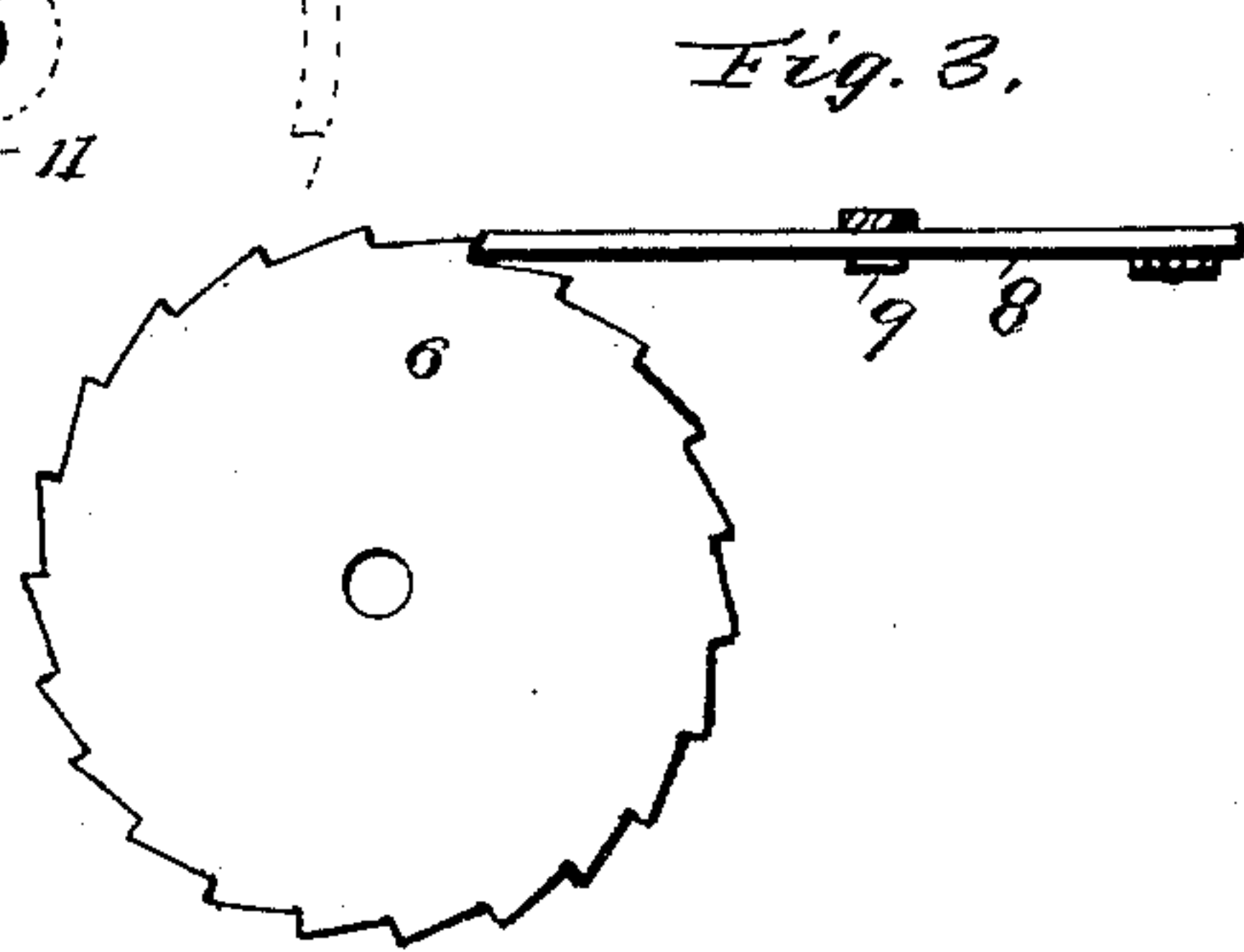
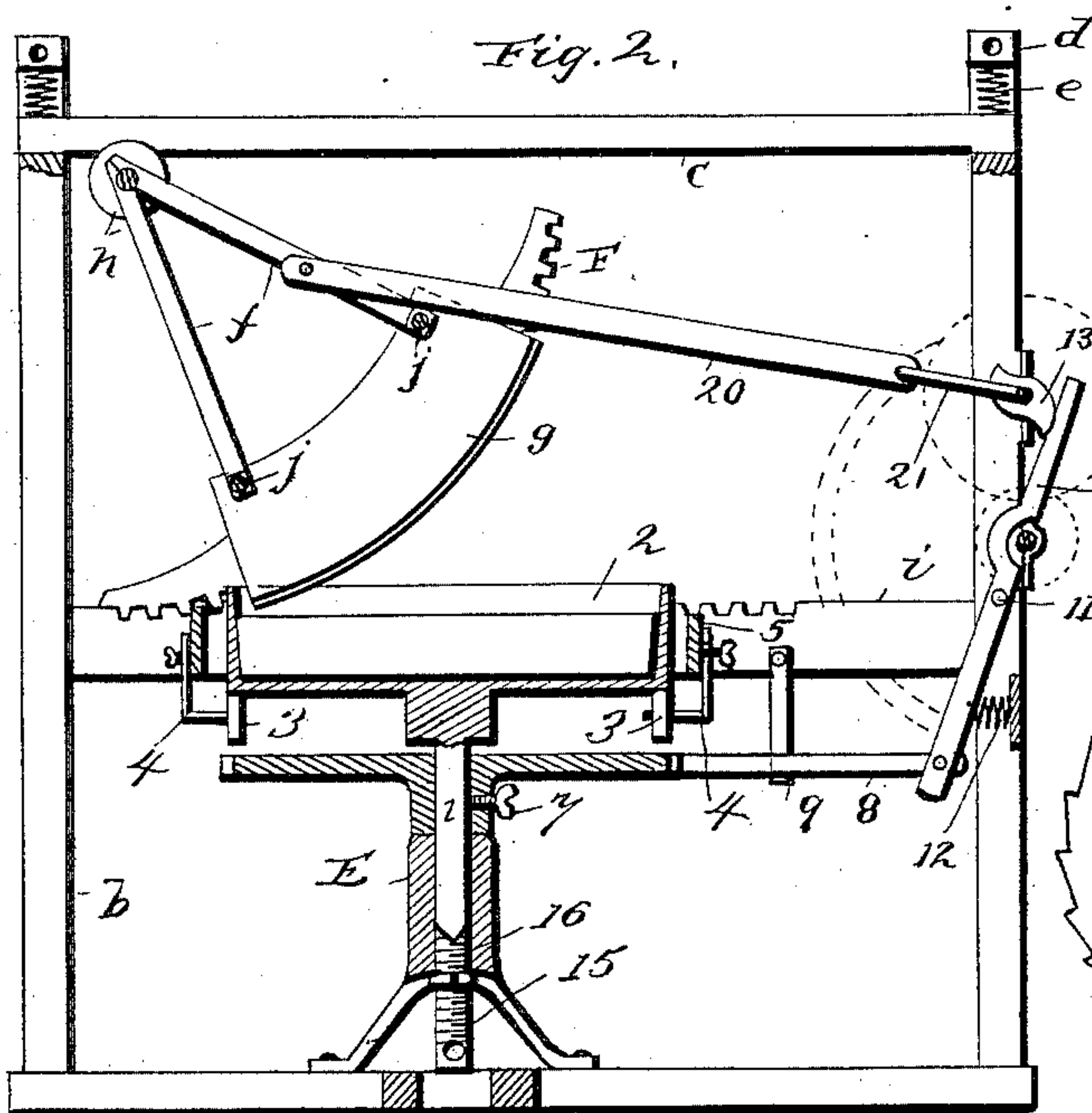
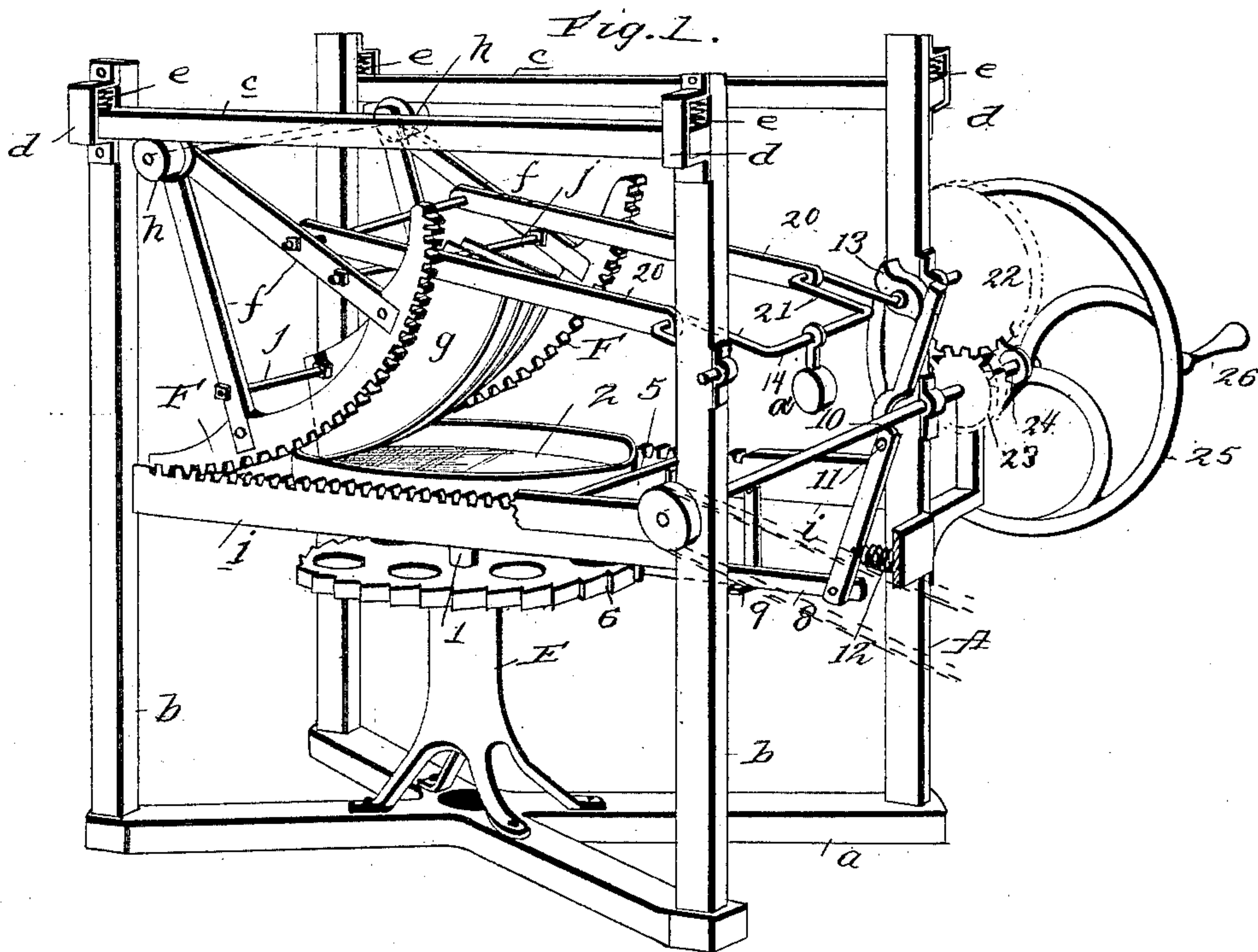


(No Model.)

R. SCHWAHN.
SAUSAGE MACHINE.

No. 442,242.

Patented Dec. 9, 1890.



Witnesses:
O. Gaeder
Thomas E. Tufin

Inventor
Rudolph Schwahn
James B. Shuey
Attorney

UNITED STATES PATENT OFFICE.

RUDOLPH SCHWAHN, OF EAU CLAIRE, WISCONSIN.

SAUSAGE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 442,242, dated December 9, 1890.

Application filed September 12, 1890. Serial No. 364,723. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH SCHWAHN, a citizen of the United States, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented certain new and useful Improvements in Sausage-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to improvements in machines for chopping meats and other substances, such as used in making sausage; and its object is to construct a machine in a novel form to avoid objections common to many machines of this class.

I aim to provide an improved machine which will uniformly and thoroughly chop and reduce large and small pieces to a condition suitable for various culinary purposes, which machine will run quietly and with ease and smoothness, require a limited exertion for its successful operation by the attendant, obviate to a considerable extent roughening or chopping the surface of the bed or block by having the same to present new surfaces to the knives, is easily and readily adjusted for service, and embodies in its structure the desirable features of simplicity, effectiveness, and power.

With these and other ends in view my invention consists in the combinations of devices and peculiar construction and arrangement of parts, as will be hereinafter fully described and claimed.

To enable others to understand my invention, I will now proceed to a detailed description thereof in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a meat-chopping machine embodying my invention. Fig. 2 is a sectional view taken centrally through the chopping block or bed, with other parts of the machine in side elevation. Fig. 3 is a detached detail view of the feeding mechanism for the chopping-block.

Like letters and numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

A designates the main frame of my im-

proved meat-chopping machine, which frame consists of a suitable base *a*, the uprights *b*, and the horizontal presser and guide bars *c c* for the oscillating chopping mechanism. The horizontal bars *c c* are arranged on opposite sides of the main frame at the upper ends of the uprights thereof, and the ends of said bars are fitted in suitable bearings or brackets *d d*, affixed to the standards, the bars being normally pressed down by means of the springs *e*, which are placed in the bearings or brackets and which bear or ride upon the bars, as shown.

Arranged centrally within the main frame is an upright bearing *E*, which is suitably fixed to the base of the said main frame, and in this central hollow bearing is loosely journaled a vertical shaft 1, which is free to turn or rotate in said bearing and which carries the chopping block or bed 2, that is arranged horizontally on the upper end of the shaft. The chopping block or bed is arranged within a pan which is rigid with the vertical shaft, and said block or bed rides or bears upon friction-rollers 3, which provide a peripheral support for the bed and which are loosely journaled on the depending arms or brackets 4, secured or clamped to the fixed transverse bars 5 of the main frame *A*.

To the central vertical shaft 1, below the chopping block or bed 2, is rigidly secured a toothed wheel or disk 6 by means of a set-screw 7, operating in a threaded aperture in the hub of the said toothed disk or wheel, and with this wheel engages a feeding arm or pawl 8, which works in a fixed guide 9 on the main frame, the said feeding arm or pawl being pivoted at its other end to the lower extremity of an upright lever 10, fulcrumed at an intermediate point of its length on the main frame, as at 11. The upper end of the lever 10 is arranged in the path of a tappet or cam 13 on the crank-shaft 14, which carries a weight *a'*, and said lever is held in said position by a retracting-spring 12, so that the lever is always in position to be actuated by the cam, and thus operate the feed mechanism to rotate the chopping-bed.

The chopping-block is capable of vertical adjustment by means of a vertical screw 15, operating in a threaded portion or nut 16 at

the base or lower end of the central vertical bearing E, and the upper end of this adjusting-screw is recessed or provided with a depression, in which the lower extremity of the vertical shaft is stepped, so that the shaft has a bearing on the adjusting-screw as well as in the central support E. The lower extremity of the adjusting-screw extends below the central bearing E, and said extended portion of the screw has an aperture or is otherwise constructed to receive an implement for turning the screw with facility. By means of this adjusting-screw the height or elevation of the chopping block or bed in relation to the oscillating chopper can be varied, according to the pressure it is desired to have the chopper exert on the bed; but the adjustment is primarily provided for the purpose of compensating for wear in the bed as its surface is cut up by the action of the knives thereon.

F designates the oscillating chopper, which consists of the side pieces *ff* and the segmental knives *g*, attached to the sides of the chopper and arranged between the same. This oscillating chopper has an upper bearing and a lower bearing for causing the chopper to operate true in relation to the bed and for preventing any sidewise or lateral motion or displacement of the chopper to insure its easy and smooth operation. The upper bearing of the chopper is attained by arranging the grooved friction-rollers *h h* on the upper portion of the sides *ff* to ride or travel on the lower sides of the horizontal bars *c c*. The lower bearing is secured by providing the segmental cog or gear teeth on the sides *ff* of the chopper and causing the toothed portions to engage with fixed rack or toothed bars *i i*, which bars are arranged horizontally beneath and parallel with the upper guide-bars *c c* of the main frame A, said rack or toothed bars being rigidly secured to the uprights of the main frame in any suitable manner.

It will be noted that the chopper is free to rock or oscillate as it engages with the upper and lower bearings or guides provided therefor, that the said guides cause the chopper to move in a straight line and to act uniformly and evenly on the contents of the chopping-block, and that the desired pressure on the chopper to effect the cutting of the meat, &c., is secured by means of the springs *d d* on the upper bars *c c*. Should a bone or other hard substance be contained in the meat on the chopping-bed, the upper bars and springs (one or all) will yield or give to the sudden elevation or lifting of the chopper, and thus obviate injury to the knives and to the other parts of the machine. The knives *g* are made segmental on their cutting-edges, and they are arranged concentric with the curved toothed portion of the sides *ff* of the chopper; but the cutting-edges of the knives are arranged or situated within and above the toothed edges of the sides *ff* of the chopper, so that the knives do not come in contact with the chopping-block when the chopper is raised.

(See Fig. 2.) This arrangement and adjustment is advantageous, for the reason that the chopper-block is rotated or turned slightly by its feeding mechanism while the knives are in their elevated positions, and thus the meat on the block is not scraped off by the knives acting thereon when the chopper block or bed is rotated. I may employ any desired number of knives, and I do not restrict myself to the use of the series of any particular number of said knives. The knives are secured to the transverse rods or bars *j j*, and said rods or bars are in turn firmly secured to the sides *ff* of the chopper.

The chopper is actuated by means of the links or pitmen 20 20, which are pivoted to the sides *ff* of the chopper and connected to the cranks 21 of the shaft 14, and said shaft is suitably journaled in bearings on the main frame A. One end of the shaft is extended beyond its bearing, and to this extended end of the shaft is secured a driving-pinion 22, which meshes with another pinion 23 on a short shaft 24, that is also journaled on the main frame. This short shaft carries the fly or balance wheel 25 and the handle or crank 26, by which hand-power is applied to the machine. Said shaft 24 also carries a pulley on its opposite end to receive a drive-belt, as shown.

This being the construction of my improved meat-chopping machine, the operation thereof is as follows: The meat to be cut is placed on the chopper block or bed and power applied to the short shaft 24, which in turn rotates the crank-shaft and through the pitmen oscillates the chopper. The chopper rocks or turns a limited distance as it is drawn over the bed by the crank-shaft in the first half-revolution, and thereby it is guided by the fixed racks engaging the toothed sides thereof and by the friction-rollers riding on the upper guide-bars, the springs on said bars *c c* serving to depress the chopper and cause it to act with a uniform pressure on the meat or contents of the bed. As the crank-shaft completes its revolution, the chopper is returned to its initial position with its knives raised above the contents of the bed, at which time the tappet or cam on the crank-shaft strikes the lever and forces the feeding arm or pawl forward, so as to turn the toothed disk or wheel a limited distance, thus bringing a new surface beneath the knives of the chopper, after which the chopper is again oscillated by the continued rotation of the crank-shaft and the operation repeated.

I am aware that changes in the form and proportion of parts and details of construction can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such modifications as fairly fall within the scope of my invention.

Having described my invention, what I claim is—

1. In a meat-chopping machine, the combi-

nation of a frame, the stationary guides thereon, having teeth on their upper sides, the movable yielding guides, also supported on said frame, an oscillating chopper having the toothed side pieces F to engage the lower guides and arranged between and connected to said movable and stationary guides, and a chopper block or bed arranged below the chopper, substantially as specified.

2. In a meat-chopping machine, the combination of a chopping block or bed, the stationary toothed bars or racks, the spring-pressed bars arranged above the stationary bars and substantially parallel therewith, the chopper having the toothed sides which engage with the racks, and the rollers engaging the spring-pressed bars, and means for actuating the chopper, substantially as specified.

3. In a meat-chopping machine, the combination of a chopping block or bed, the frame having the fixed rack-bars and the movable spring-pressed bars arranged above said rack-bars, the oscillating chopper having the segmental knives and the toothed segments engaging the rack-bars, the rollers carried by the chopper and engaging the spring-pressed bars, the crank-shaft, and pitmen intermediate of said shaft and the chopper, substantially as described.

4. In a meat-chopping machine, the combination of an oscillatory chopper, the crank-shaft connected thereto for operating the same, a rotatory chopping block or bed, the vertical shaft carrying said bed, the toothed wheel rigid with said shaft, the tappet 13, secured to the crank-shaft, the lever 10, pivoted in the main frame and having its upper end arranged in the path of the tappet, the feeding arm or pawl connected with the lower end of said lever, and a spring backing the lever below its pivotal point, substantially as specified.

5. In a meat-chopping machine, the combination of an oscillating chopper, a rotatory bed or block, a hollow bearing or support below the bed or block, a vertical shaft secured to or rigid with the bed or block, and an adjusting-screw working in the bearing and engaging with the shaft for moving said shaft and bed vertically, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

RUDOLPH SCHWAHN.

Witnesses:

J. T. BARBER,

F. H. L. COTTEN.