

958,222.

G. H. BUDKE.
DUMP BUCKET.
APPLICATION FILED JUNE 10, 1909.

Patented May 17, 1910.
2 SHEETS—SHEET 1.

Fig. 1.

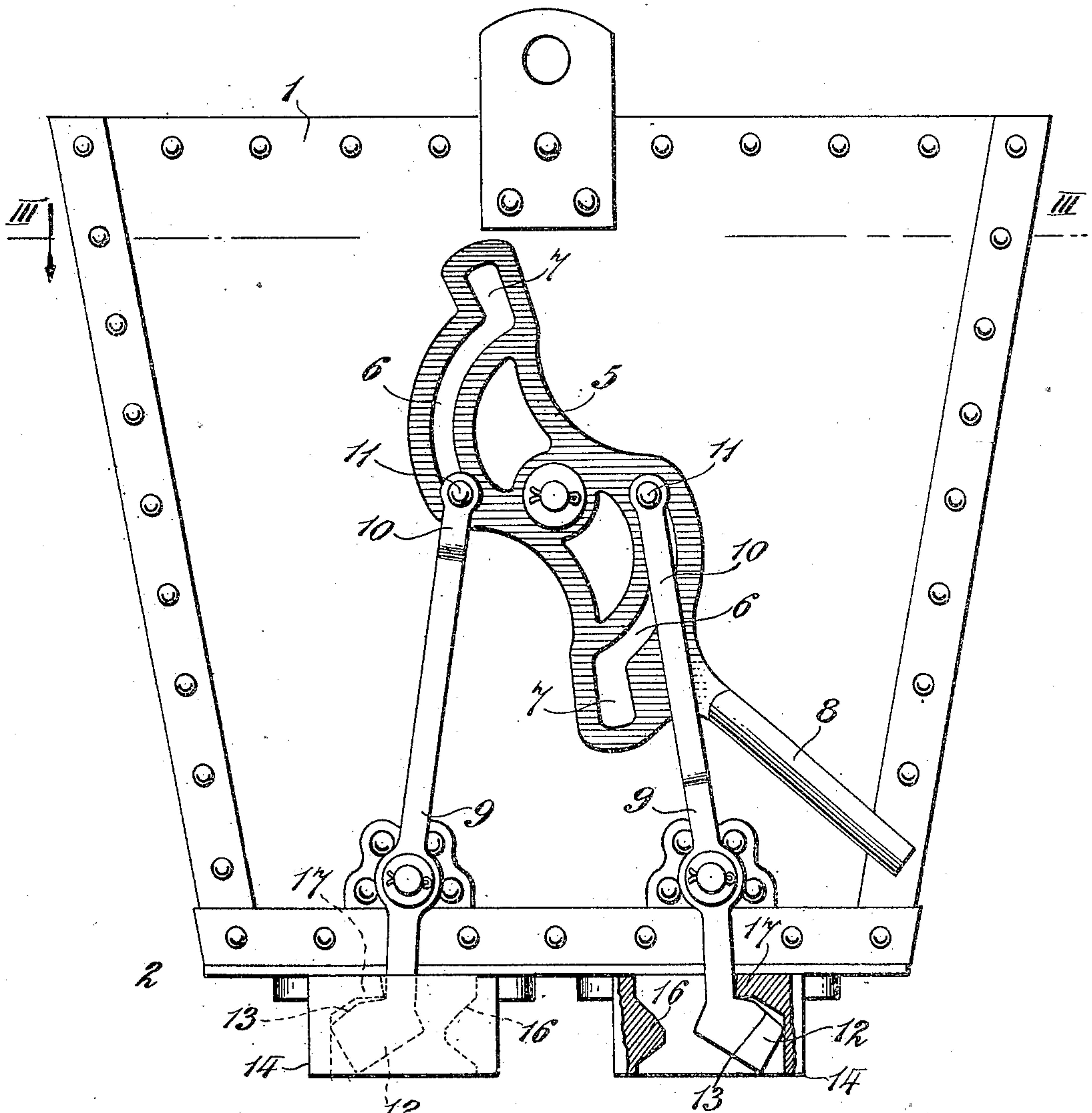
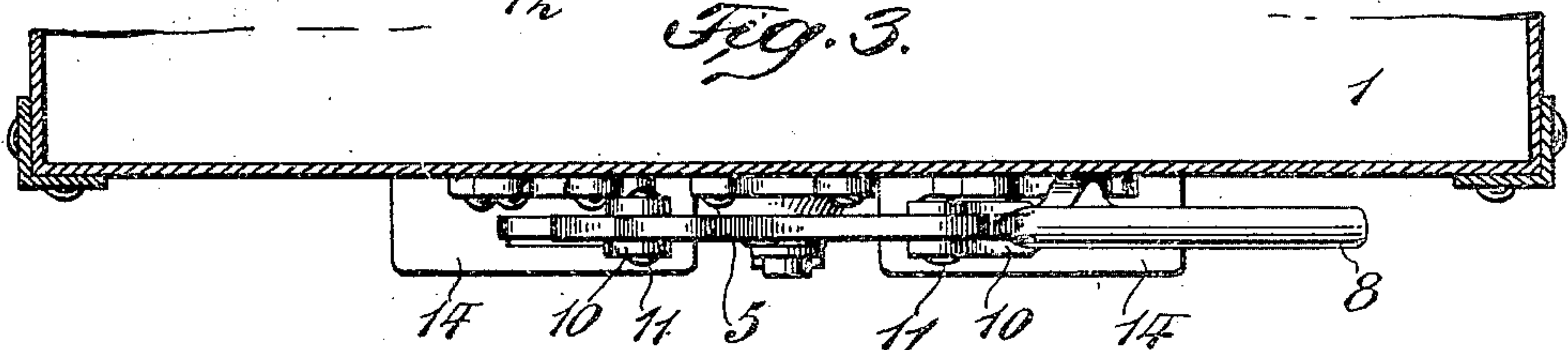


Fig. 3.



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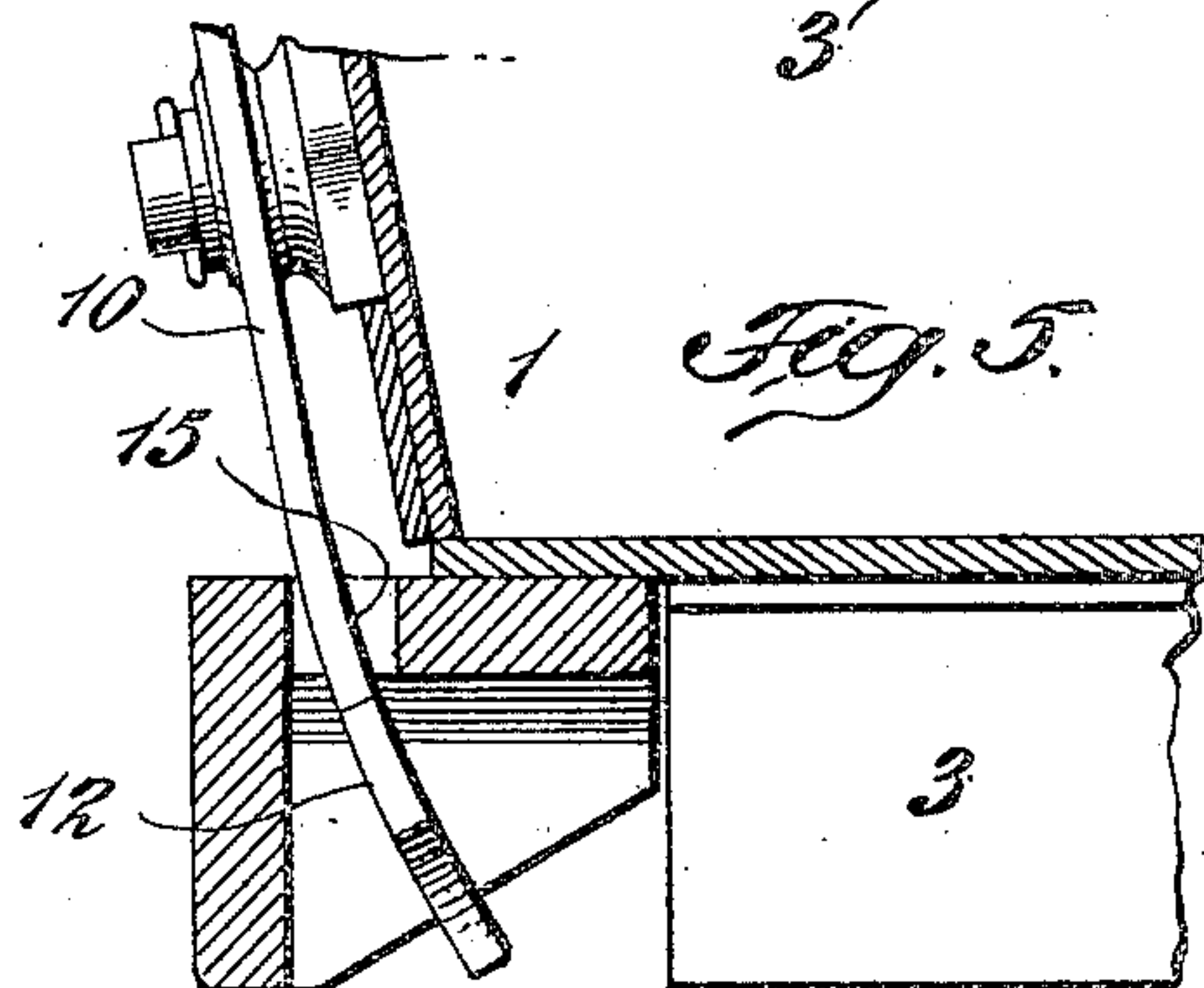
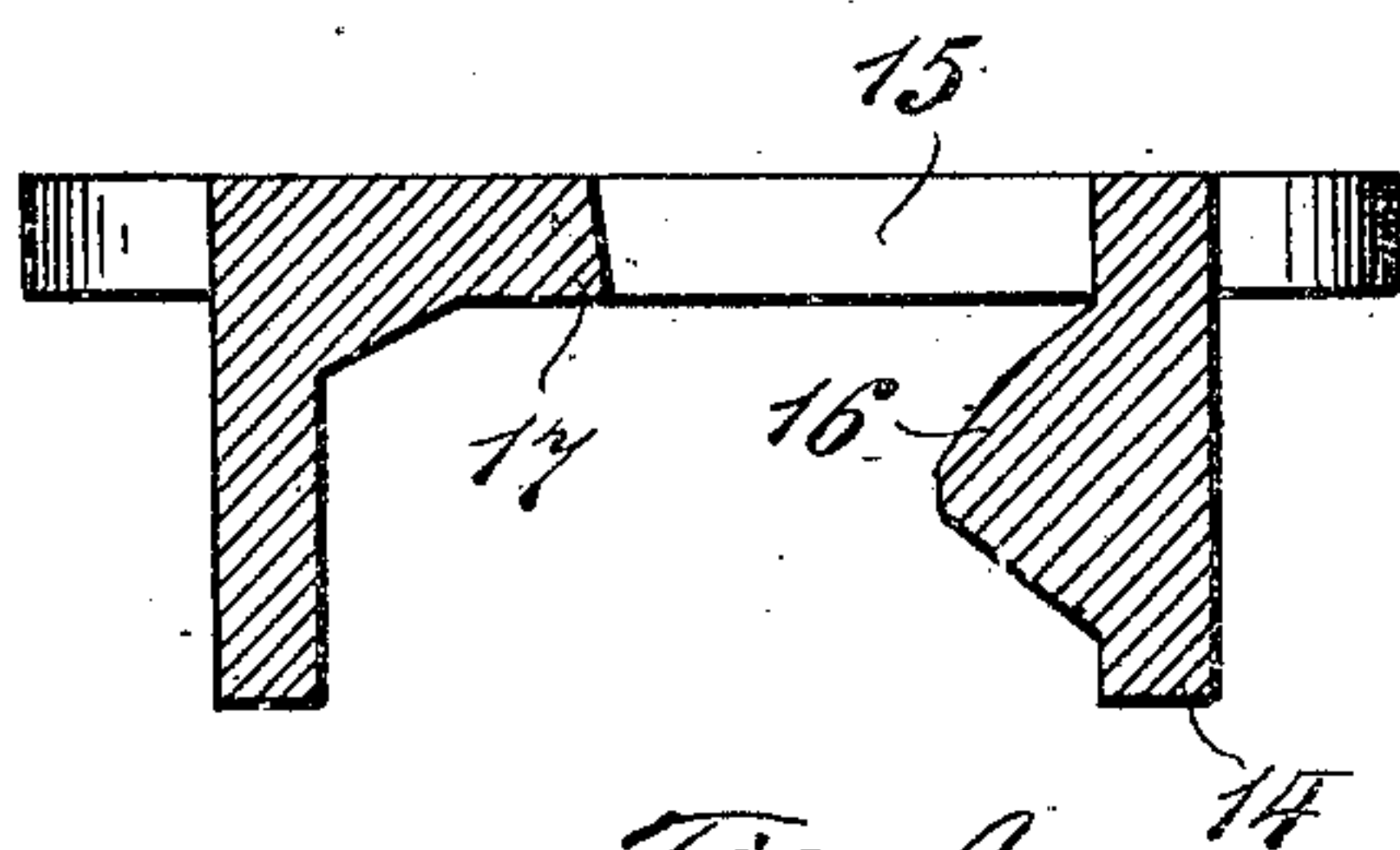
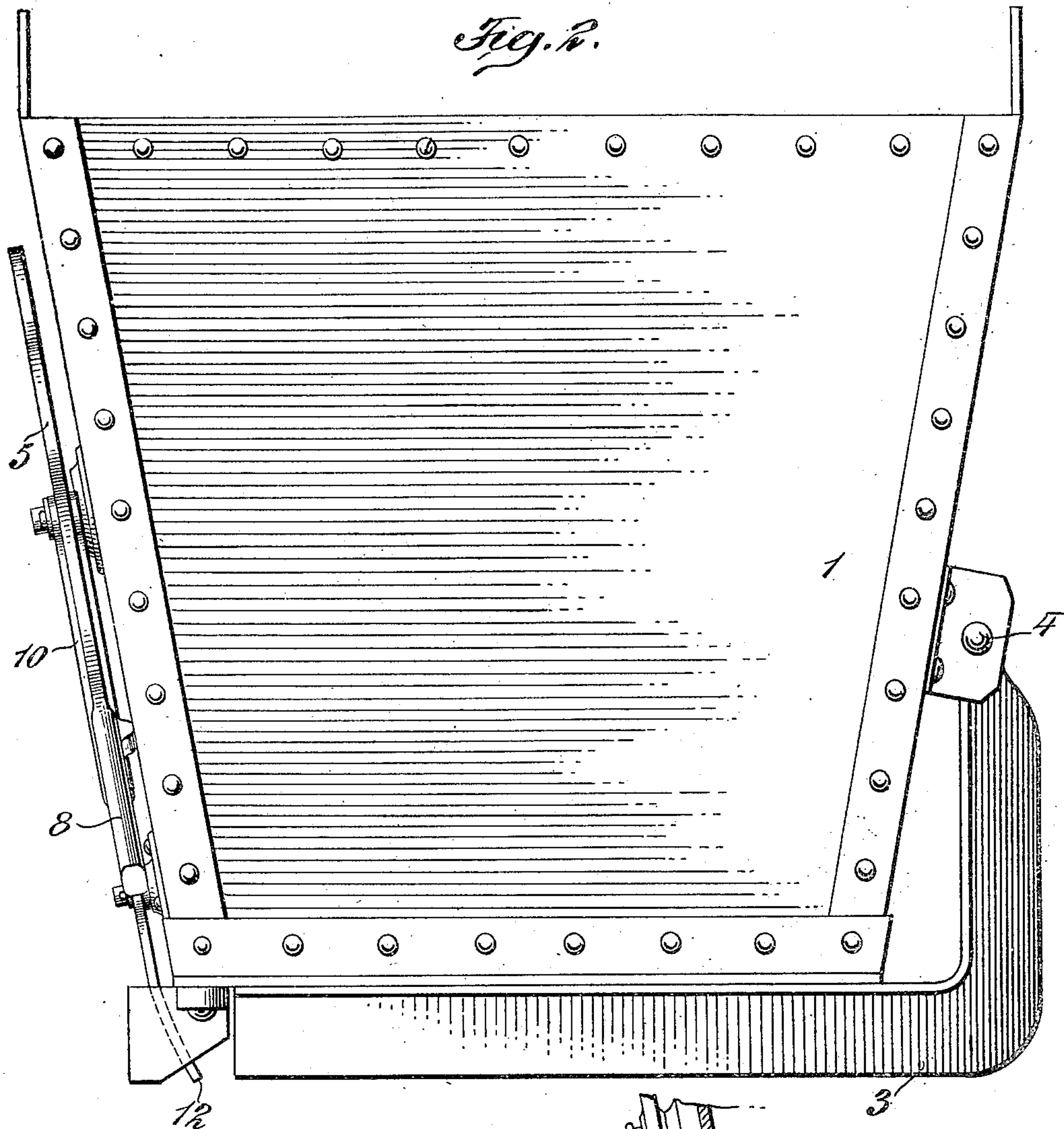
DUMP BUCKET.

APPLICATION FILED JUNE 10, 1909.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGE H. BUDKE, OF NANUET, NEW YORK.

DUMP-BUCKET.

958,222.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed June 10, 1909. Serial No. 501,232.

To all whom it may concern:

Be it known that I, GEORGE H. BUDKE, a citizen of the United States, and a resident of Nanuet, Rockland county, and State of New York, have invented certain new and useful Improvements in Dump-Buckets, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a front elevation of a dump bucket provided with my improved bottom locking and releasing means; Fig. 2 a side elevation; Fig. 3 a horizontal sectional view on the line III—III of Fig. 1, showing the bottom locking and releasing means in plan view; Fig. 4 a detail vertical sectional view of one of the latch sockets carried by the bottom; and Fig. 5 a detail transverse vertical sectional view showing the bottom locking means in latched position.

One of the objects of this invention is to provide a bottom locking and releasing means of very simple and strong construction wherein the locking dogs will be automatically engaged with the latch sockets when the bottom is brought into closed position, the locking dogs being pivotally mounted on the front of the bucket and the latch sockets being secured to the front edge of the bottom.

Another object of the invention is to provide an operating cam of such construction pivotally mounted on the front of the bucket and operating the locking dogs in such manner that said dogs will be held in position to enter the latch sockets when the bottom is swung to its closed position.

Another object of the invention is to provide latch sockets on the bucket bottom of such construction that they will receive the locking dogs and automatically force them into locking engagement with the latch flanges.

Referring to the various parts by numerals, 1 designates the body of the bucket which may be of any suitable shape and size, and 2 the bottom thereof. The bottom is carried by the hinged arms 3 which are journaled at 4 on the back or rear side of the bucket. On the front of the bucket, approximately in the center thereof, is pivotally mounted an operating cam 5. This cam is provided on opposite sides of its pivotal center with curved eccentric cam slots 6, one of which extends upwardly and

outwardly, and the other downwardly and outwardly from points in a horizontal plane with the center of the cam pivot. At the outer end of each of these cam slots is formed a radial outwardly extending slot extension 7. This cam is also formed with a radial operating arm or handle 8.

Pivoted on the front of the bucket near the lower edge thereof are two locking levers 9, one on each side of a vertical plane passing through the center of the cam pivot. Each locking lever extends upwardly and is provided at its upper end with a yoke 10 between the arms of which the operating cam fits. The upper ends of the arms of each yoke is connected together by a horizontal pivot 11 which passes through the adjoining cam slot of the operating cam, said pivots being in a horizontal plane passing through the center of the cam pivot, as shown clearly in Fig. 1. The lower end of the locking lever extends below the bottom of the bucket and each is provided with a locking dog 12 which inclines outwardly and downwardly, as shown clearly in Fig. 1, its upper, outer corner being cut away to form the outwardly and downwardly inclined cam surfaces 13, for a purpose which will be fully hereinafter described.

On the bottom of the bucket at the front edge thereof are secured two latch sockets 14. These latch sockets extend forward of the front edge of the bucket and are provided with the apertures 15 through their upper surfaces. Each latch socket is provided at its inner side with the downwardly and outwardly inclined cam surface 16 and at its outer side with the inwardly extending locking flange 17. By reference to Fig. 1 it will be readily seen that the locking dogs 12 in their latched positions engage under the flanges 17 and hold the bottom in its closed position.

The operation of the device is as follows:—

Assuming the parts to be in the position shown in Fig. 1, an upward movement of the handle 8 of the operating cam will force the upper ends of the locking levers outwardly, thereby swinging inwardly or toward each other the locking dogs and releasing them from the flanges 17 of the latch sockets. As the bottom swings downwardly the locking flanges will contact with inclined or cam surfaces 13 of the locking dogs and force them inwardly, thereby throwing the upper

ends of the locking levers outwardly into the slot-extension 7 of the operating cam. In this position the operating cam will be locked in its horizontal position and the locking dogs will be held in their inward position and the bottom will be free to swing downwardly to discharge the contents of the bucket. When it is desired to close the bucket, in the ordinary practice the bucket is lowered to permit the bottom to rest on the ground or other suitable support and the bucket lowered to meet the bottom. In this action the lower corners of the locking dogs 12 will enter the apertures 15 of the latch sockets and will contact with the cam surfaces 16 and ride downwardly thereon. These cam surfaces will swing the locking dogs outwardly sufficiently to free the pivots 11 from the slot extensions 7 and thereby permit the operating cam to drop to its normal position. The upper ends of the locking levers will be thrown still farther inwardly by the cam slots and the locking dogs will be forced outwardly under the flanges 17 of the latch sockets, thereby locking the bottom in its closed position. The bottom cannot be released until the handle 8 is again lifted to swing outwardly the upper end of the locking levers.

From the foregoing it will be seen that I provide an exceedingly simple, strong, durable and efficient locking and releasing means for the bottom of dump buckets. It is also manifest that the automatic locking of the bottom to the bucket in its closed position is absolutely certain under all conditions by merely lowering the bucket to bring the bottom in place. The parts of the apparatus are simple and may be made of sufficient strength to stand the hard usage to which apparatus of this character are subjected.

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

1. A dump bucket comprising the body of the bucket, a bottom hinged thereto, a locking lever pivoted on the bucket and provided with a locking dog at its lower end, a latch socket connected to the bottom and arranged to receive the locking dog, an operating cam mounted on the bucket and formed with an eccentric cam slot with a radial slot extension at one end of the cam slot, a pin carried by the operating lever and engaging said slot, and means whereby when the locking dog is released from the latch socket the upper end of the locking lever will be thrown into the radial slot extension of the cam slot to retain the locking dog in its released position.

2. A dump bucket comprising the bucket proper, a swinging bottom therefor, a locking lever provided with a locking dog at its lower end, a latch socket connected to the bottom, means whereby when the bottom is brought to its closed position the locking

dog will be thrown into its latched position, means whereby when the bottom is released the locking dog will be thrown into its released position and latched in such position until the bottom is again brought to its closed position, and means on the bottom to engage the locking dog to throw it to its locked position when the bottom is closed.

3. A dump bucket comprising a bucket proper, a bottom therefor, a pivoted operating cam mounted on the front of the bucket, said cam being formed with diametrically arranged curved eccentric slots, each slot having a radial outwardly extending extension at the outer end of the curved part, a pair of locking levers pivoted near the lower edge of the front of the bucket, the upper ends of said levers engaging the cam slots, a locking dog formed on the lower end of each lever below its pivot, and a latch socket for each dog connected to the bottom of the bucket at the front edge thereof.

4. A dump bucket comprising a bucket proper, a bottom therefor, a pivoted operating cam mounted on the front of the bucket, said cam being formed with diametrically arranged curved eccentric slots, each slot having a radial outwardly extending extension at the outer end of the curved part, a pair of locking levers pivoted near the lower edge of the front of the bucket, the upper ends of said levers engaging the cam slots, a locking dog formed on the lower end of each lever below its pivot, a latch socket for each dog connected to the bottom of the bucket at the front edge thereof, each of said sockets being formed with a cam surface to engage the locking dog and throw it to its locked position and its locking dog being formed with a cam surface to throw the locking dog to its full release position.

5. A dump bucket comprising the bucket proper, a bottom therefor, a locking lever pivoted on the bucket, an operating cam mounted on the bucket and adapted to engage the upper end of the locking lever to throw it to its released position, a locking dog formed on the lower end of the locking lever, a latch socket secured to the bottom of the bucket and adapted to receive the locking dog, means within the latch socket to direct the locking dog to its latched position, means carried by the locking dog to throw said dog to its extreme released position, and means to hold said dog in said released position and in position to be engaged by the latch socket.

6. A dump bucket comprising the bucket proper, a movable bottom therefor, a movable locking device carried by the bucket and provided with a locking dog at its lower end, a latch socket carried by the bottom, means whereby when the bottom is brought to its closed position the locking dog will be thrown into its latched position, means

whereby when the bottom is released the
locking dog will be thrown into its released
position and latched in said position until
the bottom is again brought to its closed
5 position, and means on the bottom to en-
gage the locking dog to throw it to its locked
position to hold the bottom closed.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses
this 8th day of June 1909.

GEORGE H. BUDKE.

Witnesses:

WM. R. DAVIS,
E. H. H. KAUFMANN.