

W. J. MURPHY.
POWER STAMPING MACHINE.
APPLICATION FILED JUNE 20, 1910.

985,623.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

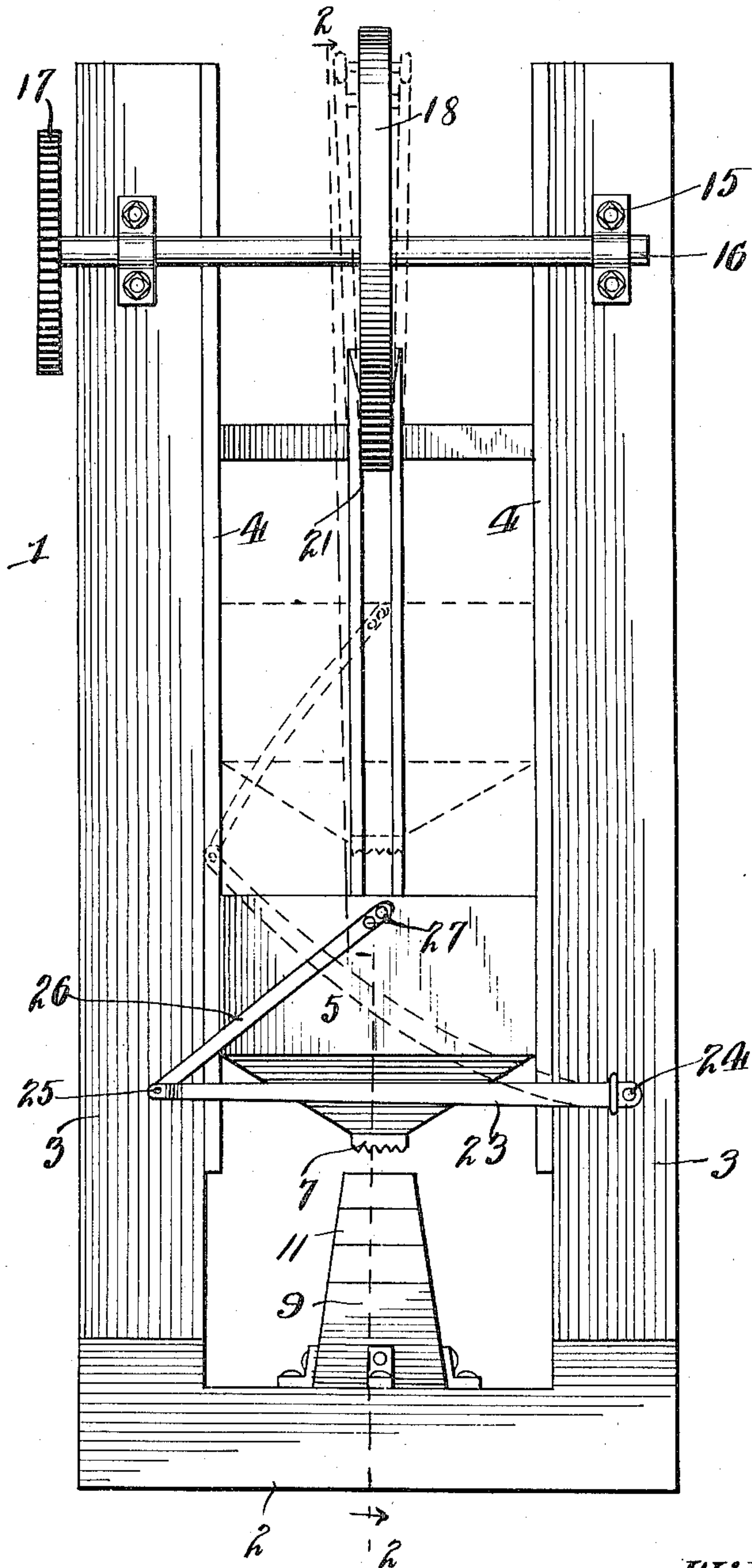
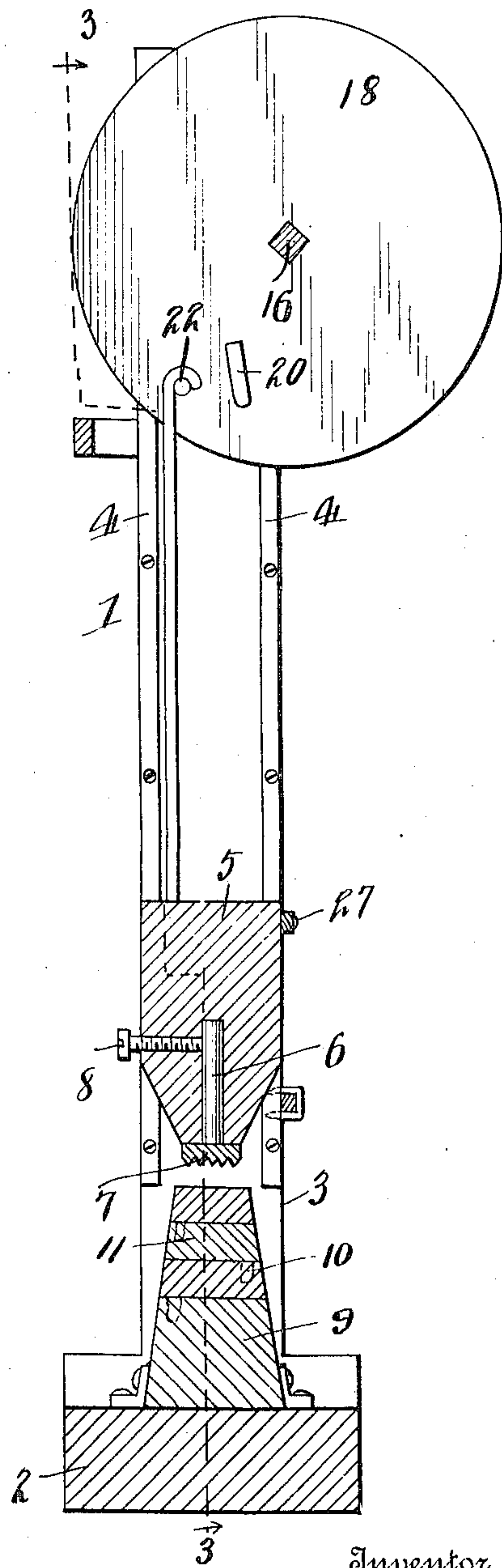


Fig. 2.



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985,623.

2 SHEETS—SHEET 2.

Fig. 3.

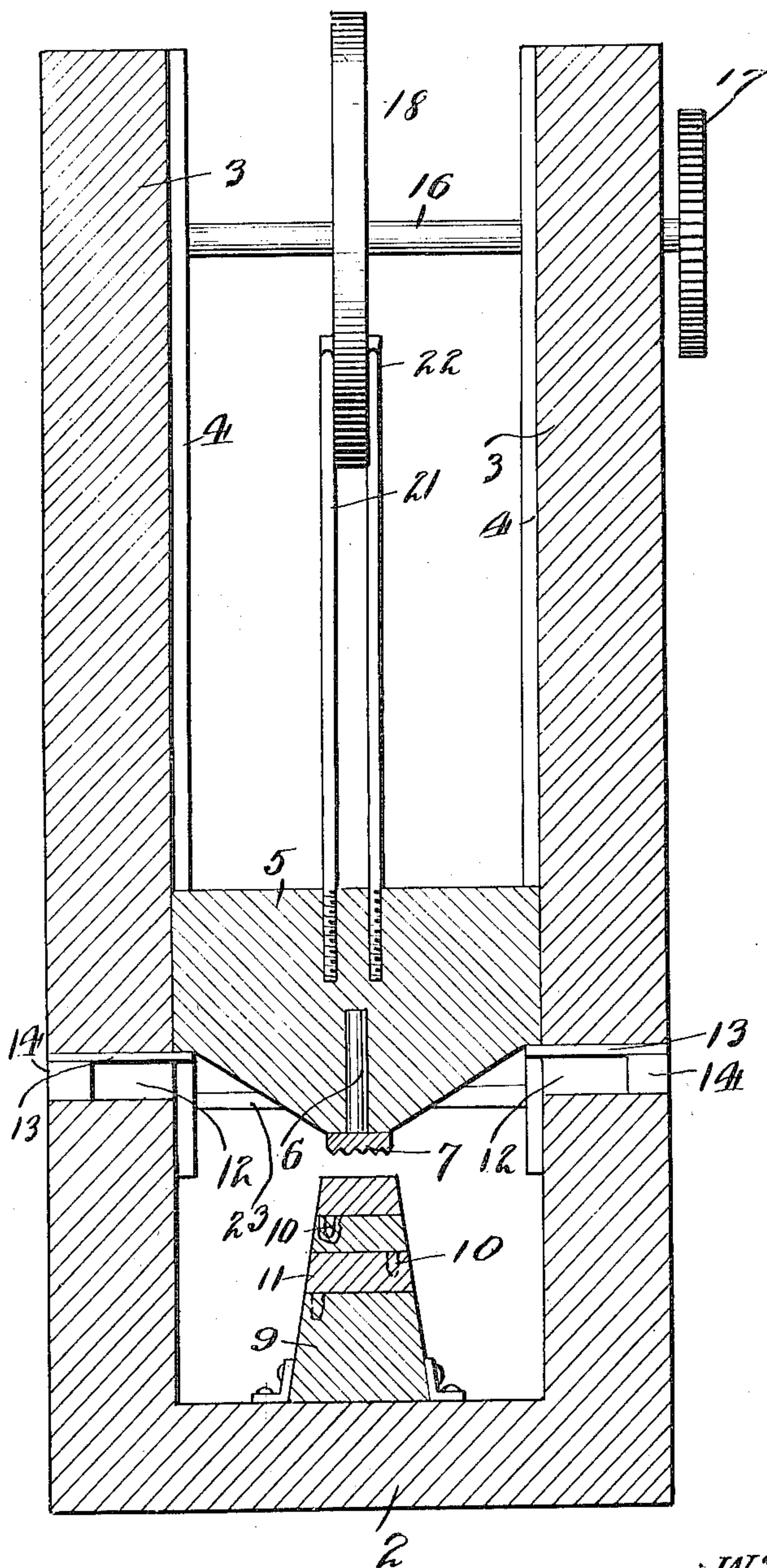


Fig. 4.

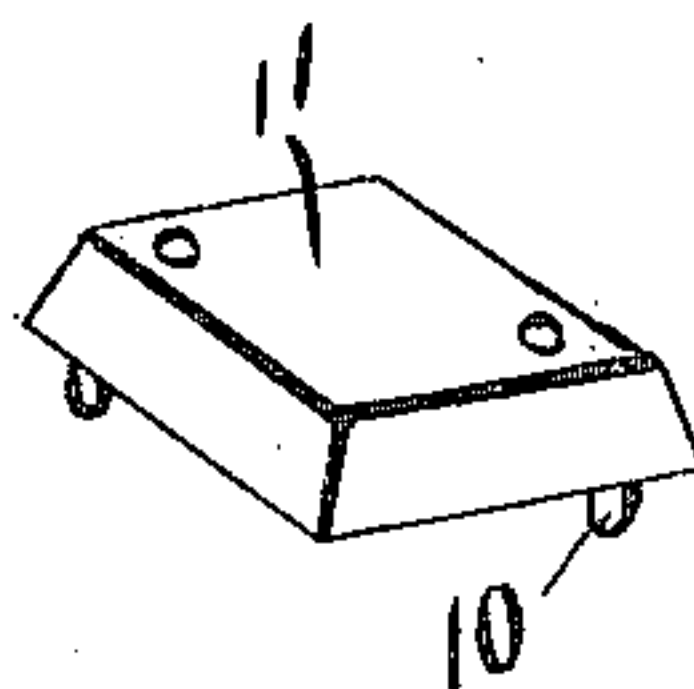
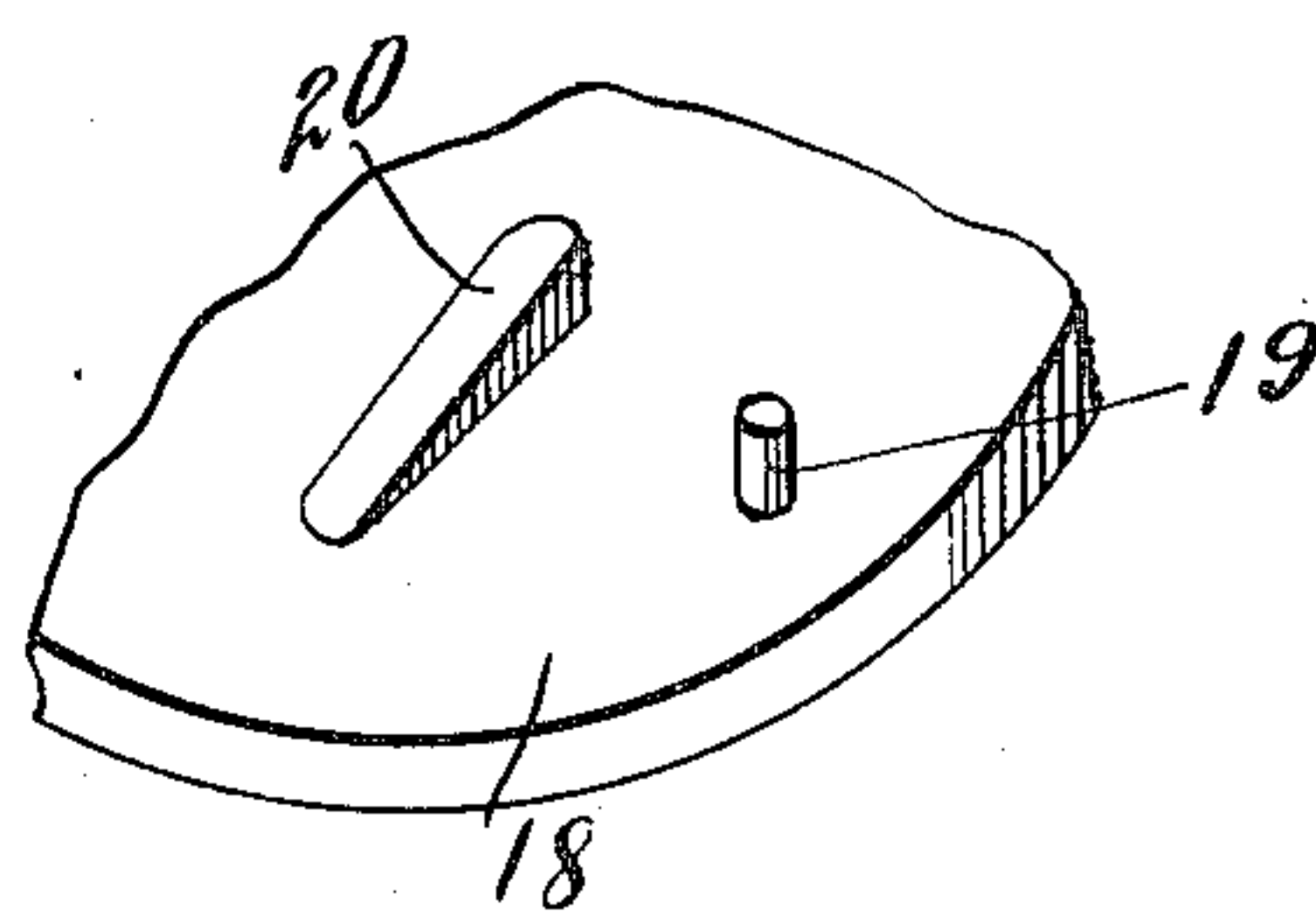


Fig. 5.



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POWER STAMPING-MACHINE.

985,623.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. MURPHY, a citizen of the United States, residing at Rosemount, in the county of Dakota and State of Minnesota, have invented new and useful Improvements in Power Stamping-Machines, of which the following is a specification.

This invention relates to metal stamping machines, and the object of the invention is to provide a machine of this character which is comparatively simple in construction, cheap to manufacture, and which will perform the functions for which it is intended with ease and accuracy.

With the above, and other objects in view which will appear as the description progresses, the invention resides in the novel construction and combination of elements hereinafter fully described and claimed.

In the accompanying drawings there has been illustrated a simple and preferred embodiment of the device, and in which:—

Figure 1 is a front elevation of a stamping machine constructed in accordance with the present invention. Fig. 2 is a vertical transverse sectional view upon the line 2—2 Fig. 1. Fig. 3 is a similar sectional view upon the line 3—3 of Fig. 2. Fig. 4 is a detail transverse view of one of the anvil blocks. Fig. 5 is a fragmentary perspective view of a portion of the die head lifting wheel.

In the accompanying drawings the numeral 1 designates the improved machine which comprises a frame member providing a base portion 2 from which rises in spaced relation with each other, a pair of vertical standards 3. These standards 3 have their adjacent faces grooved or otherwise provided with centrally arranged ways 4, and the said ways are adapted for the reception of suitable tongues arranged upon the sides of a die head 5. The said die head is constructed of some suitable metal of a sufficient weight and has all of its sides beveled toward each other adjacent its bottom and is centrally provided with a suitable opening which is adapted for the reception of a shank 6 carried by the die 7. The shank 6 is retained in position within the pocket provided by the head through the medium of a suitable threaded member 8, which is also carried by the head. The die 7 is positioned directly above an anvil 9 retained in any suitable manner upon the base por-

tion 2 of the frame. The anvil proper is provided with suitable openings upon its upper face which are adapted for the reception of pins 10 provided by suitable anvil blocks 11, and whereby the distance between the die 7 and the said anvil may be readily regulated, the die head being adapted to return to a predetermined position, after contacting the anvil or anvil blocks, in a manner hereinafter to be fully set forth. Each of the anvil blocks have their upper faces also provided with openings and their lower faces provided with pins adapted to engage within the openings, so that the said anvil may be built to any desired height in relation to the die 7.

The side beams 3 of the frame 1 are each provided with a transversely centrally arranged opening 12 positioned a suitable distance away from the base 2 of the frame, and the said openings are adapted for the reception of flattened flexible elements, designated by the numeral 13, which project a suitable distance within the ways 4 so as to contact the under face of the die head 5. The opposite ends of the elements 13 are sustained in position within the openings 12 through the medium of suitable blocks 14, and by this means it will be noted that when the die head 5 descends within the ways of the frame 1 the flexible elements 13 will be first contacted by the head and thus serve as a cushion for restricting the downward force of the said head as well as returning the head to its initial position after contacting the anvil or one of the anvil blocks.

One face of the standards 3 adjacent their upper ends is provided with suitable bearings 15 within which is rotatably mounted a driving shaft 16. The shaft 16 may be connected with any source of power and is provided upon one of its ends with a sprocket wheel or pulley designated by the numeral 17, while centrally positioned upon the said shaft between the standards 3 is what I term the head lifting wheel 18 of the device. This wheel 18 has both of its faces flattened and is arranged to rotate with the shaft 16. The flattened faces of the wheel are provided with oppositely arranged projecting pins 19 and with V-shaped projections or cams 20 arranged a suitable distance away from the said pins 19.

Connected, in any suitable manner, to the head 5 and projecting upwardly therefrom, are a pair of spaced, resilient, arms 21 which

are arranged in spaced relation with each other a distance equaling that of the width of the wheel 18 and each of which has its upper extremity offset or hooked as designated by the numeral 22. The arms 21 are of a sufficient length to always contact the faces of the wheel 18 and it will be noted that as the shaft 16 is rotated the pins 19 will be brought into engagement with the offset portions 22 of the arms 21 and the head 5 will be thus carried upwardly a suitable distance until the arms 21 are engaged by the cams 20 and thus caused to spread apart and be relieved from engagement with the pins 19, when the head 5 will, of its own weight, drop downwardly until the die 7 contacts the article to be stamped upon the anvil or the anvil blocks. The resilient elements 13, as previously described, will return the die to its initial position so as to allow for the insertion between the die and the anvil of a second article to be stamped and this process continues as long as the shaft 16 is revolved. In order to assist the head 5 in its downward movement I have provided a flattened spring member 23 which is normally arranged in a substantially horizontal plane and has one of its ends securely connected with one of the standards 3 as designated by the numeral 24, while its opposite end is pivotally connected as at 25 with a suitable link 26, which is also constructed of resilient material and which is rigidly connected at its opposite end with the block 5 as designated by the numeral 27. By this arrangement, it will be noted that the spring 23 will cause the head 5 to descend swiftly and with great force so as to surely and effectively impress the die upon the article in position upon the anvil.

From the above description, taken in connection with the accompanying drawings, it will be noted that I have provided a simple and thoroughly effective device for the purpose intended, and it is to be understood that while I have illustrated and described

the preferred embodiment of the improvement, as it now appears to me, minor details of construction, within the scope of the following claims, may be resorted to if desired.

Having thus described the invention what I claim as new is:—

1. In a device for the purpose set forth, a frame, an anvil upon the frame, a die head slidably mounted upon the frame, a shaft upon the frame, a wheel upon the shaft, projecting pins upon the faces of the wheel, offset cam members upon the faces of the wheel, and arms carried by the die head having their extremities offset and adapted to engage the pins and to be forced out of said engagement by the cams as the wheel is revolved.

2. In a device for the purpose set forth and in combination with a frame, of a die head mounted upon the frame, and means for raising and lowering the die head, resilient means connected with the frame and die head for assisting the latter in its descent, said means comprising a pair of spring elements, one connected with the frame, the second connected with the die head, and a pivotal connection between the two members.

3. In a device for the purpose set forth, the combination with a frame and die head upon the frame, means for raising and lowering the die head, upon the frame, said frame being provided with a pair of oppositely disposed openings, flattened resilient elements extending through the openings and adapted to lie in the path of the die head, said elements adapted to serve as cushions for partially breaking the fall of the die head and for returning the said die head to its normal initial position.

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

WILLIAM J. MURPHY.

Witnesses:

MARGARET SORENSEN,
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