No. 781,104. PATENTED JAN. 31, 1905.

J. B. SLINN.

MECHANICAL BIRD TOY.

APPLICATION FILED NOV. 9, 1903.

Fig. I.

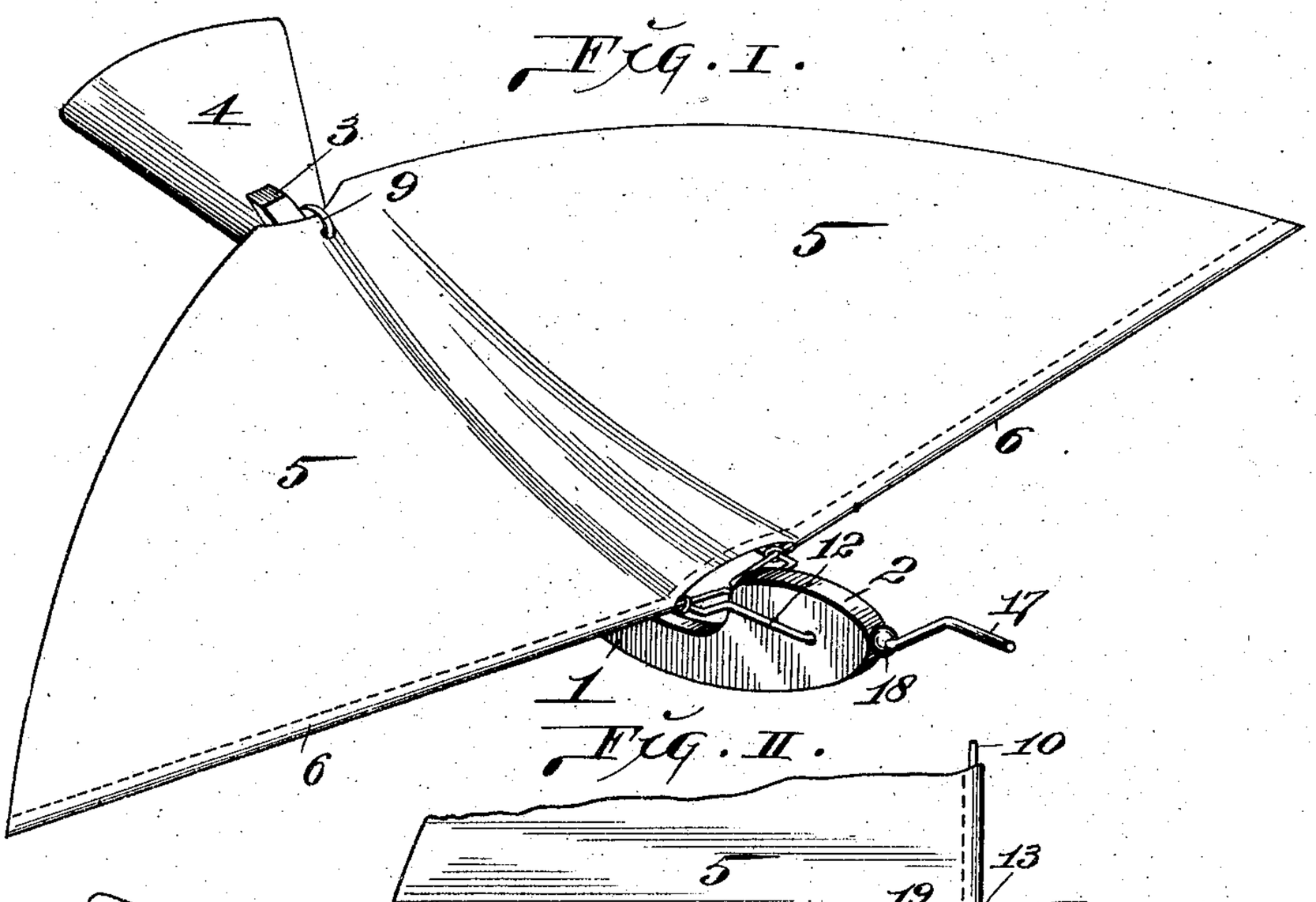

Fig. II.

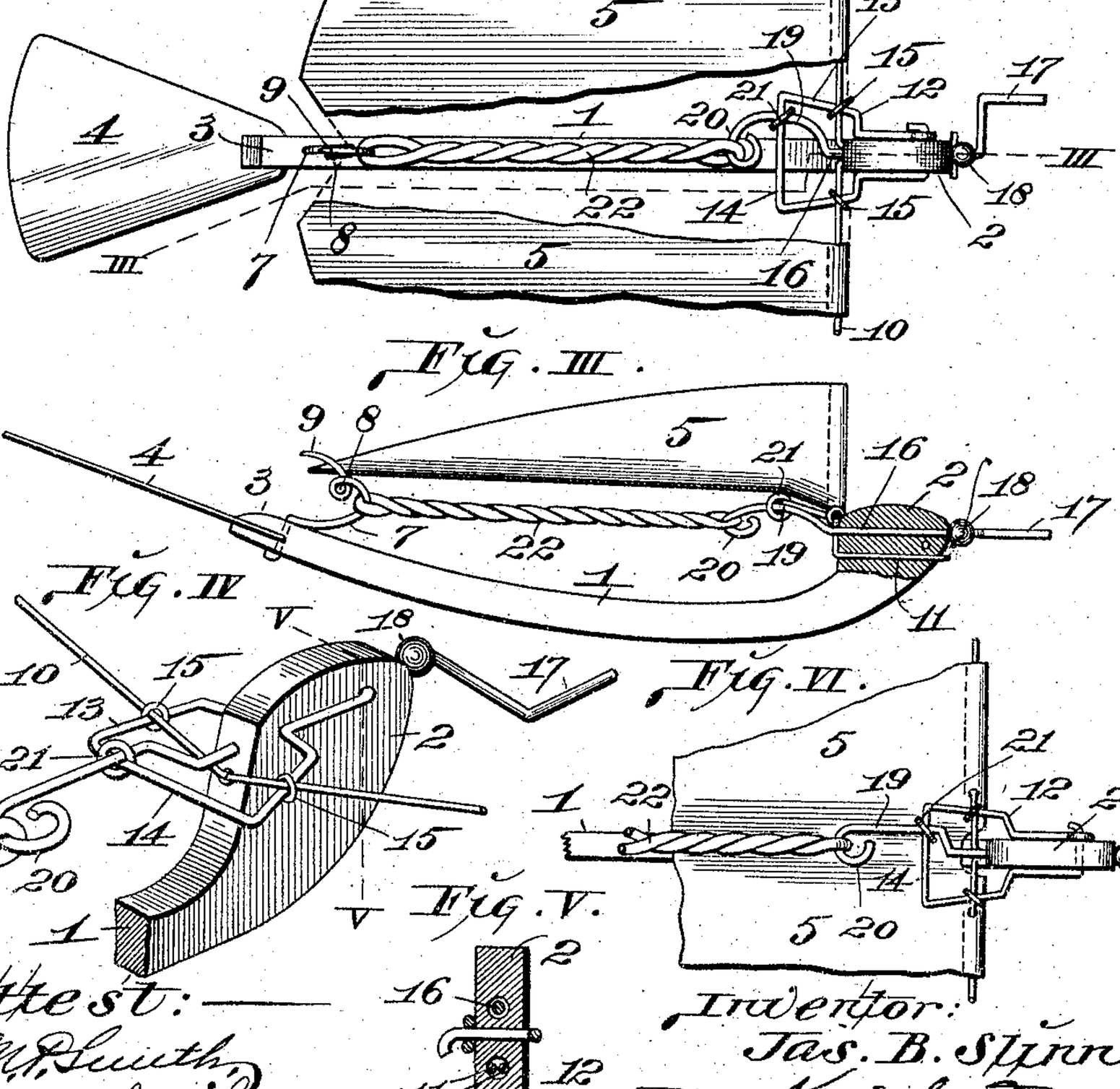

Fig. III.

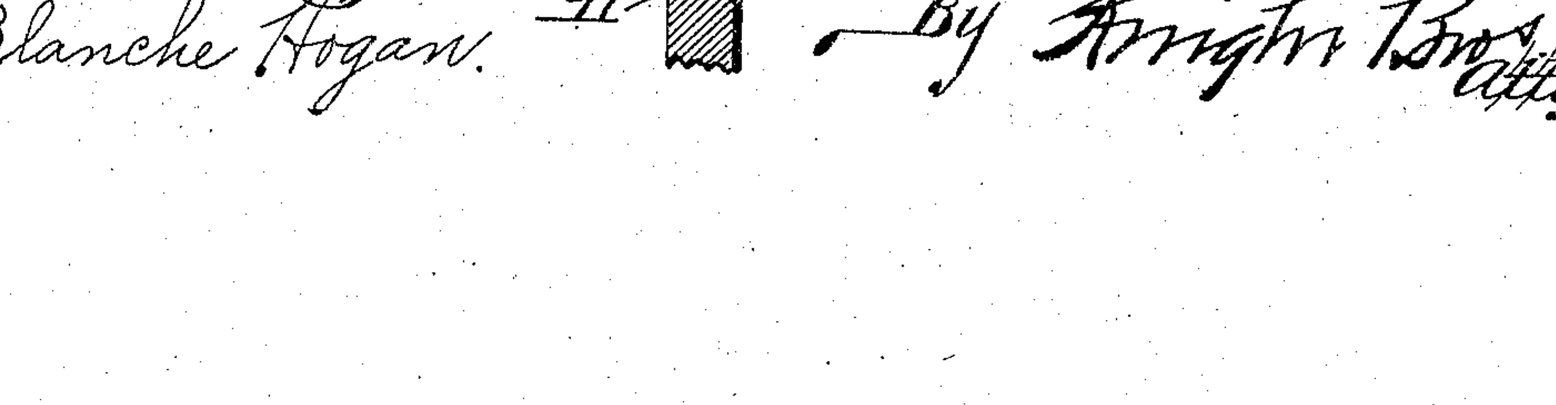

Fig. IV.

Fig. V.

Fig. VI.

Attest:—

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No. 781,104. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

JAMES B. SLINN, OF ST. LOUIS, MISSOURI.

MECHANICAL BIRD TOY.

SPECIFICATION forming part of Letters Patent No. 781,104, dated January 31, 1905.

Application filed November 9, 1903. Serial No. 180,366.

To all whom it may concern:

Be it known that I, JAMES B. SLINN, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Mechanical Bird Toys, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a toy in the shape of a bird that is mechanically operated for flight through the air.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view of my toy. Fig. II is a top view with the wings of the toy partially broken away. Fig. III is a longitudinal section taken on line III III, Fig. II. Fig. IV is an enlarged perspective view of the head end of the toy-body and the operating mechanism carried thereby. Fig. V is a cross-section taken on line V V, Fig. IV. Fig. VI is a top view illustrating the modification.

1 designates the body of my toy, which is provided with a head 2 and a rear end 3. In the rear end of the body is seated a tail 4, that is preferably positioned in a slot extending across the body. This tail serves as the flight-directing member of the toy.

5 designates wings, which are preferably composed of a single sheet of light fabric, such as silk. At the forward edge of each wing is a pocket 6, which receives laterally-extending vibratory wires, to be mentioned.

7 is a hook seated in the rear end of the body 1 and preferably provided with a coil 8, as seen in Figs II and III. This hook terminates in a prong 9, to which the rear ends of the wings 5 are secured.

10 designates wing-operating bars that are positioned in the pockets 6 at the forward edges of the wings 5 and which extend from arms 11, that are rockingly seated in the head 2 of the body 1, as seen in Figs. III and V.

12 designates a vibrator having its forward portion or arms rockingly seated in the head of the body 1 and extending rearwardly from said head in the form of a loop having sides 13 and a cross member 14. The wing-operating wires 10 are loosely united to the sides of said vibrator by rings 15, so that movement imparted to the vibrator will be communicated to said wing-operating wires.

16 designates a crank-shaft extending longitudinally through the body-head 2 and provided with a handle 17, positioned forwardly from said head. On the outer end of said crank-shaft is a ball 18, that serves as a bearing for the shaft and prevents frictional engagement between the crank-handle and the head 2. At the rear of the head 2 the crank-shaft 16 is formed into a crank 19, that terminates in a hook 20.

21 is a ring connecting the shaft-crank 19 and the cross member 14 of the vibrator 12 in a manner to permit freedom of movement of both of said members when the crank-shaft 16 is rotated.

22 designates a spring that is connected at its forward end to the hook 20, carried by the crank 19, and at its rear end to the hook 7. The spring which I have shown and which is of the form I prefer to use consists of a rubber loop that when secured to the hooks 7 and 20 may be twisted, as illustrated in the drawings, for the purpose of incorporating spring action therein due to twisting the band into a coil. I do not desire to be limited, however, to this particular form of spring, as any other form may be used that may be placed under tension in the operation of my toy. Neither do I wish to be limited to placing the spring and the mechanism by which it is operated beneath the wings of the toy, as illustrated in Figs. I to III, inclusive, as it is obvious that these parts may be positioned above said wings, as shown by the modification illustrated in Fig. VI.

By making the wing-operating bars 10 in straight form, as shown, and applying the wings 5 loosely thereto I provide a construction by which both vertical and rocking movement is rendered present in the wings during their vibrations, this being due to the operating-bars serving to raise and lower the wings and the forward portions of the wings—namely, the pockets 6—serving as axes, on which the wings turn with freedom.

In the use of my toy the operation is as fol-

lows: By turning the crank 17 rotation is imparted to the crank-shaft 16 and its crank 19, with a result that tension is wound into the spring 22, during which action the vibrator 12 is rocked as a result of its connection to the crank 19 and the wing-operating wires 10 are vibrated, due to their connection to the vibrator. On securing the desired tension of the spring 22 the crank-handle 17 is released and the spring unwinds, causing rapid rotation of the crank-shaft and its crank 19. The rotation of the crank results in vibrations being imparted to the vibrator 12, to which it is loosely united by the ring 21. On the vibration of the vibrator similar motion is imparted to the wing-operating wires, and as a consequence both of the wings are rapidly raised and lowered in a flapping manner. It will therefore be seen that when the spring 22 is placed under tension and the crank 16 is released the toy may be liberated from the hand and flight thereof will take place, to be continued until there is no longer tension of the spring.

I claim as my invention—

1. In a flying toy, the combination of a body, a pair of wings, wires rockingly positioned in said body and connected to said wings, a vibrator rockingly connected to said body, rings loosely uniting said wing-wires and vibrator, a shaft having a crank, a ring connecting said crank to said vibrator, and a spring uniting said body and shaft to impart rotation to the shaft, substantially as described.

2. In an aerial toy, the combination of a body, a pair of wings, wires rockingly positioned in said body and connected to said wings, a vibrator rockingly connected to said body, rings loosely uniting said wing-wires and vibrator, a shaft having a crank, a ring connecting said crank to said vibrator, a spring uniting said body and shaft to impart rotation to the shaft, means mounted in the head of said body for winding tension into said spring, and a tail secured to the rear of said body for guiding the toy in its flight.

3. In a flying toy, the combination of a body, a pair of wings, wing-wires rockingly positioned in said body and connected to said wings, a vibrator rockingly connected to said body, rings loosely uniting said wing-wires and vibrator, a shaft having a crank, a ring connecting said crank to said vibrator, and means uniting said body and shaft to impart rotation to the shaft, substantially as described.

4. In a flying toy, the combination of a body, a pair of wings, wires rockingly positioned in said body and connected to said wings, a vibrator rockingly connected to said body, a shaft having a crank, a ring connecting said crank to said vibrator, and a spring uniting said body and shaft to impart rotation to the shaft, substantially as described.

5. In an aerial toy, the combination of a body, a pair of wing-wires pivoted to said body, wings consisting of a single piece of fabric loosely mounted on said wing-wires and means for operating said wires.

6. In an aerial toy, the combination of a body, two wing-wires extending in opposite directions at right angles to said body, a hook on the rear of said body, wings consisting of a piece of fabric or the like, loosely attached at its front end to said wires, and at its rear end to said hook, and means for vibrating said wing-wires.

JAMES B. SLINN.

In presence of—
E. S. KNIGHT,
NELLIE V. ALEXANDER.