

(No Model.)

G. C. MUELLER.
ORE FEEDER.

No. 428,346.

Patented May 20, 1890.

Fig. 1.

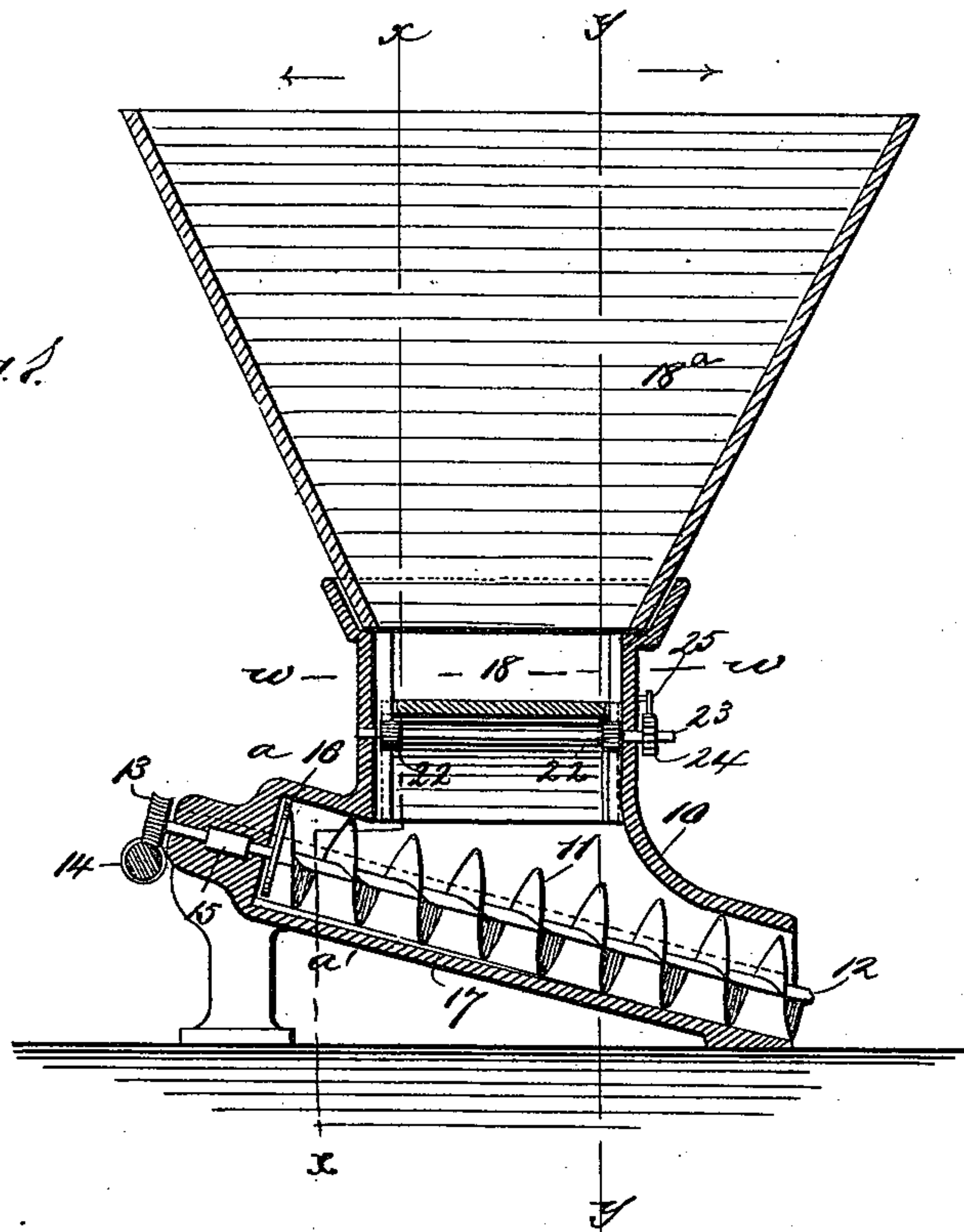


Fig. 2.

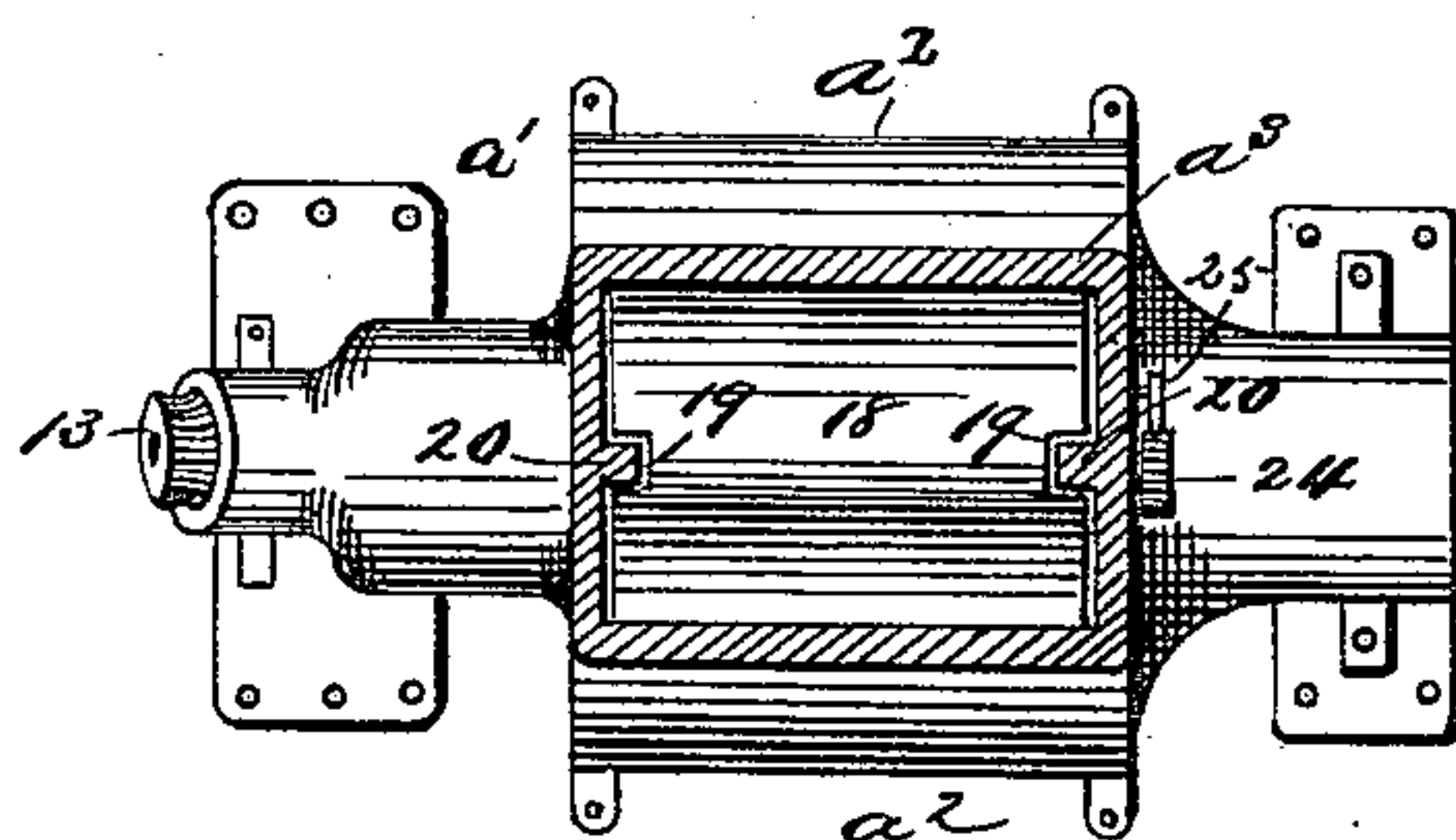
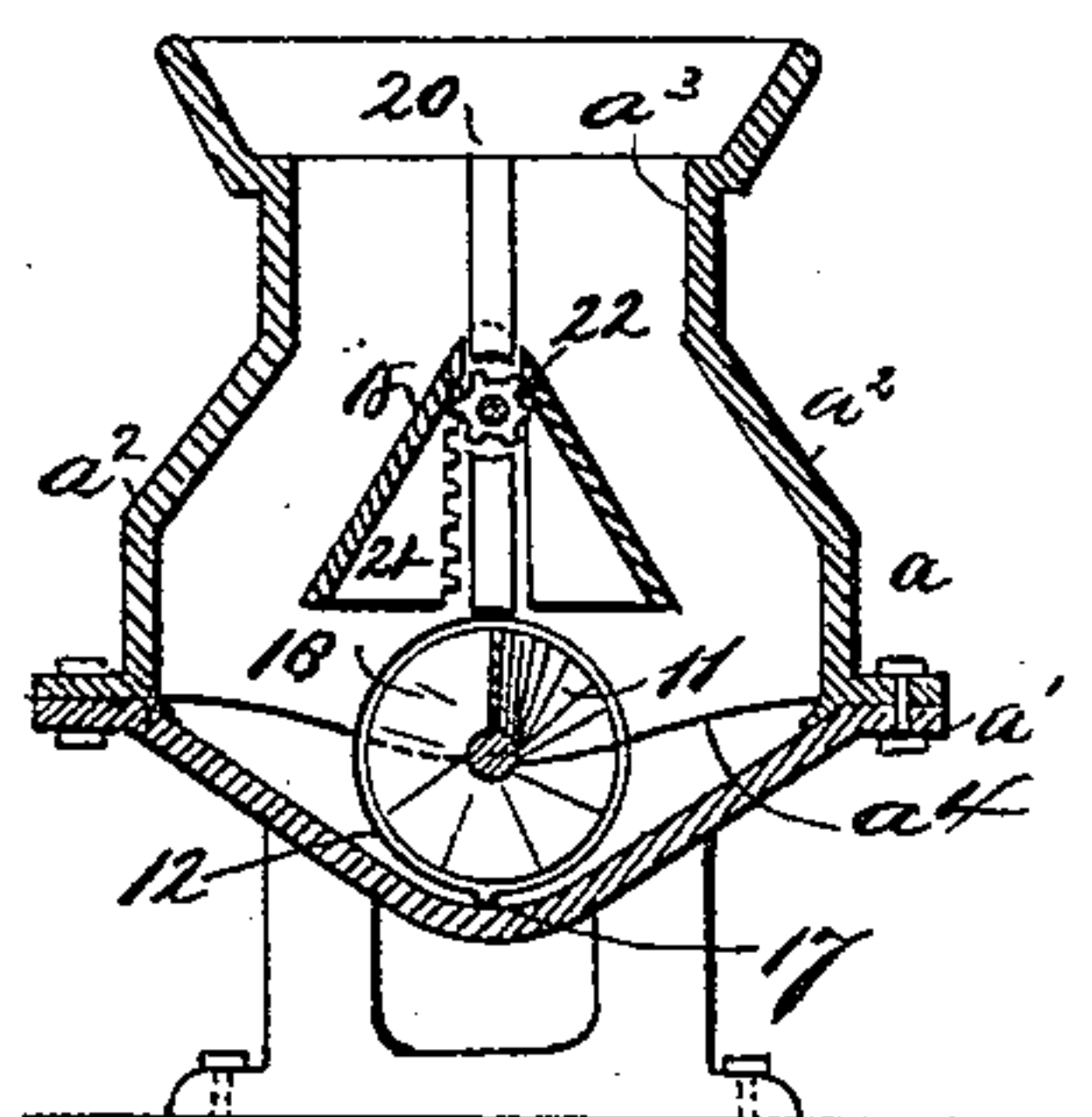


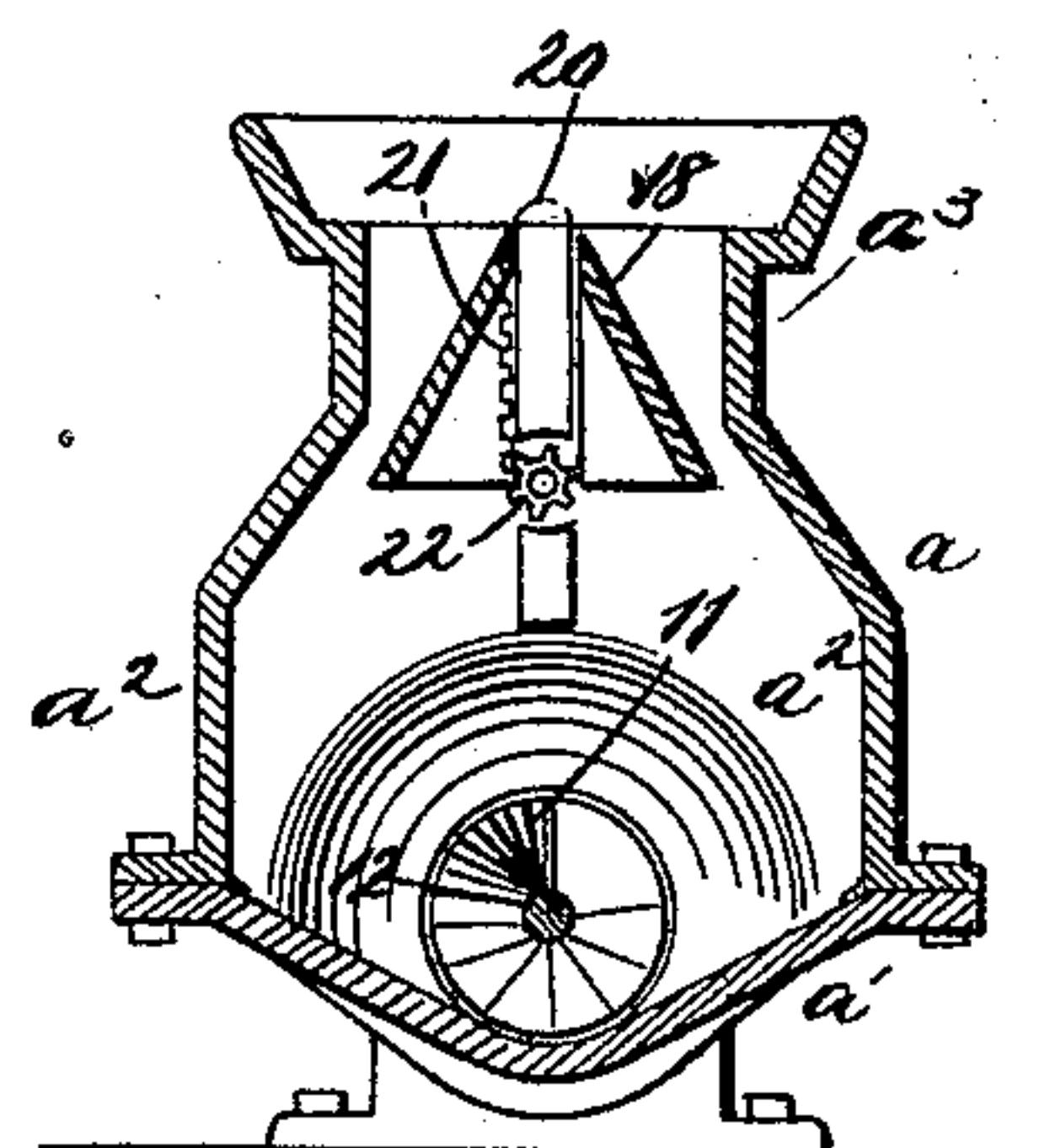
Fig. 3.



WITNESSES:

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Fig. 4.



INVENTOR:

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GEORGE C. MUELLER, OF ST. LOUIS, MISSOURI.

ORE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 428,346, dated May 20, 1890.

Application filed April 8, 1890. Serial No. 347,037. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. MUELLER, of the city of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Ore-Feeders, of which the following is a full, clear, and exact description.

My invention relates to an improvement in ore feeders or conveyers especially adapted for conveying crushed ore to stamp-batteries regularly and steadily whether the ore is crushed fine or coarse or is wet or dry.

A further object of the invention is to provide a machine of exceedingly simple and durable construction capable of use as a feeder or conveyer for all kinds of material in a broken or pulverized state—such as gypsum, cement, lime, mortar, &c.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through the machine. Fig. 2 is a transverse section on line *ww* of Fig. 1. Fig. 3 is a vertical section on line *xx* of Fig. 1; and Fig. 4 is a similar section on line *yy* of Fig. 1, the shed being in a raised position.

The body or casing 10 is preferably constructed in two horizontal sections *a* and *a'*, and the said casing is formed with an inclined curved bottom, cylindrical ends, and bulging sides *a²* at the center, the said enlargement *a²* of the casing being curved at the base, as shown best in Fig. 3, partaking of a rectangular contour above the base, with less width ordinarily than the cylindrical section, as illustrated at *a³* in Figs. 2, 3, and 4. Where the sections *a* and *a'* of the casing are brought together at their upper or highest ends the meeting line is not made straight, but the contacting end surface of the upper section *a* is convexed and the lower section concaved, as best illustrated at *a⁴* in Fig. 3.

Within the casing at the base an auger-like screw conveyer 11 is held to rotate, being mounted upon a suitable shaft 12, which shaft

is carried through the upper end of the casing and provided, preferably, with a worm-wheel 13, which meshes with a suitable worm upon a drive-shaft 14; but the conveyer-shaft may be otherwise driven, if found desirable.

To prevent the conveyer-shaft from slipping and to retain it in place a collar 15 is formed upon the said shaft at its upper bearing-surface, and in order to prevent any of the fine dust from entering the upper bearing of the shaft a disk 16 is secured thereon, which disk fits the interior walls of the base of the casing at the upper end, as is best illustrated in Fig. 1; and in order that none of the pulverized material or fine dust shall clog the interior of the base of the casing at its upper end a longitudinal groove 17 is produced therein, which groove gradually lessens in depth as it approaches the center of the casing. The conveyer 11 engages with the bottom of the casing throughout its length, and the said bottom is made curved, in order that the conveyer may more perfectly contact with the bottom surface.

In the upper end of the central rectangular portion of the casing a hopper 18^a is fitted, which hopper may be made of any suitable material, wood, however, being preferred.

Within the rectangular upper section *a³* of the casing an adjustable shed 18 is located, which shed is essentially triangular, representing an inverted V, and in each end of said shed at its center a vertical groove 19 is produced, which grooves receive vertical ribs 20, formed upon the inner end surfaces of the casing, as is best shown in Fig. 2. The adjustment of this shed is effected by causing teeth 21 to be formed upon one wall of each of the grooves 20, as shown in Figs. 3 and 4, and with each row of teeth a pinion 22 engages, mounted upon a spindle 23, journaled in the rectangular portion of the casing, one end of which spindle projects beyond the same, and is fitted with a ratchet-wheel 24, with which a dog 25 contacts, pivoted upon the outer face of the casing. By revolving the spindle 23, which may be turned by means of a hand-reel or other equivalent device, the shed 18 may be raised or lowered, as desired, and held in any predetermined position by

the dog 25 and ratchet-wheel 24. To accommodate the pinions 22, the ribs 20 upon the casing are cut away at the point through which the spindle passes, as indicated in said Figs. 3 and 4.

The base is preferably constructed of metal, the sections being properly bolted together, and the entire device is preferably used for feeding crushed ore to stamp-batteries in silver and gold mills and for all similar purposes where a steady and regular supply of material of any kind is wanted.

The crushed ore is fed into the hopper and guided by the shed 18, which shed causes the ore to run down at each inclined side thereof, whereupon the ore is carried by the conveyer out through the lower end of the casing, which is open, and delivered to any suitable receptacle.

The adjustable shed is introduced in order to take away any top pressure from the conveyer and to feed the ore to the said conveyer sidewise instead of from the top, and the said shed is made adjustable in order to increase or to decrease the space between it and the walls of the casing, and thus regulate the passage of the ore between them.

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

1. In an ore-feeder or similar machine, the combination, with a casing provided with a base having an inclined bottom, of a screw conveyer held to revolve in the casing at the bottom and an adjustable essentially-triangular shed located in the casing above the conveyer, substantially as shown and described.

2. In an ore-feeder or similar machine, the combination, with a casing comprising a base having an inclined bottom and open at one end and an upper section of greater width and less length than the base-section, of a

screw conveyer held to revolve in the base-section of the casing in contact with its bottom and a vertically-adjustable shed having downwardly-inclined sides located in the upper portion of the casing, substantially as and for the purpose specified.

3. In an ore-conveyer or similar machine, the combination, with a casing comprising a base-section having an inclined bottom and an open end and a groove in said bottom and an upper section of greater width than the base-section and of less length, of a conveyer held to revolve in the base-section, a triangular shed held to slide vertically in the upper section, provided with teeth at its ends, a shaft journaled in the upper section of the casing beneath the shed, and pinions secured to the said shaft, engaging with the teeth of the shed, substantially as and for the purpose specified.

4. In an ore-feeder or similar machine, the combination, with a casing comprising a base-section having an inclined bottom and an open end and the sides enlarged at the center, and an upper section of less length than the base-section and of less width than the enlarged portion of said section, and a conveyer held to revolve in the base-section in contact with the bottom, of an essentially-triangular shed fitted to slide in the upper section of the casing, provided with teeth at each end, a spindle journaled in the upper portion of the casing beneath the shed, provided with pinions engaging with the teeth of said shed, and a retaining device, substantially as shown and described, acting upon said spindle, all combined for operation as and for the purpose specified.

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Witnesses:

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