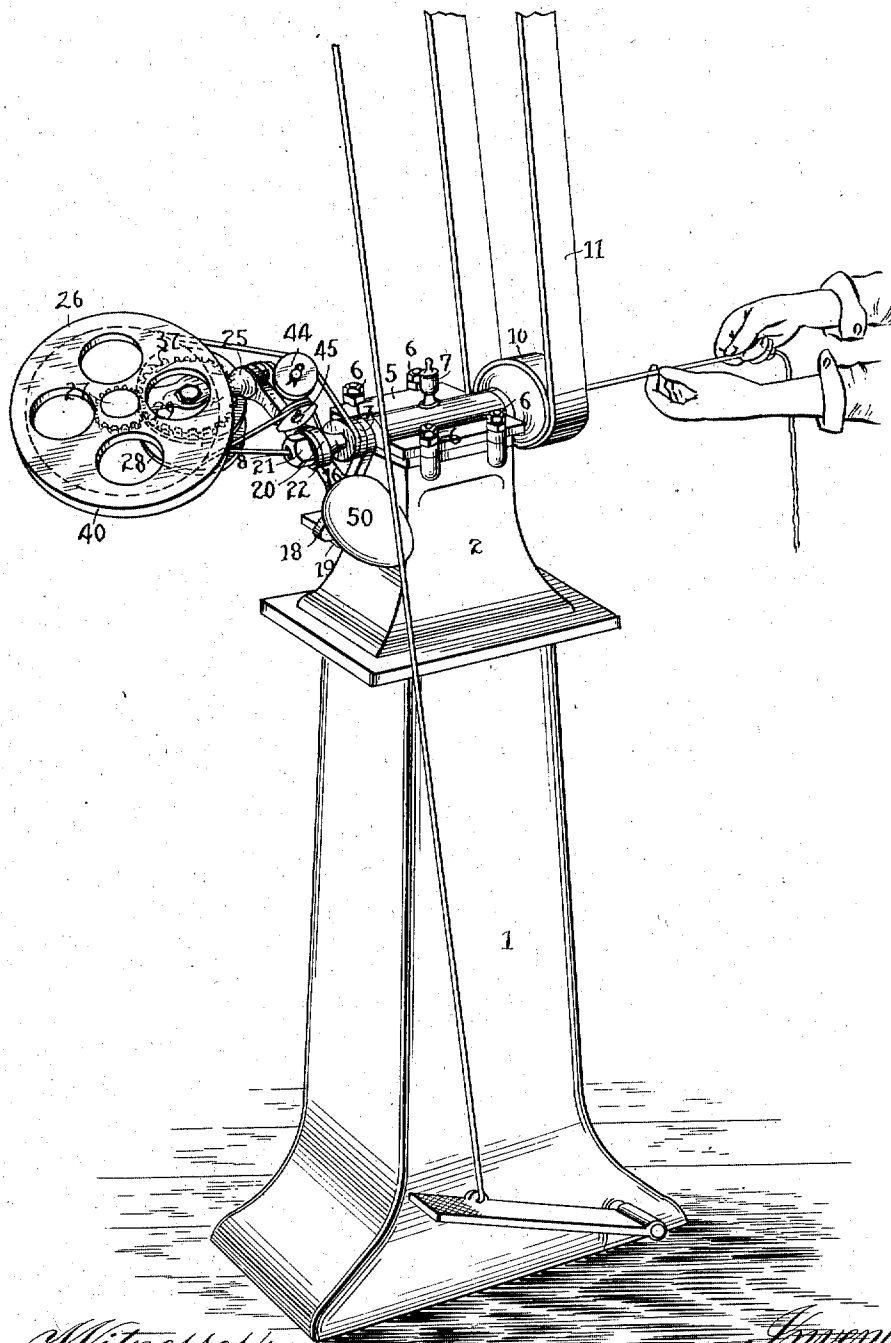


J. L. SACKETT.
TWISTING MACHINE.
APPLICATION FILED AUG. 21, 1905.

980,346.

Patented Jan. 3, 1911.

4 SHEETS—SHEET 1.



Witnesses:
Charles F. Richardson
H. K. Smith & Co.

Fig. 1.

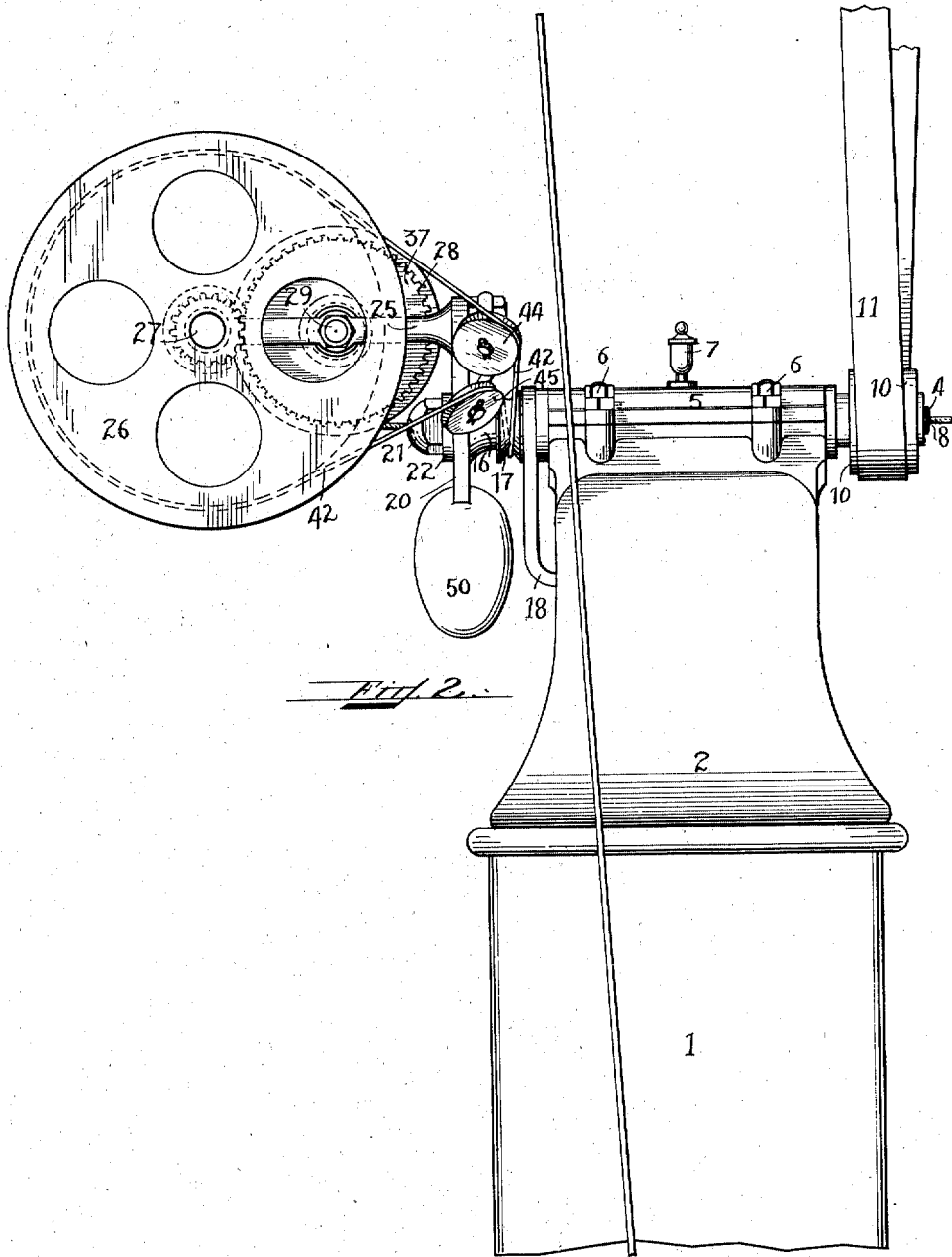
Inventor:
Jasper L. Sackett
By Francis J. Dakin
his atty

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4 SHEETS—SHEET 2.



Witnesses:
Charles F. Richardson
[Signature]

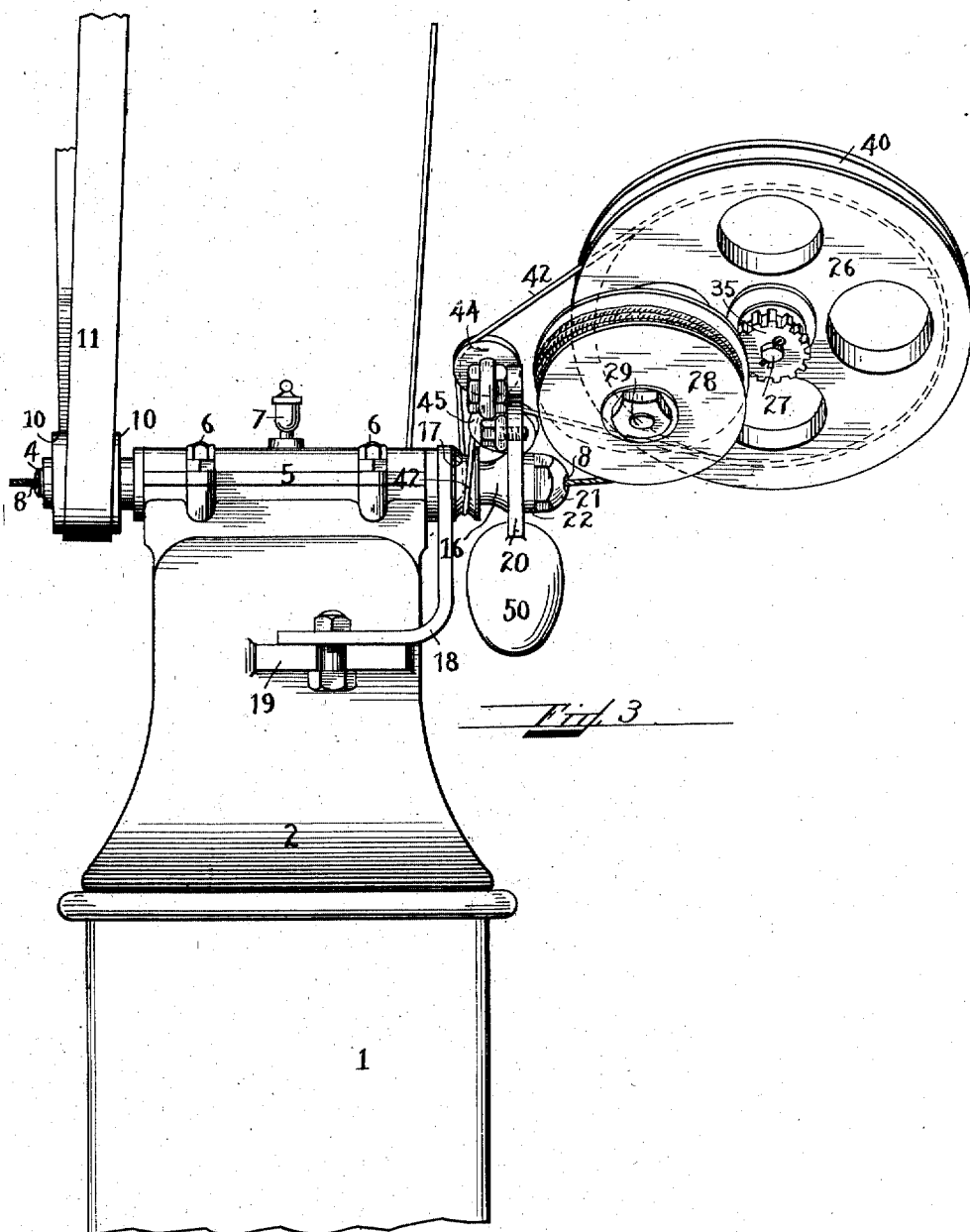
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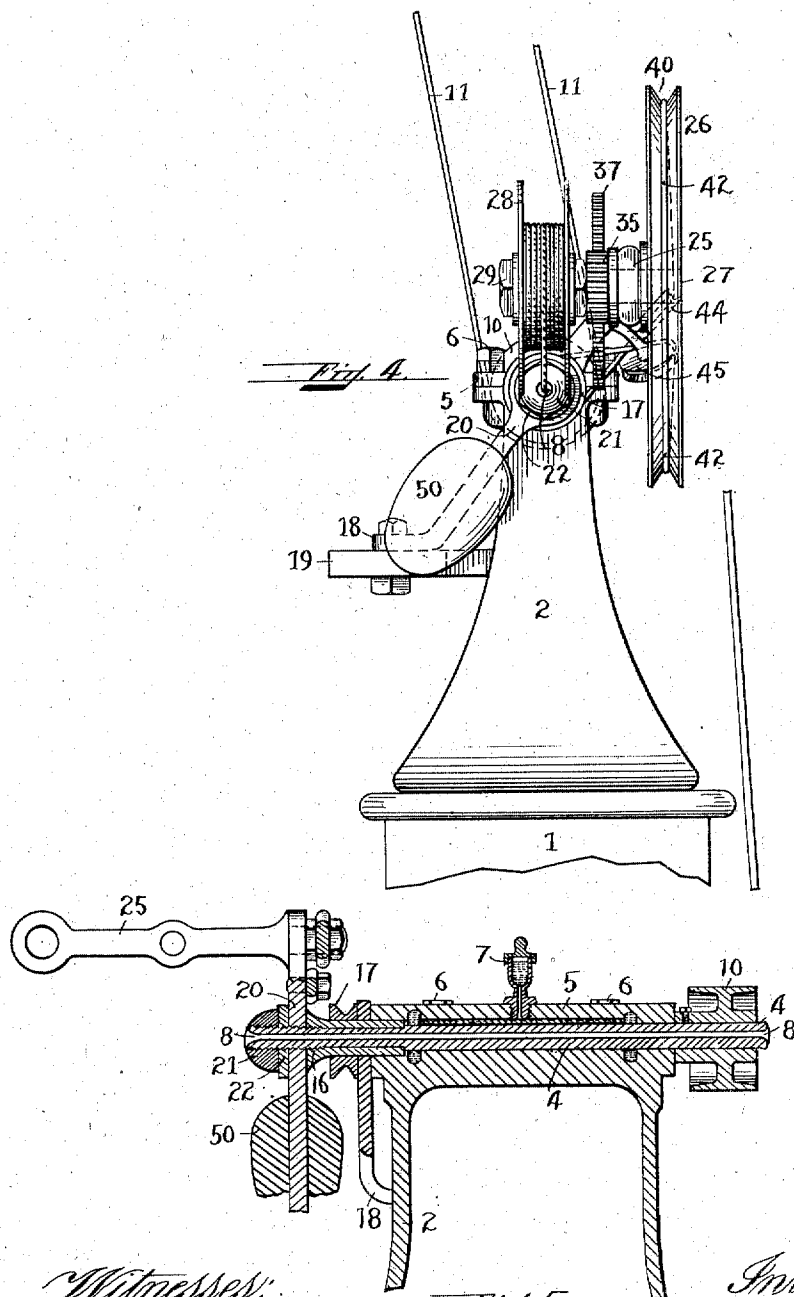
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4 SHEETS-SHEET 4.



Witnesses:
Charles F. Richardson
The Remond & Co

Fig. 5

Inventor:
Jasper L. Sackett
By Francis J. V. Dakin
his atty

UNITED STATES PATENT OFFICE.

JASPER L. SACKETT, OF MELROSE, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JOHN J. PEW, OF GLOUCESTER, MASSACHUSETTS.

TWISTING-MACHINE.

980,346.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed August 21, 1905. Serial No. 274,990.

To all whom it may concern:

Be it known that I, JASPER L. SACKETT, a citizen of the United States, residing at Melrose, in the county of Middlesex and State of Massachusetts, have invented a new and useful Twisting-Machine, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines designed to be used in twisting various materials into string form, or in enveloping strings of any material in a covering of metal or other substance.

The object of my invention is to produce a machine of simple construction, by means of which any material, fibrous or metallic, may be twisted into string form, or by the use of which a string or cord may be enveloped in a covering of metallic or other material.

My machine is particularly designed for use in the manufacturing of my packing, as shown in an application heretofore filed by me in the Patent Office, on May 19, 1905, Serial Number 261,109, upon which Letters Patent No. 864,996 were issued September 3, 1907, and in that connection serves to cover the flax or fibrous thread with a metallic covering by twisting the two together. Although especially made for such use, it may be employed for other purposes.

The following is a clear description of my invention, reference being made to the accompanying drawings, in which,

Figure 1 is a view in perspective of my invention, Fig. 2 is a side elevation of my invention, Fig. 3 is another side elevation of the same, Fig. 4 is an end view of the same, and Fig. 5 is a vertical longitudinal sectional view of a portion of the same.

Similar numbers refer to similar parts throughout the several views.

Briefly, my invention comprises a rotatable shaft mounted on a standard or in suitable bearings, and provided with an arm carrying a drum and means whereby the drum is turned when the shaft is rotated.

Referring to the drawings, 1 represents a standard of ordinary construction, having a head-portion 2 on which is mounted, in suitable bearings, a shaft 4, held by a top-plate 5 secured to the head-portion 2 by bolts 6, 6. For the purpose of lubricating the shaft 4, an oil-cup 7 is mounted on the top-plate 5. The shaft 4 is bored longitudinally,

the boring 8 being of a diameter sufficient to accommodate the cord or string made or covered by the machine, and at one end the shaft is provided with a driving pulley 10, driven by belt 11, or in any other suitable way. Upon the other end of said shaft 4, is mounted a collar or sleeve 16, and a transverse arm 20, said arm being held in place on said shaft by the lock-nut 21 and washer 22; and all said members being fixed to and rotating with said shaft. A fixed pulley 17 is secured to and supported by an arm 18, which springs from the head-piece 2 at 19. Both said fixed pulley and the end of said arm are provided with a central opening or boring, through which passes the shaft 4 and the collar 16, but said pulley 17 is secured to the arm 18 and is not affected by the rotation of the shaft 4 and collar 16.

The winding mechanism is carried upon a winding arm 25, extending parallel to the shaft 4 from one end of the transverse arm 20 and fixed thereto, and consists of a gear-pulley 26, fixedly mounted on a rotatable arbor or pin 27 at the free end of the arm 25, and a drum 28 also fixedly mounted on a similar pin or arbor 29, situated about midway on the opposite side of said arm 25. The pin 27 extends through the arm 25, and has attached to that end a small gear 35, which meshes with a large gear 37, mounted on and secured to the pin or arbor 29 between the drum 28 and the winding arm 25, the relative sizes of the two gears being such that it requires several revolutions of the gear-pulley 26 to turn the drum 28 one complete revolution, the turning of said drum being regulated entirely by the revolution of the gear-pulley and gears. As the drum 28 is used to receive the finished product, it is so adjusted that the boring 8 in the shaft, if continued, would be tangent to its periphery as shown in Fig. 4, and for this purpose the arbors or pins 27 and 29 are mounted diagonally as respects the arm 20.

In order to turn the gear-pulley 26 when the machine is in operation, the periphery of said pulley is provided with a groove 40, in which travels an endless belt 42 connecting the gear-pulley to the fixed-pulley 17. The direction of said belt being changed by idlers 44 and 45.

For the purpose of steadying the machine by eradicating, as far as possible, vibration

due to the revolutions of the arm 20, which is weighted at one end by the winding mechanism, I mount on the other end of said arm, a counterweight 50.

5 The operation of my machine is as follows. The ends of the materials to be twisted together are carried through the boring 8 and attached to the drum 28. The operator then stands on the other side of
10 the machine and holds the materials as illustrated in Fig. 1, and the operation of the machine twists the materials into string form and at the same time winds the finished product upon the drum 28 which,
15 when full, may be removed and an empty drum substituted therefor. The twisting of the materials is accomplished through the rotation of the shaft 4, which carries the arm 20 around and causes the winding mechanism to pass through a circular orbit, of
20 which the boring 8 if continued would be the center. As the winding mechanism continues to revolve through its orbit, the endless belt 42 being held on the fixed pulley
25 17 causes a rotary movement of the gear-pulley 26 and through the gears 35 and 37 of the drum 28. The winding of the drum is regulated by the relative sizes of the said gears and also by the size of the fixed pulley,
30 as the belt travels in each complete revolution of the shaft 4 a distance equal to the grooved circumference of the fixed pulley.

In the ordinary use of my machine various materials are twisted in string form, but
35 it is also capable of being used for enveloping fibrous strings in metal. To accomplish this result a metal ribbon, V-shaped in cross section, and a string of any fibrous material are employed, the string being laid
40 within the groove in the metal ribbon and held by the operator while the machine is in operation. The twisting movement of the machine causes the metal to be twisted around the string, enveloping it entirely,
45 and does not cause the metal and fibrous material to be twisted together in such manner that the outside presents alternate strands of metal and fibrous material. As above stated, the machine is primarily employed
50 for this purpose in order to produce metallic covered strands as shown in

Letters Patent No. 864,996, hereinbefore referred to.

What I claim is:—

1. In a twisting machine, the combination 55 of a shaft, an arm secured to said shaft, a drum mounted on said arm and provided with a gear, a pulley provided with a gear which meshes with the gear on said drum, and means for turning said pulley when said
60 shaft is rotated.

2. In a twisting machine, the combination of a shaft, an arm secured to said shaft, a drum or reel mounted on said arm and provided with a gear, a pulley on said arm
65 provided with a gear which meshes with the gear on said reel or drum, and flexible means for turning said pulley when said shaft is rotated.

3. In a twisting machine, the combination 70 of a shaft, a reel or drum provided with a gear, a pulley provided with a gear which meshes with the gear on said drum, a stationary pulley and flexible connections between said pulley and said stationary pulley
75 whereby said pulley is turned when the shaft is rotated.

4. In a twisting machine, the combination of a shaft, an arm mounted on said shaft, a drum rotatably mounted on said arm and
80 provided with a gear, a pulley rotatably mounted on said arm and having a gear meshing with the gear on said drum, a stationary pulley and a belt running upon said pulley and said stationary pulley.
85

5. In a twisting machine, the combination of a standard, a shaft provided with driving means, an arm mounted upon said shaft, a gear pulley mounted upon said arm, a winding drum also mounted on said arm,
90 gears upon said pulley and said drum which mesh with each other, a belt running upon said gear-pulley and upon a fixed stationary pulley, said stationary pulley, and idlers for changing the direction of said belt.
95

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses, this the 22nd day of July, 1905.

JASPER L. SACKETT.

Witnesses:

A. I. CRAWFORD,
L. P. SLADE.