

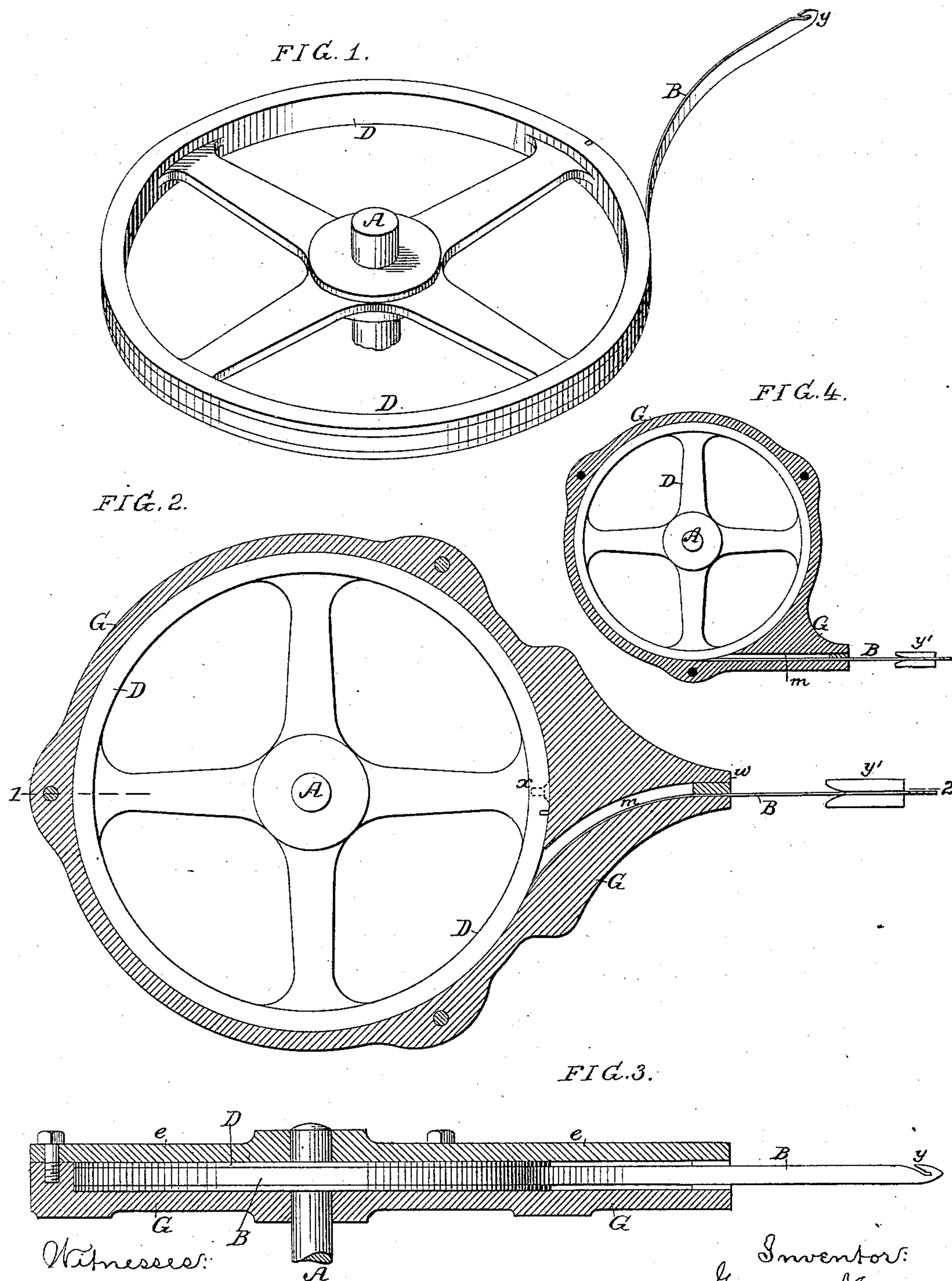
(No Model.)

G. MOORE.

MECHANICAL MOVEMENT.

No. 308,784.

Patented Dec. 2, 1884.



Witnesses:
John M. Clayton
Harry Drury

Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE MOORE, OF BERWICK, MAINE.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 308,784, dated December 2, 1884.

Application filed September 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MOORE, a citizen of the United States, and a resident of Berwick, York county, Maine, have invented
5 a certain Improved Mechanical Movement, of which the following is a specification.

My invention consists of a device, described and claimed hereinafter, for converting a vibrating motion into a reciprocating motion.

10 In the accompanying drawings, Figure 1 is a perspective diagram illustrating the operating parts of the device; Fig. 2, a sectional plan showing the face of the wheel; Fig. 3, a vertical section on the line 1 2, Fig. 2, the
15 wheel being in elevation; and Fig. 4, a diagram drawn to a reduced scale and showing a modification of the invention.

A is a shaft to which a vibrating motion is supposed to be imparted, and B a flexible
20 strip of metal to which a reciprocating motion is to be imparted through the medium of the wheel D, secured to the said shaft A. The wheel fits snugly into the circular recess of a fixed casing, G, and is confined thereto
25 by a removable cap, *e*. Although the wheel must fit accurately within the circular recess of the case G, and between the bottom of the recess and the cap, the fit must be such as to permit the wheel to be vibrated freely and
30 without undue friction. The periphery of the wheel is grooved to admit the flexible strip B, which is secured to the said periphery in the present instance at the point *x*, Fig. 2, the strip extending through a curved
35 passage, *m*, in the casing and out through a guiding-slot at the projecting end *w* of the said casing. The object is to impart a long and steady reciprocating motion to the outer portion of the strip by alternately winding
40 the inner portion partly round and unwinding it from the wheel. If the wheel be twelve inches in diameter, for instance, and be vibrating to the extent of one-third of a revolution, the outer end of the strip will have a
45 movement of about twelve inches in a straight course; but the wheel may be turned nearly to the extent of a complete revolution and back again, in which case the movement of the strip will approximate three feet.

50 As an example of the uses to which this

mechanical movement may be applied, I may refer to a warp-drawing machine in which a hooked needle with a long reciprocating movement was required, and in which it was essential that the movement should be
55 a steady one. The strip was converted into a needle by forming at its extreme outer end the hook *y*. (Shown in Figs. 1 and 3.) It was found in practice that, although the hook had a long distance to move outward
60 and return, it was much more steady during this movement and during the act of reversing than appliances which had been previously used for reciprocating a hooked needle. Fixed guides *y'*, one of which is shown in Fig.
65 2, were arranged outside the casing for the purpose of directing the strip in a straight course, the guides being placed at such a distance apart as to prevent the bending of the portion of the strip which may be outside the
70 casing. It may be further stated that in this application of my invention the wheel was twelve inches in diameter, and the dimensions of the strip in cross-section were a quarter of an inch wide by one-sixteenth of an inch thick,
75 and it was made of steel.

My invention admits of application to all uses in which a reciprocating strip having a comparatively light duty to perform would be
80 available.

It is not essential that the periphery of the wheel D should be grooved; but a groove is preferable for the lodgment of the strip. The passage *m* should be made on a comparatively
85 gentle curve, so that no very abrupt bending of the strip can take place as it is projected from the casing on moving the wheel in one direction, or as it is withdrawn into the casing when the wheel is moved in a contrary
90 direction.

In the modification shown in Fig. 4 the passage *m* in the casing is arranged tangentially. The metal strip may be coiled more
95 than once round the wheel, and its oscillation or vibration may be such that it will turn to a greater extent than a complete revolution and back again.

I claim as my invention—

A device in which a vibrated wheel and a flexible guided strip attached to the periph- 100

ery of the said wheel are combined with a
fixed casing containing the said wheel, and
having a passage through which the strip may
be projected outward from the casing and
5 withdrawn into the same, all substantially as
set forth.

In testimony whereof I have signed my name

to this specification in the presence of two sub-
scribing witnesses.

GEORGE MOORE.

Witnesses:

ORIN Q. SHAPLEIGH,
JOHN C. HURD.