

No. 636,697.

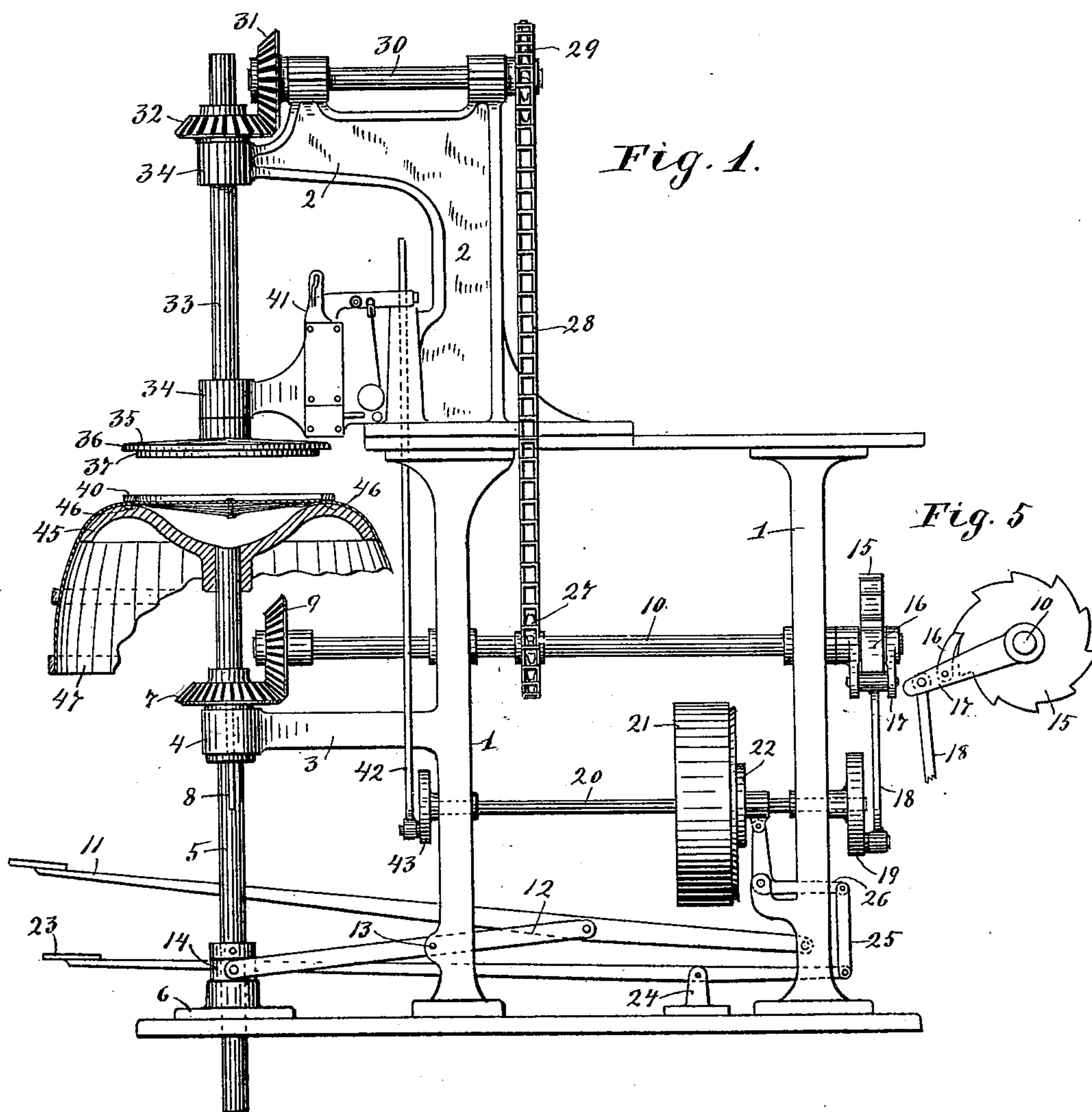
Patented Nov. 7, 1899.

W. C. SCHAEFFER.
BASKET MAKING MACHINE.

(Application filed Jan. 24, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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2 Sheets—Sheet 2.

Fig. 2.

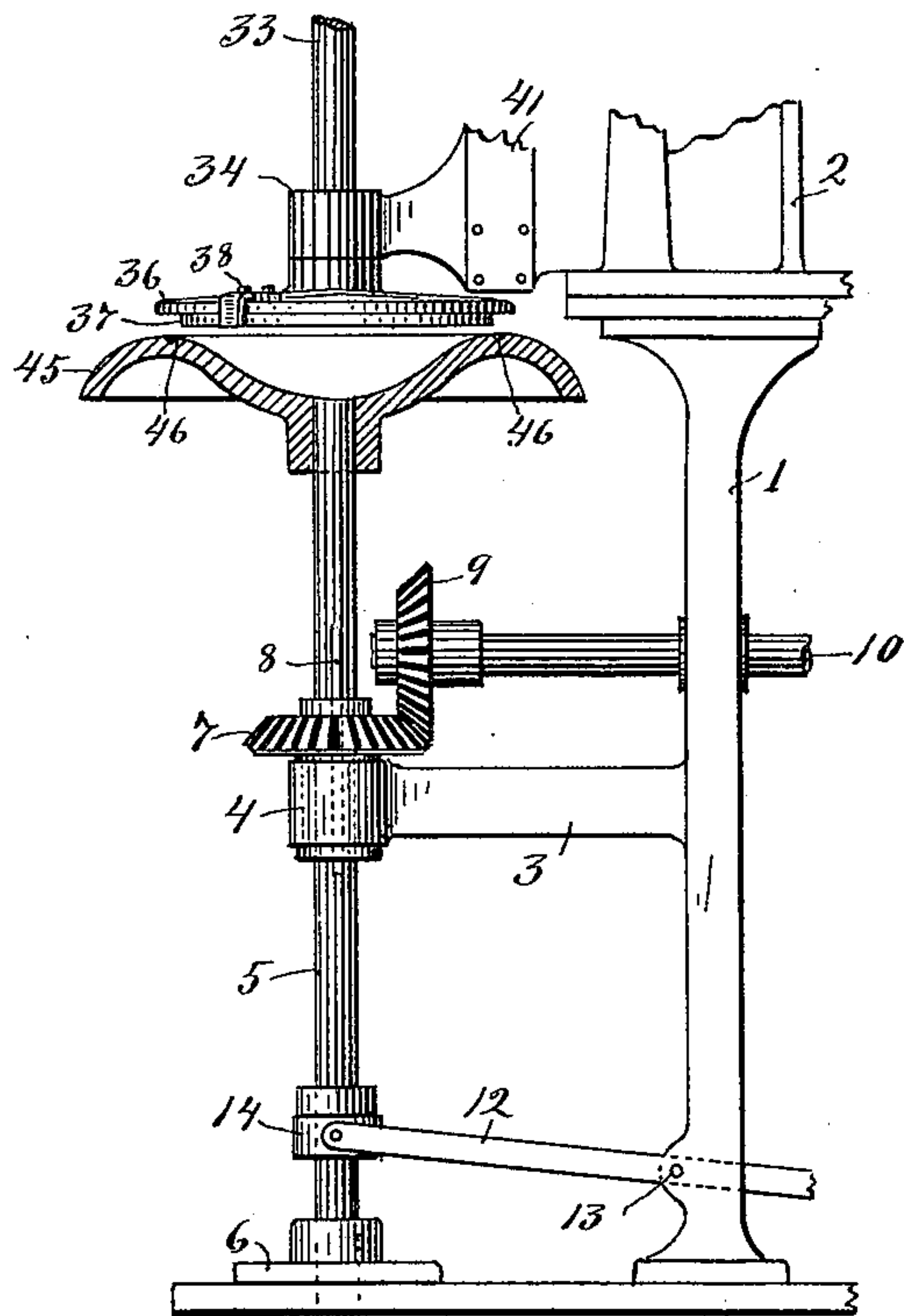


Fig. 3.

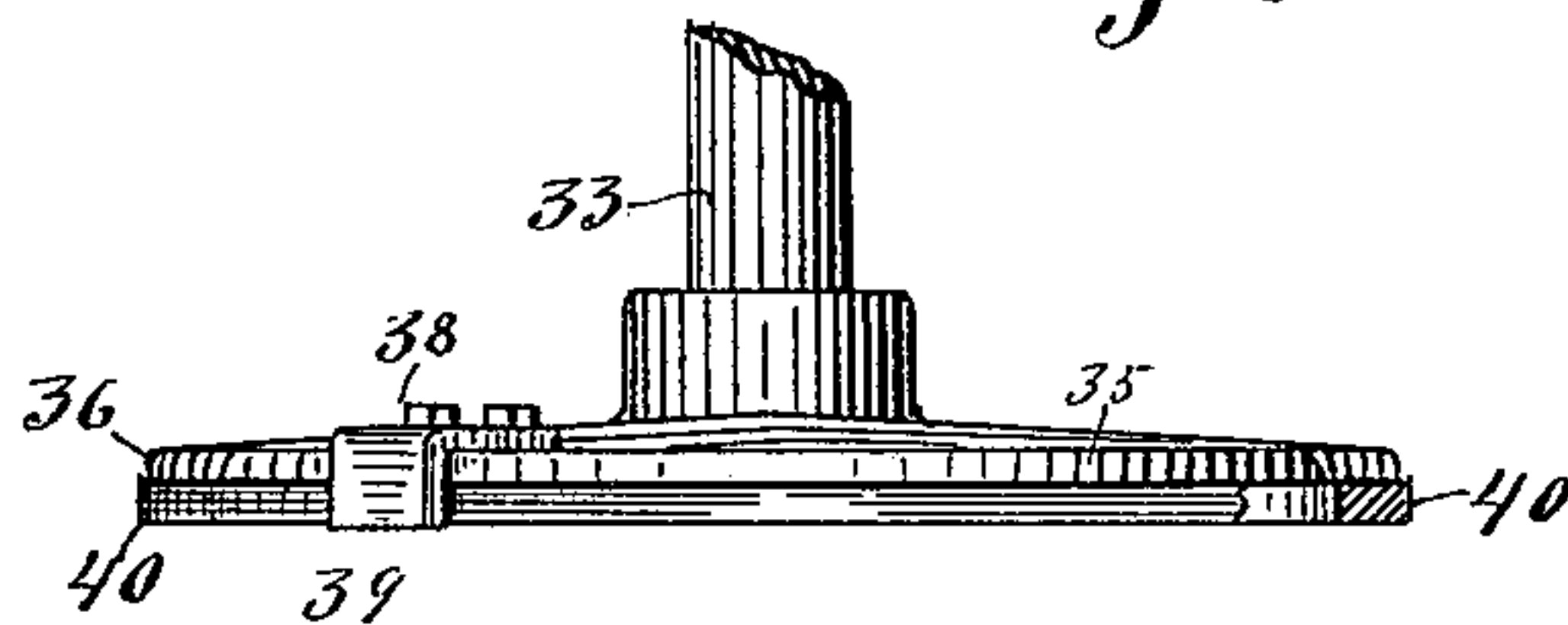
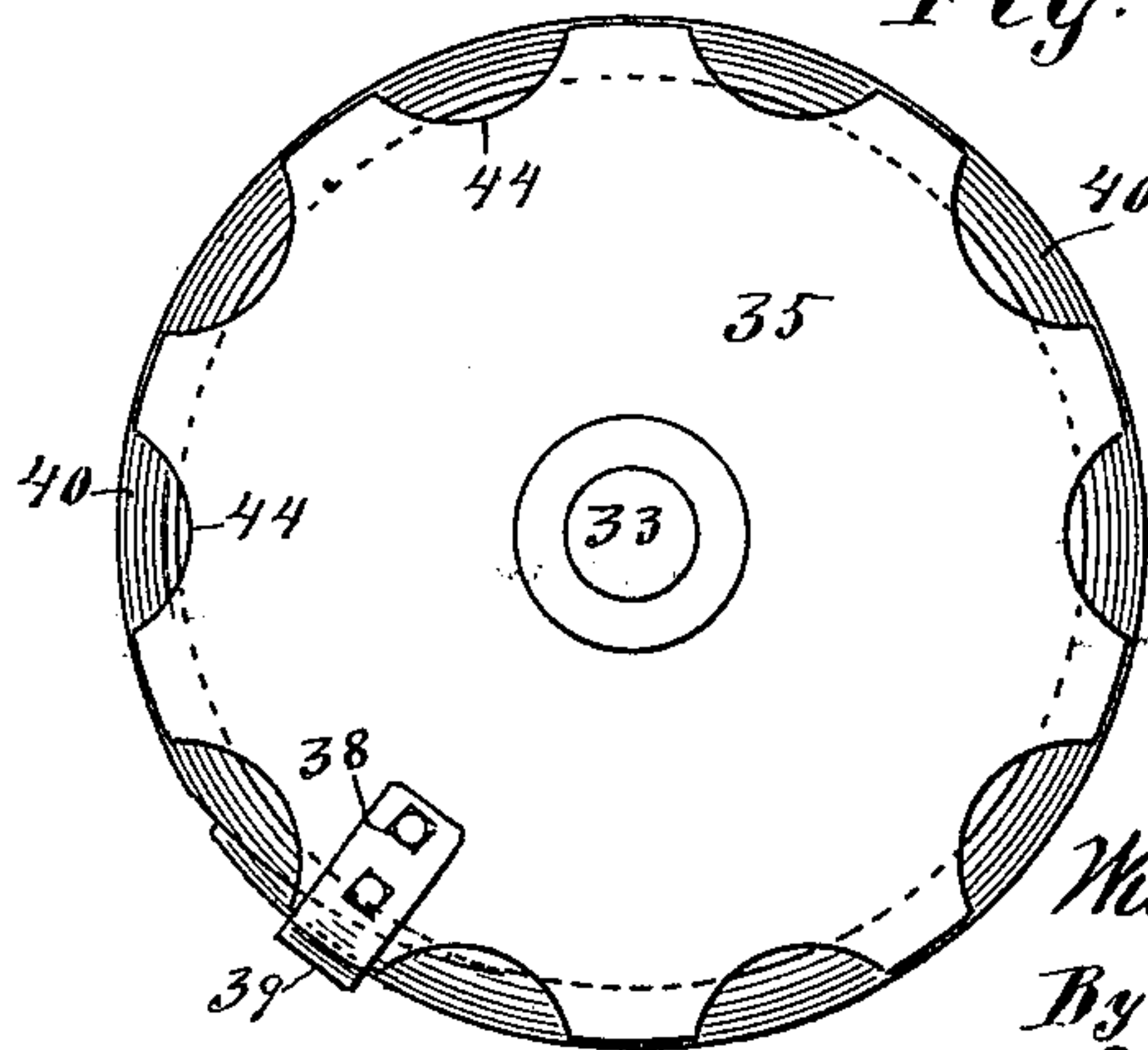


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM C. SCHAEFFER, OF MENOMONIE, WISCONSIN, ASSIGNOR TO THE
COFFIN'S BOX AND LUMBER COMPANY, OF MINNESOTA.

BASKET-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 636,697, dated November 7, 1899.

Application filed January 24, 1899. Serial No. 703,227. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. SCHAEFFER, a citizen of the United States, residing at Menomonie, in the county of Dunn and State of Wisconsin, have invented a certain new and useful Improvement in Basket-Making Machines, of which the following is a specification.

My invention relates to machines used in making baskets, and particularly to the making of baskets formed of staves or splints; and the object of my invention is to provide an operative mechanism for placing and fastening a hoop on the bottom of a basket.

My improvements, generally stated, comprise devices for supporting a basket in position to receive the hoop, devices for holding and properly presenting the hoop to the basket, devices for driving and clenching staples while the basket and hoop are stationary, and mechanism for intermittently rotating the basket and hoop to present new portions to the staple-driver.

My improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly sectional, of the improved machine, showing a hoop in place on the bottom of the basket and the basket-holder at its extreme movement away from the stapling device and hoop-holder. Fig. 2 is a like elevation of a portion of the machine, showing the basket-holder at its opposite extreme of movement—that is, nearest the stapling device and hoop-holder. Fig. 3 is a side elevation of the hoop-holder detached. Fig. 4 is a plan view of the same, and Fig. 5 is a detail of the ratchet-and-pawl devices for producing timely intermittent rotation of the basket and hoop-holder and a consequent step-by-step feed of the work to the staple-driver.

In such drawings, 1 designates the main frame, and 2 the superposed frame for supporting the hoop-holder and stapling devices. A lateral arm 3 of the main frame provides a bearing 4 for a vertical shaft 5, the lower portion of which has a second bearing 6 on the base of the machine-frame or on the floor on which the machine stands, the lower end of the shaft projecting through the base or floor. On the top of the shaft is mounted an anvil

having a suitable concavo-convex upper surface for receiving an inverted basket. A beveled gear 7, mounted on the box 4, is adapted to rotate the shaft 5 by engagement of an interior feather in a longitudinal slot 8 in the shaft. Thus the shaft is capable of being reciprocated without affecting its capability of rotation. For rotating the shaft a second beveled gear 9 is arranged in mesh with the gear 7 and is carried on a horizontal shaft 10, which is mounted in bearings provided on the machine-frame. The shaft 5 is given vertical movement when desired by the operation of a foot-lever 11, pivoted at its inner end to the frame 1 and at an intermediate point to a lever-arm 12, which engages a fulcrum-pin 13 on the frame 1 and has its outer end forked and connected by pivots to a collar 14, that is secured on the shaft 5. By these means pressure on the foot-lever 11 will cause the forward end of the arm 12 to rise and carry with it the vertical shaft and the anvil it supports.

To produce intermittent rotation of the shaft 10 and corresponding rotary movements of the anvil, a ratchet 15 on its outer end is engaged by a pawl 16 on a swinging carrier 17, loosely supported on the shaft 10. This carrier is connected by a crank-arm 18 to a crank-disk 19 on the driving-shaft 20. Thus the rotation of the driving-shaft will cause step-by-step movements of the ratchet-and-pawl devices and consequent intermittent rotary movements of the shaft 10.

On the driving-shaft is a loose pulley 21, connected by a belt (not shown) to a source of power, and a clutch 22 is provided for controlling the rotation of the shaft. This clutch is operated by a foot-lever 23, that is fulcrumed on a post 24 and has its end connected to a vertical arm 25, which in turn is connected to an angular arm 26, that is pivoted to the clutch. Pressure on the foot-lever will cause engagement of the clutch and pulley, and a spring may be provided for releasing the engagement when the foot-pressure ceases, so that the operation may be under the control of an operator.

On the shaft 10 is a sprocket-wheel 27, that is connected by a chain 28 with a sprocket-wheel 29 on a shaft 30, mounted in bearings

on the upper frame 2. The opposite end of this shaft has a beveled gear 31 in mesh with a corresponding gear 32 on a vertical shaft 33, which has bearings 34, formed on lateral arms of the frame 2. It will be obvious that as the rotation of the shaft 10 is intermittent the rotations of the vertical shafts 5 and 33 may be made to correspond with each other and be controlled by the successive partial rotations of the shaft 10.

On the lower end of the shaft 33 is secured a disk 35, having a flanged portion 36 projecting laterally beyond the vertical flange or body 37, and at one edge of the disk is secured a catch 38, having a downturned portion 39, and these parts constitute the hoop-holder for holding a hoop temporarily in place while it is being stapled on the basket-bottom. A hoop 40 may be bent around the flange 37 and its ends passed under the portion 39 of the catch and so held in place until stapled to the basket.

An ordinary staple forming and driving machine (indicated at 41) is provided on the upper frame and is operated to drive staples by its connection with a crank-arm 42, connected to a disk 43 on the driving-shaft 20. The arrangement illustrated provides for the operation of the plunger for driving a staple at each revolution of the driving-shaft, and the ratchet and pawl and bevel-gears and chain-driving devices are so proportioned that each revolution of the driving-shaft will produce a tenth-revolution of the shafts 5 and 33, and so present the hoop and basket in proper relative positions and at suitable intervals to receive ten staples. It will be obvious that this apportionment of the movement of the parts can be readily varied to meet the requirements of different kinds of work by means well understood among mechanics. In order to provide space for the staple and its plunger, the disk-flange 36 may be cut away at intervals, as shown at 44, without affecting its usefulness as a holder for the hoop. The anvil 45 may have a circular groove 46 on its upper surface to receive the points of the staples as they are being driven and turn and clench them.

In operation a basket 47 is placed on the anvil when in its lower position, and a hoop having been put in suitable place in the holder, as shown in Figs. 3 and 4, the foot-lever 11 is then pressed down to raise the basket-holder (from the position shown in Fig. 1 to that shown in Fig. 2) to position to receive the hoop. The clutch-lever is then operated to start the machinery for intermittently rotating the hoop and basket and driving a staple during each period of rest of these parts, and this operation is continued until the desired number of staples has been driven, when the driving mechanism is stopped, the basket-holder lowered, and the basket removed. The time and expense of securing such hoops in place by manual labor are thus avoided, and

the hoops are not only more quickly put on but are placed with more uniformity and more firmly secured than by ordinary methods.

Having described my invention, what I claim is—

1. In a basket-making machine, a basket-holder, a hoop-holder for engaging portions only of a hoop and leaving other portions exposed to receive staples, means for reciprocating one of them to bring the hoop to contact with the basket-bottom, means for rotating both the basket and hoop intermittently, and a mechanism for driving staples at intervals through or astride the exposed portions of the hoop and through the basket-bottom, substantially as set forth.

2. In a basket-making machine, a rotatable vertical shaft, a holder thereon for an inverted basket, a rotatable hoop-carrier, means for moving the basket to contact with the hoop, means for giving both the basket-holder and hoop-carrier positive coincident step-by-step rotary movements, and a staple-driving mechanism arranged to drive staples through or astride the hoop and through the basket-bottom at suitable intervals, substantially as set forth.

3. In a basket-making machine, a vertical shaft, a holder thereon for an inverted basket, means for moving the shaft axially at will and means for rotating it intermittently; in combination with a hoop-holder having means for engaging a hoop from the inside and portions only of its nailing-surface, leaving free spaces for the operation of a nailing mechanism, and a mechanism for driving staples into or astride such exposed portions of the hoop and through the basket-bottom, substantially as set forth.

4. In a basket-making machine, a hoop-holder providing a ring or cylindrical body for engaging the inside of a hoop, projecting portions for engaging the upper-hoop surface at intervals and a catch for temporarily holding the hoop in place on the ring; in combination with a basket-carrier and means for moving it to bring the hoop and basket-bottom in contact, and mechanism for driving successive staples into or astride the exposed portions of the hoop and through the basket-bottom, substantially as set forth.

5. In a basket-making machine, a basket-holder, a hoop-holder, means for reciprocating one of them to bring the hoop to contact with the basket-bottom, means for positively rotating both the hoop-holder and basket-holder intermittently and coincidently with each other, and a mechanism for driving staples at intervals through or astride the hoop and through the basket-bottom and clenching them, substantially as set forth.

In testimony whereof I have hereunto set my hand this 9th day of January, 1899.

WILLIAM C. SCHAEFFER.

In presence of—

J. R. MATHEWS,

M. J. MATHEWS.