(No Model.)

H. F. W. LIEBMANN.

DEVICE FOR IMPARTING MOTION TO TOY WIND WHEELS.

No. 249,146. Patented Nov. 1, 1881.

Fig 1.

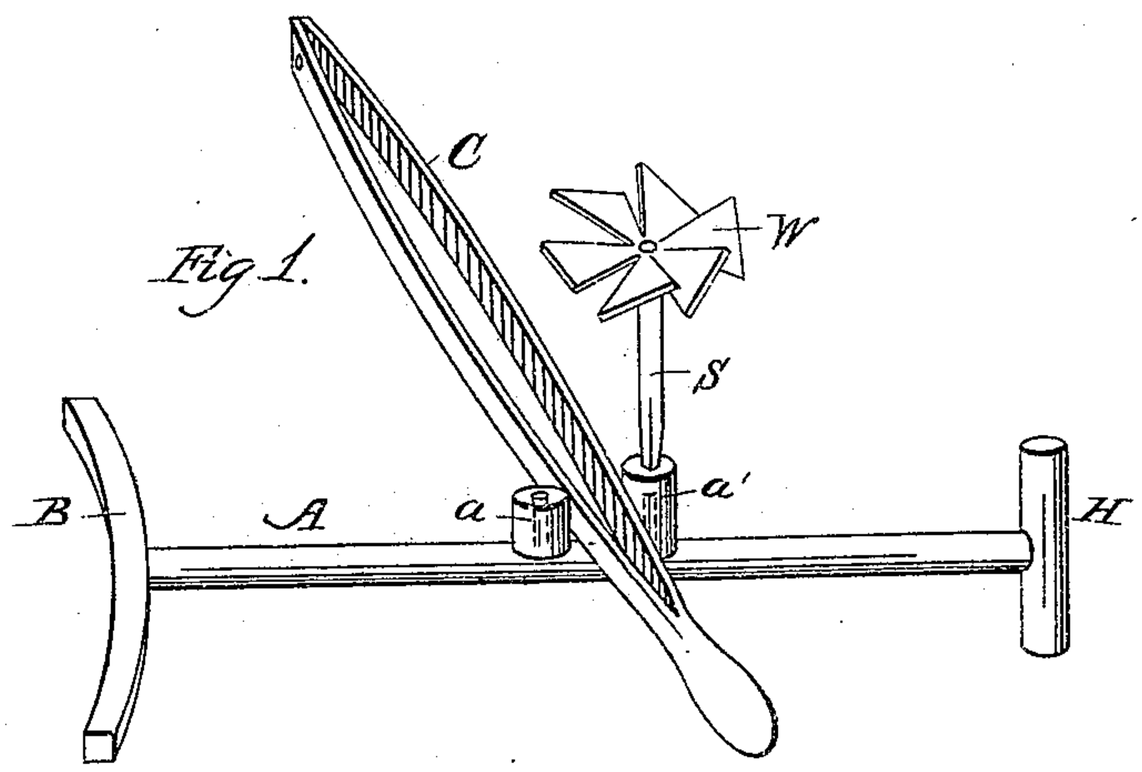


Fig. 2

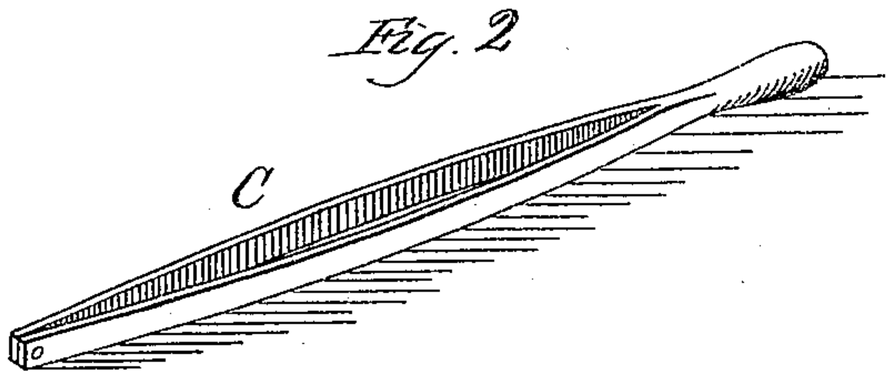
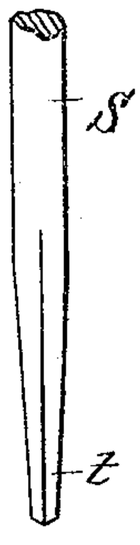


Fig. 3



WITNESSES—

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UNITED STATES PATENT OFFICE.

HERMANN F. W. LIEBMANN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO HERMANN RENDTORFF, OF SAME PLACE.

DEVICE FOR IMPARTING MOTION TO TOY WIND-WHEELS.

SPECIFICATION forming part of Letters Patent No. 249,146, dated November 1, 1881.

Application filed September 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, H. F. W. LIEBMANN, of the city of Chicago, county of Cook, and State of Illinois, have invented certain Improvements in Devices for Imparting Motion to Toy Wind-Wheels, of which the following is a specification.

My invention relates to a new combination of devices for imparting vertical rotary motion to the shaft of a wind-wheel, and thus causing the wheel to mount upon the air by means of the action of its wings upon the same.

My invention will be hereinafter described with reference to the accompanying drawings, in which Figure 1 represents a perspective of the whole apparatus; Fig. 2, a like view of the double bow C, and Fig. 3 an elevation of the lower portion of the staff S of the wind-wheel W.

A is the frame of the device, B a cross-piece upon the same to rest against the body of the operator, and H the handle by which the frame may be held with the cross-piece B firmly against his body.

a and *a'* are two loose rollers turning freely upon their spindles, which have their bearings in the frame A. *a'* stands a little higher than *a*, in order to afford space for a socket in its top end, above the top end of its spindle, and is provided with a socket in its top end for the reception of the lower end of the shaft S of the wind-wheel W, which is four-cornered and tapered from above downward to its lower end, as shown in Fig. 3. Now, when the lower end of the shaft is placed in that socket and the roller *a'* is caused to rotate rapidly, the wind-wheel, the wings of which are set on their shaft at an angle to the plane of their rotation, will by their action mount rapidly upward, and several of such wheels may be kept suspended in the air at the same time by the same engine.

The device which I employ to impart such motion is the double bow C. (Shown in Fig. 2.) It may be made of wood, metal, or any other substance having the requisite elasticity. It has a handle and two equal and similar bows, which convex from each other from either end toward their middle portions. Now, when the double bow is between the rollers *a* and *a'*, as shown in Fig. 1, (the rollers being near the handle,) and is drawn quickly through to its outer end, thus compressing the two parts together, the effect of the friction upon the roller *a'* will be such as to cause it to rotate rapidly and send up the shaft S with its wings spinning in the air, where it will remain until the friction of the air against the wings will so greatly reduce the speed of its motion that it must descend.

The construction of the whole device will require but little outlay of money and but little mechanical skill, and very little intelligence in a child will be required to operate it.

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

1. The combination of the double bow C and the frame A, having the two loose rollers, *a* and *a'*, adapted to impart rotary motion to roller *a'*, substantially as described.

2. The loose roller *a'*, provided with a socket in its top end, in combination with the shaft S, having its lower end four-cornered and tapered, as shown, and the upper end provided with a series of wings, W, adapted to receive rotary motion from the double bow C and cause the shaft S and its wings W to mount upon the air, substantially as described.

H. F. W. LIEBMANN.

Witnesses:

D. W. MARSHALL,

F. B. TOWNSEND.