

No. 637,861.

Patented Nov. 28, 1899.

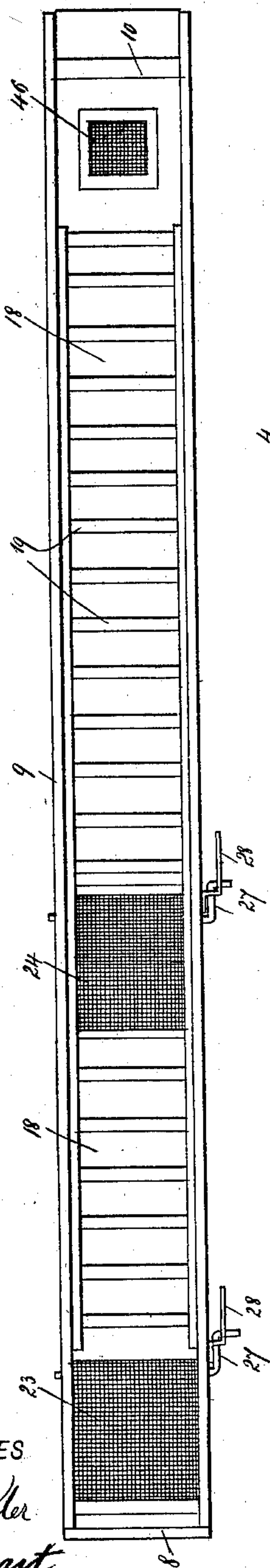
J. H. FELLOWS.  
GOLD WASHING APPARATUS.

(Application filed May 26, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



WITNESSES  
*John Buckler*  
*F. A. Stewart*

FIG. 2.

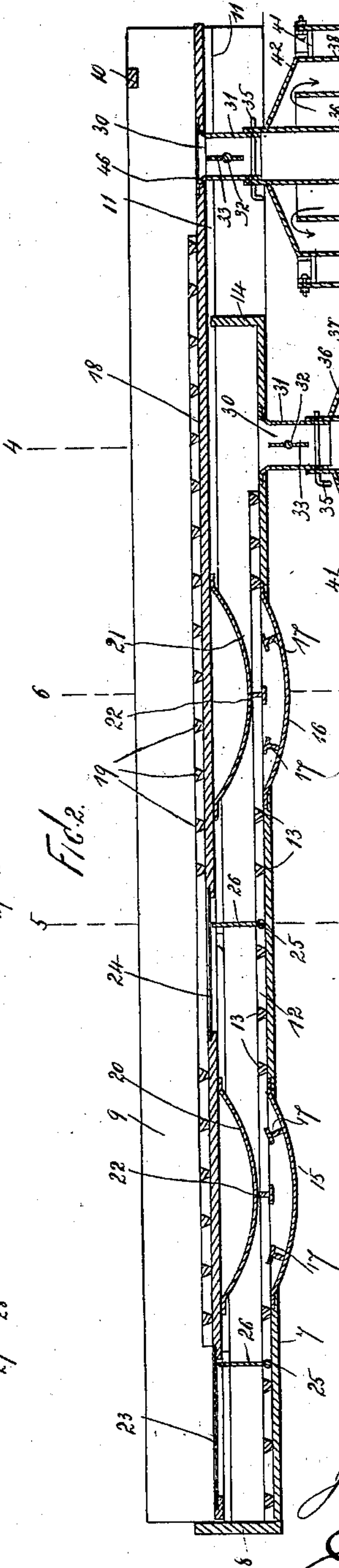
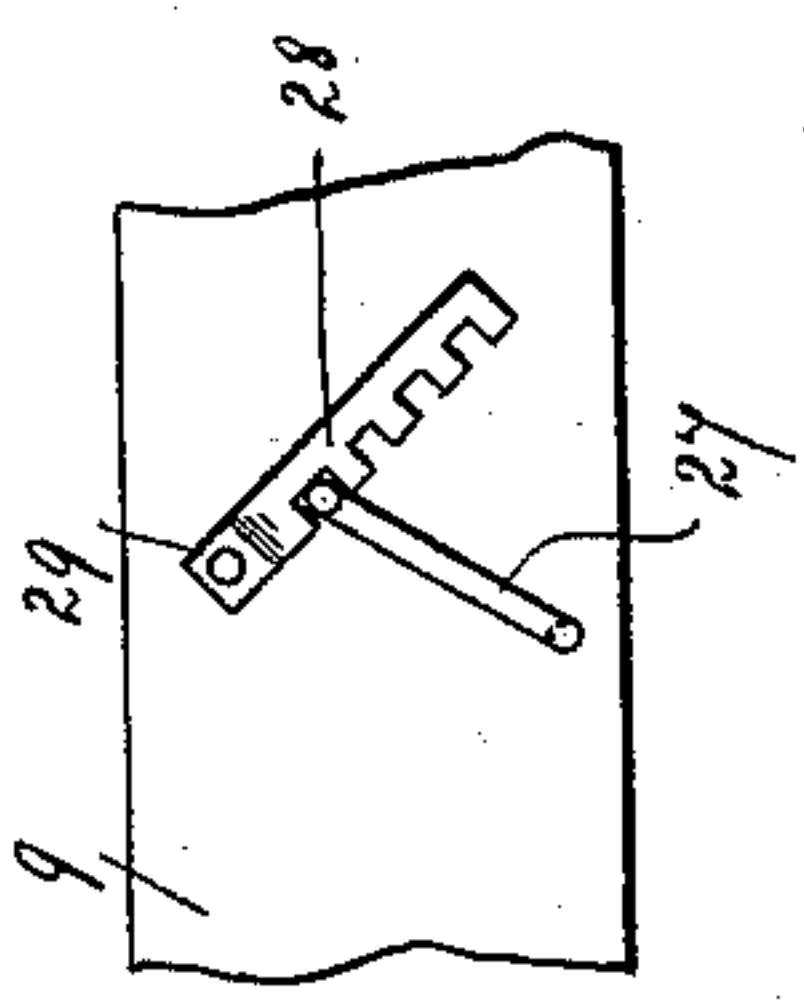


FIG. 3.



INVENTOR  
*John H. Fellows,*  
BY  
*Edgar V. Vetter*  
ATTORNEYS.

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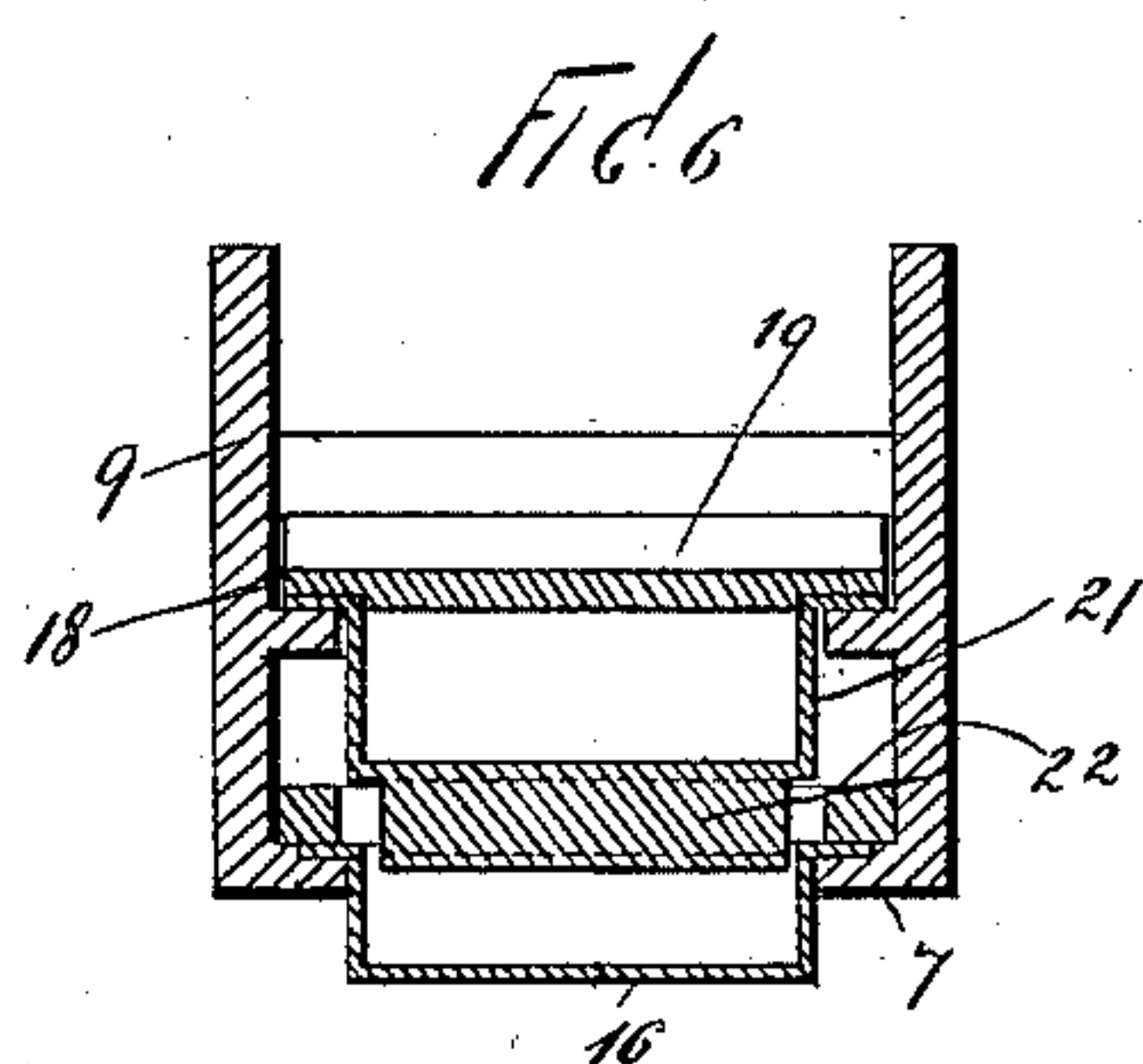
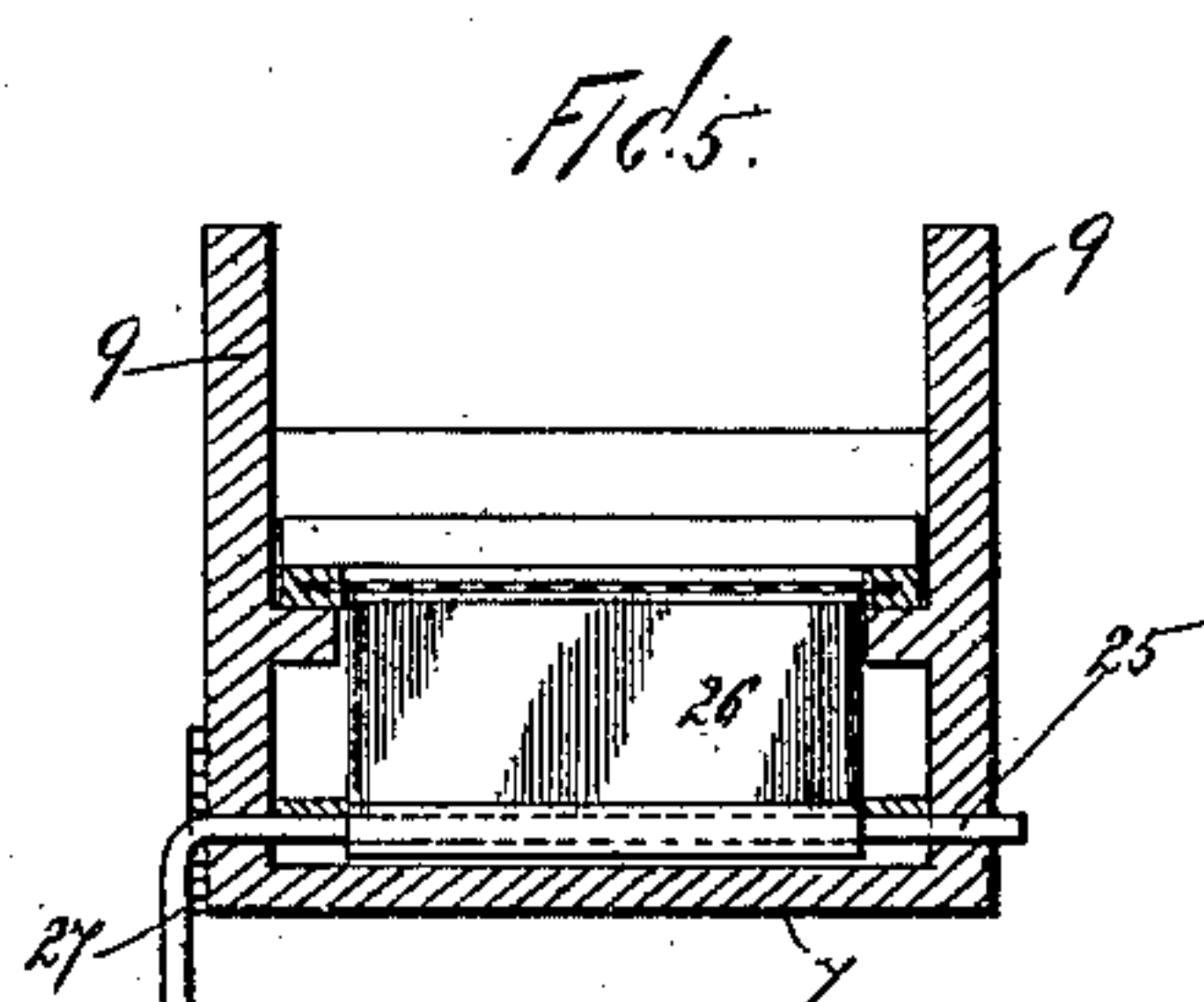
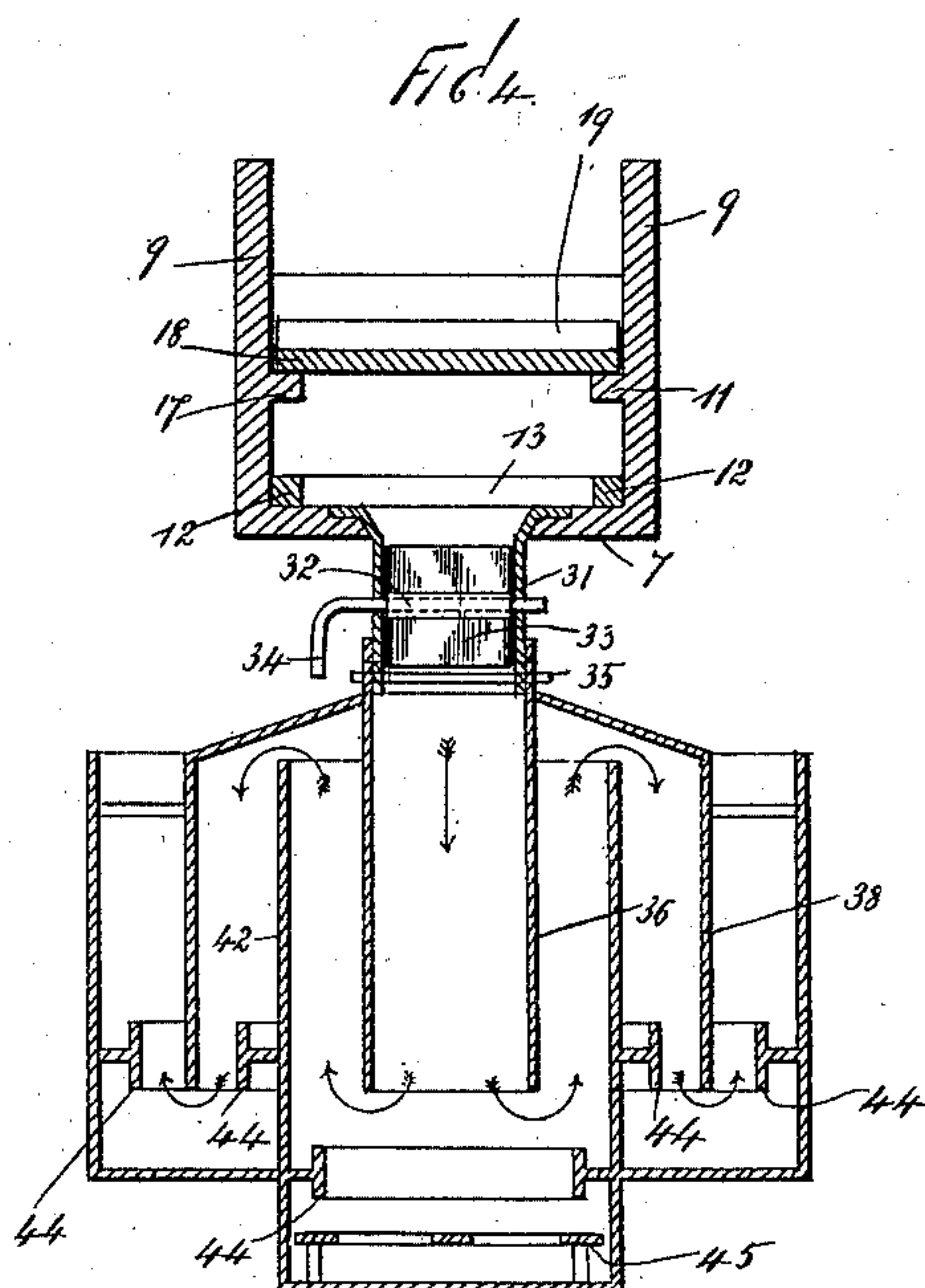
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WITNESSES

*John Buckler*  
*F. A. Stewart*

INVENTOR

*John H. Fellows*

BY

*Edgar T. Lister*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

JOHN H. FELLOWS, OF EL DORADO, KANSAS, ASSIGNOR OF ONE-HALF TO  
JOHN W. MORRISON, OF SAME PLACE.

## GOLD-WASHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 637,861, dated November 28, 1899.

Application filed May 26, 1899. Serial No. 718,383. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. FELLOWS, a citizen of the United States, residing at El Dorado, in the county of Butler and State of Kansas, have invented certain new and useful Improvements in Gold-Washing Apparatus, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to gold-washing apparatus; and the object thereof is to provide an improved apparatus of this class whereby particles of gold may be readily separated from dirt, sand, and other substances and whereby the coarser particles of gold may be separated from the finer; and with this and other objects in view the invention consists of the apparatus hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which like reference characters denote like parts in the several views, and in which—

Figure 1 is a plan view of the main casing of my apparatus and the parts contained thereby; Fig. 2, a longitudinal vertical section thereof and of the supplemental casings; Fig. 3, a side elevation of a portion of the main casing; and Figs. 4, 5, and 6 are vertical sections on the lines 4 4, 5 5, and 6 6, respectively, of Fig. 2.

Referring more particularly to the drawings, I provide an oblong main casing consisting of a bottom 7, end piece 8, and side pieces 9, and the end opposite the end piece 8 is open and secured therein is a transverse brace 10, and extending longitudinally of the inner surface of each of the sides 9 is a cleat 11, which divides the casing into upper and lower portions, the lower portion being closed at both ends, as shown at 8 and 14.

A riffle-frame consisting of side bars 12 and transverse riffles 13 is mounted in the casing-bottom 7 and extends from the end piece 8 approximately to the end of the bottom portion of the main casing, which terminates in the upwardly-directed transverse partition 14, and at suitable points the bottom 7 is cut away and provided with shallow downwardly-curved receptacles 15 and 16,

respectively, each of which is provided with transverse angular riffles or baffles 17, and the riffle-bars 13 are omitted above the receptacles 15 and 16.

Detachably mounted upon the cleats 11 is a longitudinal partition 18, provided upon its upper face with transverse riffle-bars 19, and secured to the lower surface of the partition 18 and over the receptacles 15 and 16, respectively, are a pair of downwardly-curved deflectors 20 and 21, each of which is provided with transverse baffles 22. The partition 18 is cut away at two points and provided with sieves 23 and 24, which may be of wire or other suitable material and through which the finer particles of gold and other substance may pass.

A shaft 25 is passed through the casing sides between the end piece 8 and receptacle 15 and receptacle 16, respectively, and connected therewith is a regulator-blade 26, which may be turned vertically by a crank 27, connected with the shaft 25, and may be held in adjusted position by a lock-plate 28, pivoted to one of the casing sides 19, as at 29, and, as shown in Fig. 3, the casing-bottom 7 and the partition 18 beyond the partition 14 are each provided with an opening 30, in which is secured a tube 31, through which passes a shaft 32, provided with a regulator-blade 33, which may be operated by means of a crank 34, and connected with each of the tubes 31 by means of a lock-pin 35 is a supplemental casing comprising a central tubular portion 36, which fits the tube 31 and is connected therewith by the pin 35, and connected with and surrounding the tubular portion 36 is a casing member 38, provided with a top 37, which slants from the central portion to the perimeter thereof and the bottom of which is open.

Connected with and surrounding the member 38 is a casing member 39, open at the top and the bottom 40 of which extends beneath the lower edges of the member 38. The members 38 and 39 are preferably detachably connected by metal strips 41, and connected with and projecting through the bottom 40 of the member 39 is a tubular casing member 42, having a closed bottom 43 and open at the top and extending upwardly between the tu-



bular members 36 and 38 and terminating beneath the top 37 of the member 38 and angular baffles or retarding devices 44, connected with the various casing members 38, 39, and 42, and supported upon the bottom 43 is a similar device or frame 45, and a sieve 46 is connected with the partition 18 and extends across the opening 30 therein.

In the practice of my invention I place quicksilver in the receptacles 15 and 16 and in the supplemental casings connected with the tubes 31, and a gold-bearing stream or other water containing dirt, sand, and gold particles from which the finely-divided gold is to be separated is directed upon the partition 18 at the end thereof adjacent the end piece 8, which is preferably raised so that the casing-bottom 7 and partition 18 shall be inclined and the water flow toward the opposite ends thereof. The water falls partially upon the sieve 23 and partially upon the partition 18, and part thereof passes through the sieve 23 and down upon the casing-bottom 7 and along the latter, flowing across riffles 13, through the receptacles 15 and 16, over the riffles or baffles 17, and into and through the tube 31, connected with the bottom 7, and into the supplemental casing connected therewith, through which it passes in a course denoted by the arrows, and finally discharges above the casing member. That part of the water which strikes the partition 18 flows along it over the riffles 19 to the sieve 24, through which a portion of it passes, and joins the water which flows along the bottom 7, as above described, and that portion of the water which flows along the partition 18 and crosses the sieve 24 passes on to the sieve 46 above the opening 30, which passes through into the supplemental casing communicating therewith and passes therethrough, as indicated by the arrows, finally discharging above the top of the casing member 39 thereof. The regulator-blades 26 may be adjusted to regulate the flow and volume of water passing along the casing-bottom, and the regulator-blades 33 may be adjusted to regulate the flow and volume of water passing through the tubes 31 into the supplemental casings connected therewith. The sieves 23, 24, and 46 will separate the larger particles of gold, and these will be collected by the riffle-bars 19, the dirt and other extraneous substances passing on with the water. The riffle-bars 13 will catch and hold the larger portions of gold which pass through the sieves 23 and 24, and the quicksilver in the cups 15 and 16 will attract and retain the finer particles thereof, the riffles or baffles 17 swirling the particles into contact therewith. The water entering the supplemental casing connected with the tubes 31 will contain only the finest particles of gold, and these in the tortuous course of the water will collect in the quicksilver which lies in the bottom of the casing members 38, 39, and 42, and when desired the partition 18 may be removed from the main casing, expos-

ing the receptacles 15 and 16, from which, as well as the bottom 7, the gold may be removed, and the supplemental casings may be detached from the tubes 31 and separated by means of the metal strips 41, thus exposing the bottoms of said members, from which also the gold may be removed, and in the operation the larger particles of gold will lodge in the partition 18 between the riffles 19.

This device is simple in construction and operation and is perfectly adapted to accomplish the result for which it is intended and may be used wherever gold-washing machines or apparatus are required.

It will be apparent that changes in and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. In an apparatus of the class described, a casing provided with a longitudinal perforated partition, the bottom of said casing being provided with receptacles having transverse baffles, and adapted to contain quicksilver, said partition being provided with transverse riffles and with deflectors adapted to operate in connection with said receptacles, and provided with transverse baffles which operate in connection with the baffles with which said receptacles are provided, substantially as shown and described.

2. In an apparatus of the class described, a casing provided with a longitudinal partition provided with a plurality of perforations, each having a sieve, and riffle-bars arranged upon said partition, and upon the bottom of said casing, the bottom of said casing and said partition being provided respectively with a receptacle and a deflector, each of which is provided with baffles which cooperate to swirl a mass of water passed through said apparatus, substantially as shown and described.

3. In an apparatus of the class described, a main casing comprising a bottom, sides, and end, said bottom being turned upwardly at one end to form an upright transverse partition, a longitudinal perforated partition detachably mounted in said casing and extending at one end beyond said upright partition, gold-retaining devices connected with said partition and the bottom of said main casing, and comprising riffles and receptacles provided with deflectors, a supplemental casing connected with and adapted to receive auriferous water from the bottom of said casing, and a supplemental casing connected with said longitudinal partition at a point thereof in the portion which extends beyond said upright partition, and adapted to receive auriferous water therefrom, substantially as shown and described.

4. In an apparatus of the class described, a casing provided with a longitudinal partition, having riffle-bars and a sieved opening,



and transverse adjustable current-regulators  
mounted in said casing between the bottom  
thereof and said partition, said bottom being  
also provided with riddle-bars and gold-recep-  
5 tacles, substantially as shown and described.

In testimony that I claim the foregoing as  
my invention I have signed my name, in pres-

ence of the subscribing witnesses, this 22d day  
of May, 1899.

JOHN H. FELLOWS.

Witnesses:

E. G. LOUTHAN,

L. J. EGAN.