

No. 704,872.

Patented July 15, 1902.

W. H. FARRELL.
WIRE BARBING MACHINE.

(Application filed Dec. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

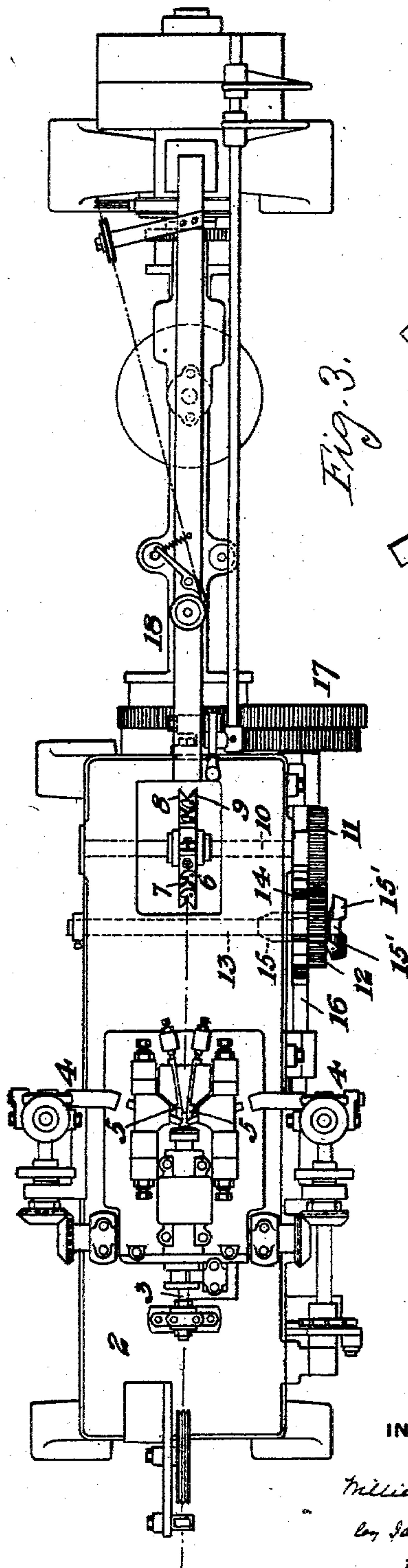


Fig. 3.

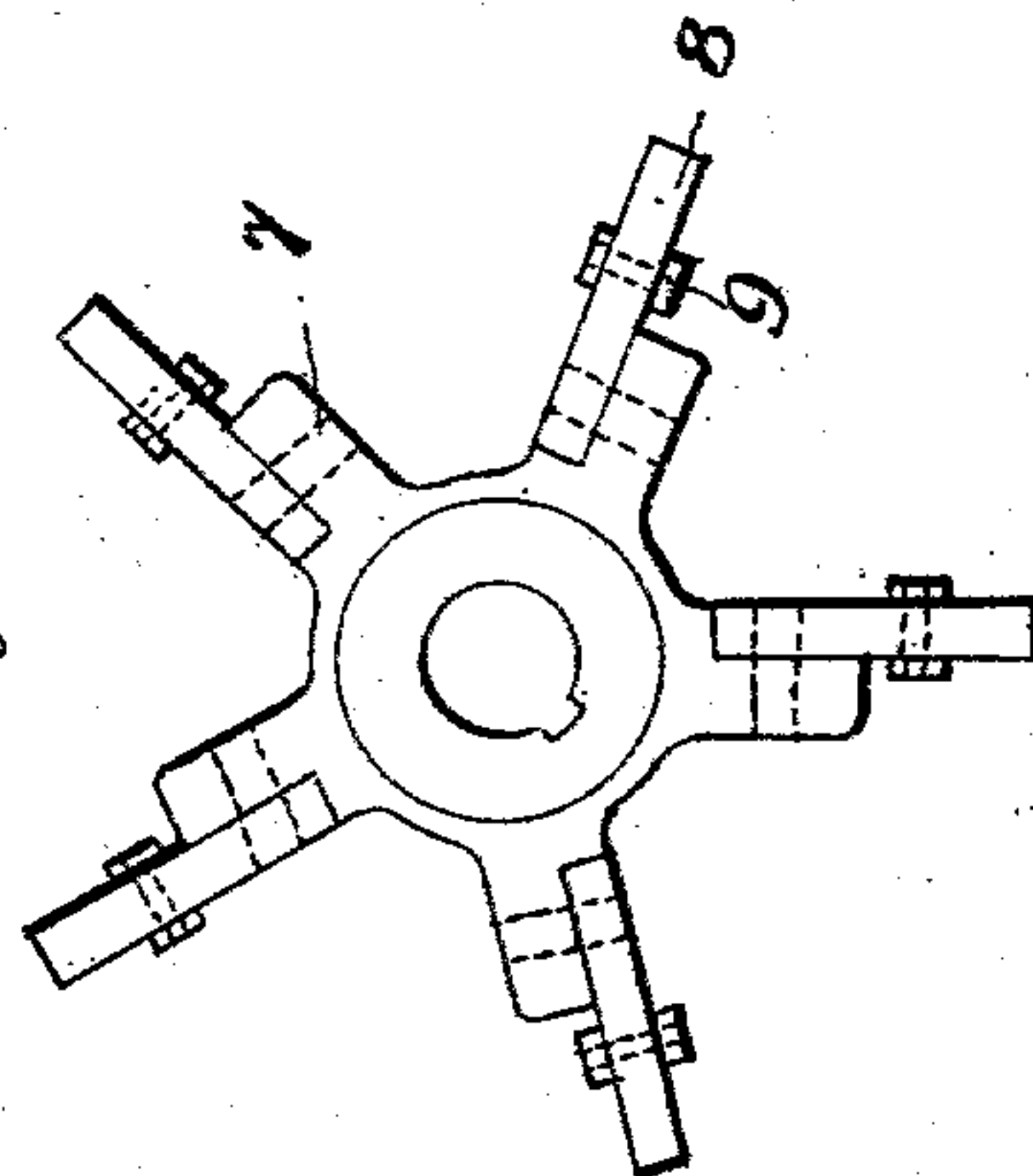
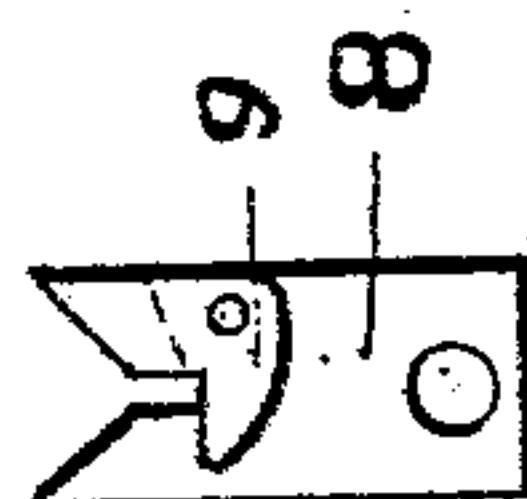


Fig. 3a.



WITNESSES

A. M. Steen
W. F. Stewart

INVENTOR

William H. Farrell
by James E. Barkwell
his Attorney

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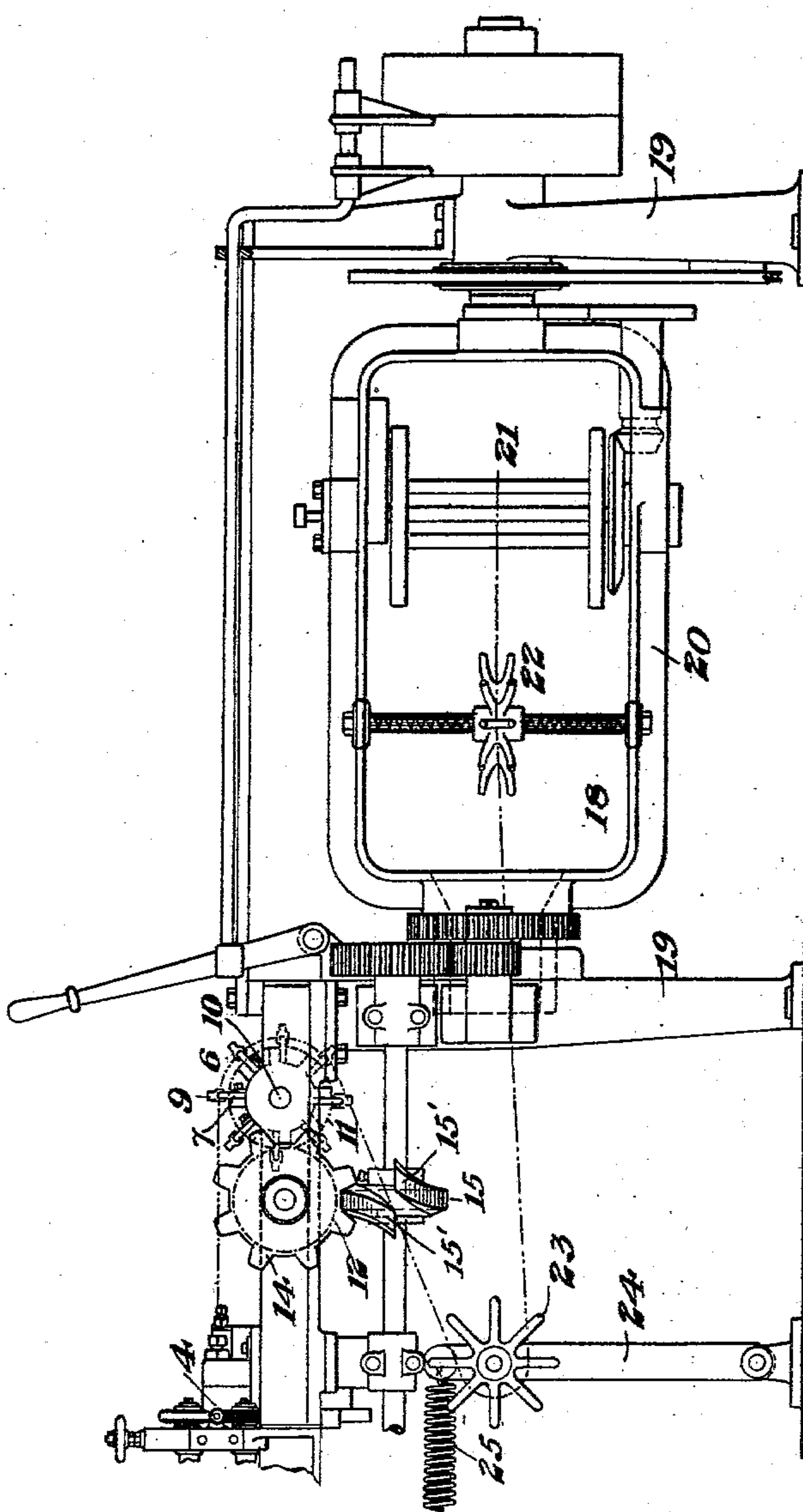
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2 Sheets—Sheet 2.

Fig. 2.



WITNESSES

A. M. Stearn
G. F. Stewart

INVENTOR

William H. Farrell
by James F. Baker
his attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. FARRELL, OF DONORA, PENNSYLVANIA.

WIRE-BARBING MACHINE.

SPECIFICATION forming part of Letters Patent No. 704,872, dated July 15, 1902.

Application filed December 12, 1901. Serial No. 85,565. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. FARRELL, of Donora, Washington county, State of Pennsylvania, have invented a new and useful Improvement in Pull-Out Devices for Wire-Barbing Machines and the Means for Actuating the Same, of which the following is a specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a top plan view of a wire-barbing machine provided with my improved pull-out device. Fig. 2 is a side elevation of the pull-out end of the machine and the twister used in connection therewith. Fig. 3 is a side
15 elevation of the pull-out wheel. Fig. 3^a is a detail view of the grasping-fingers.

This invention consists of certain improvements in wire-barbing machines, in which a yielding butterfly-wheel is placed adjacent to
20 the pull-out wheel, and it is intended to provide for taking up the slack of the wire as it is being wound upon the spool.

It further consists in details of construction and combination of parts more fully hereinafter described, and pointed out in the
25 claims.

In the drawings, 2 represents a wire-barbing machine of well-known construction provided with the usual spindle 3, through which
30 the strand-wires are fed.

4 4 are the guides for the barb-wires.

5 5 are the cutting-knives, by which the barbs are severed as they are fed to the machine.

35 The barbs are placed on the strand-wires in the usual way, which does not need detailed description.

The pull-out wheel 6 is provided with radial arms 7, having a rigid finger 8 and a co-acting pivoted finger 9, arranged to clamp the
40 barbed wire as it pulls it through the spindle 3. The pivoted finger 9 is released from the barbed wire by gravity as the wheel 6 is rotated. This wheel is mounted upon a shaft
45 10, secured in suitable bearings upon the bed-frame of the machine 2, and is provided at its outer end with a pinion 11, which is adapted to engage a pinion 12, mounted upon a stud-shaft 13, the pinion 12 being secured to a
50 toothed wheel 14, driven by a cam-wheel 15, mounted upon a shaft 16, the shaft being rotated by the gear connections 17 upon the

twister 18. I prefer to construct the cam 15 in the form of a disk having a ridge which is perpendicular to the axis of rotation through
55 a portion of its periphery and terminating in the deflected end portions 15'. The straight portion of the ridge gives an intermittent motion to the toothed wheel 14, and the deflected end portions, which form a continuation
60 of the straight portion, acting upon the teeth of the wheel 14 rotate the toothed wheel one tooth for each revolution of the cam 15. In all positions of the cam there is a positive engagement between the cam and the wheel. 65
The pinions 11 and 12 may be proportioned to each other in such manner that the distance between the barbs will be made greater or less in accordance with the speed at which the pull-out wheel is driven through this connection. 70
The twister 18, Fig. 2, is mounted in suitable bearings 19 and consists of a frame 20, upon which is mounted a spool 21 and a traveling butterfly-wheel 22. Between the twister 18 and the pull-out wheel 6 is located
75 a butterfly-wheel 23, mounted upon a pivoted arm 24, to which is secured a spring 25 in such a manner that a constant tension is maintained upon the barbed wire as it passes from the grip of the pull-out wheel to the
80 twister.

The advantages of my invention will be appreciated by those skilled in the art, since by providing the pull-out mechanism with a cam-actuated connection I am enabled to
85 greatly simplify the machine and at the same time accomplish all that has been heretofore accomplished by more complicated arrangements. The further advantage of this construction is that it enables me to change the
90 spacing of the barbs upon the strand-wire with much greater ease and consequent saving of time, because of the fact that the gearing by which this spacing is accomplished is readily accessible without the dismantling of
95 any portion of the pull-out mechanism save the gears by which the pull-out is driven. By providing the pull-out wheel with rigid fingers acting with a pivoted finger I largely prevent variation in slack from affecting the
100 proper feeding of the barbs to the strand-wire, as the newly-formed barbed wire is clamped between the pivoted finger and the rigid finger as the strand-wires are drawn

through the spindle, and are automatically released by gravity as the wheel rotates. The yielding butterfly-wheel placed between the pull-out wheel and the twister provides
5 the necessary tension upon the barbed wire to insure its being wound properly upon the spool of the twister. The pull-out wheel is given an intermittent motion in a very simple and effective manner by employing a cam
10 a portion of which rotates a rotating member and another portion of which holds the same against rotation, and this construction renders the operation of the pull-out device simple and effective and positive in its action.

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

1. In a wire-barbing machine, a pull-out wheel having grippers formed of two or more
20 members, one of which at least is movable, the movable member or members being actuated to grip the wire by the pressure of the wire thereon caused by the tension on the wire.

2. In a wire-barbing machine, a pull-out device having grippers formed of two or more
25 members, one of which at least is movable, the movable member or members being composed of a bell-crank lever or levers, one arm of such lever being adapted to have the wire rest thereon. 30

3. In a wire-barbing machine, a pull-out wheel having grippers formed of two or more members, one of which at least is movable, the movable member or members being actuated to grip the wire by the pressure of the
35 wire thereon caused by the tension on the wire, a twister, and a yielding butterfly-wheel between the pull-out wheel and the twister.

In testimony whereof I have hereunto set
40 my hand.

WILLIAM H. FARRELL.

Witnesses:

I. L. HUGHES,
JOHN D. MILLER.