred revolutions per minute, and that this speed will be maintained for several hours or until the weight B^7 has fallen to its lowest limit.

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

1. A device of the kind described comprising a frame, a plurality of shafts journaled therein in vertical alinement, a gearing-wheel fixed upon one of said shafts, a ratchet loose upon the said shaft, and having a hub portion, a pinion carried by the hub portion, a sprocket-chain running over said pinion and having a weight at one end, a pawl carried by the gear-wheel and adapted to engage the ratchet, and means for transmitting in an increasing ratio the rotation of the said shaft to a fan.

2. A fan-motor comprising a plurality of shafts in vertical alinement, a pinion on one of the said shafts, a sprocket-chain running over said pinion, a weight upon the free end of the said chain, said pinion being loose upon the shaft, a gear-wheel on the said shaft, means for locking the gear-wheel to the pinion, a pinion upon one of the other shafts, a sprocket-chain running over the gear-wheel and the last-mentioned pinion, a stub-shaft having a bevel-gear at one end, a second stub-shaft at right angles to the first, and having a beveled gear meshing with the beveled gear of the first stub-shaft, a pulley carried by the second stub-shaft, belting running over the said pulley and adapted to rotate a fan, and means for transmitting the rotation of the first-mentioned shafts to the first-mentioned stub-shafts.

3. A motor of the kind described comprising a shaft, a pinion loose upon the said shaft, a sprocket-chain running over the said pinion, a weight connected to the chain, at one end, a drum upon which the opposite end of the chain can be wound, a gear-wheel fixed to said shaft, means for locking the gear-wheel to the pinion, a fan, a plurality of shafts in vertical alinement with the first-mentioned shaft, means for driving the said shafts at an increasing rate of speed from the first-mentioned shaft and means for transmitting the rotation of the last of the said shafts to the fan, as and for the purpose specified.

SAMUEL C. BAUCUM.

Witnesses:
G. A. McMULLEN,
HARRY OGLESBY.