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ORE SCREEN.

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935,216.

Patented Sept. 28, 1909.

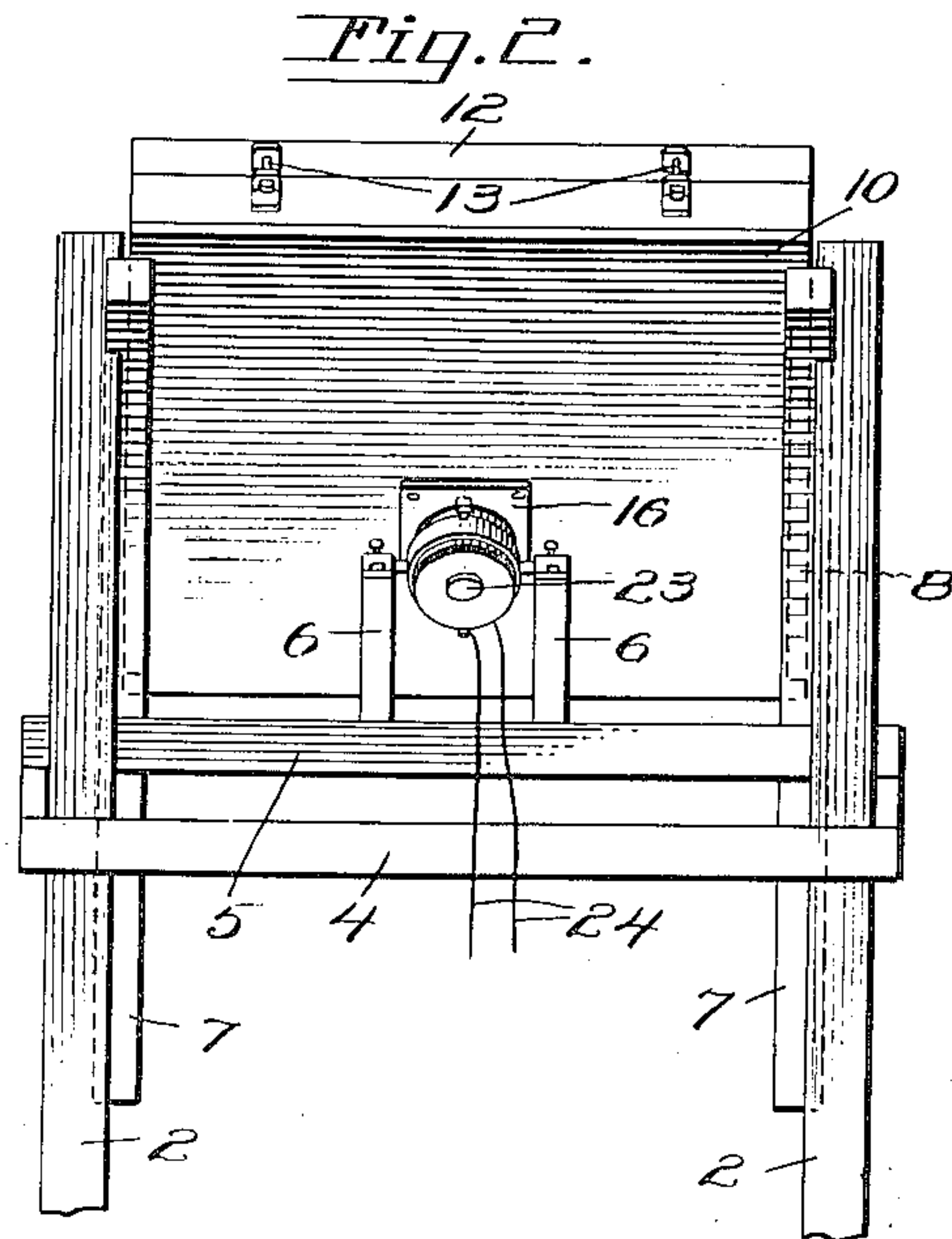
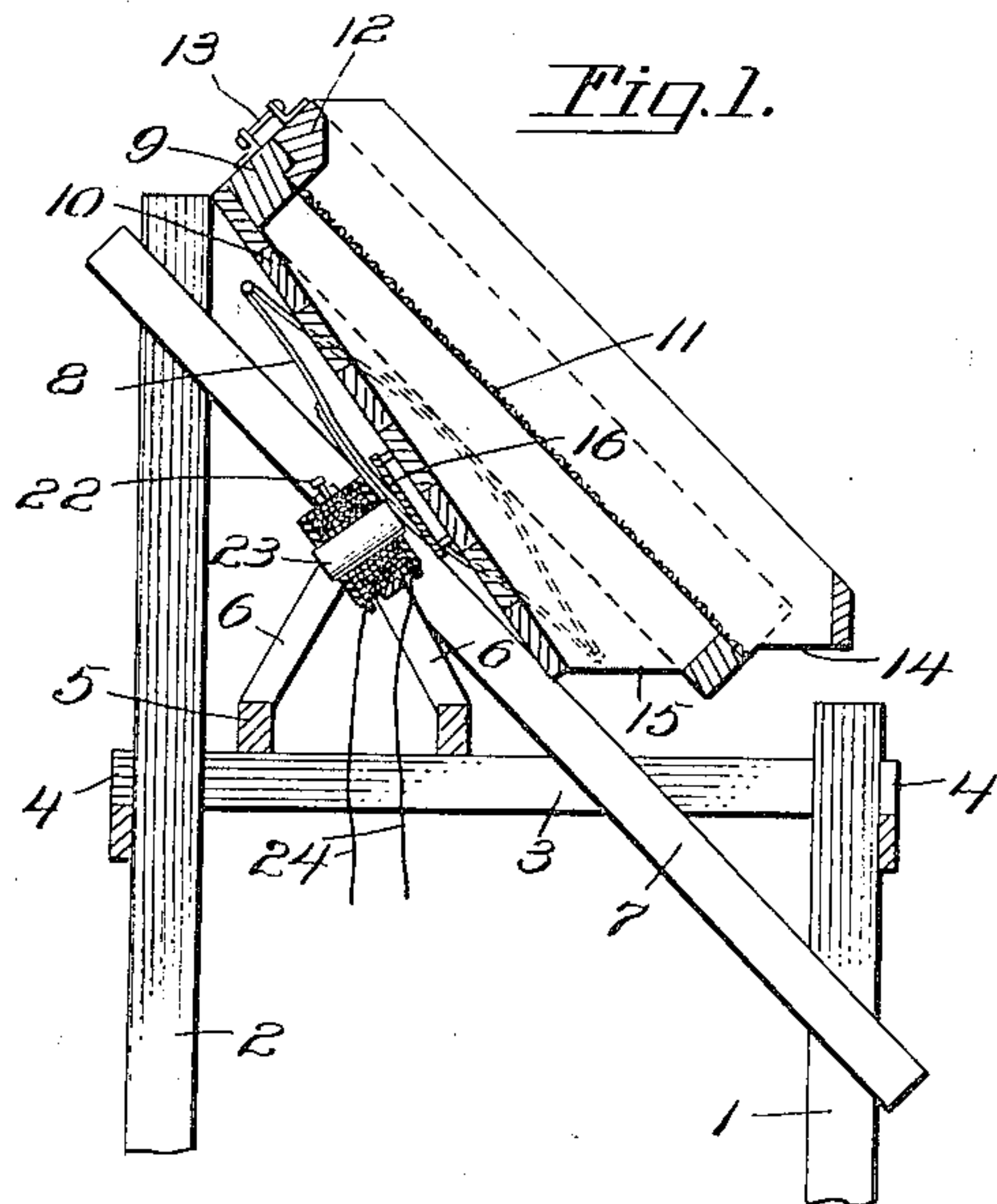


Fig. 3.

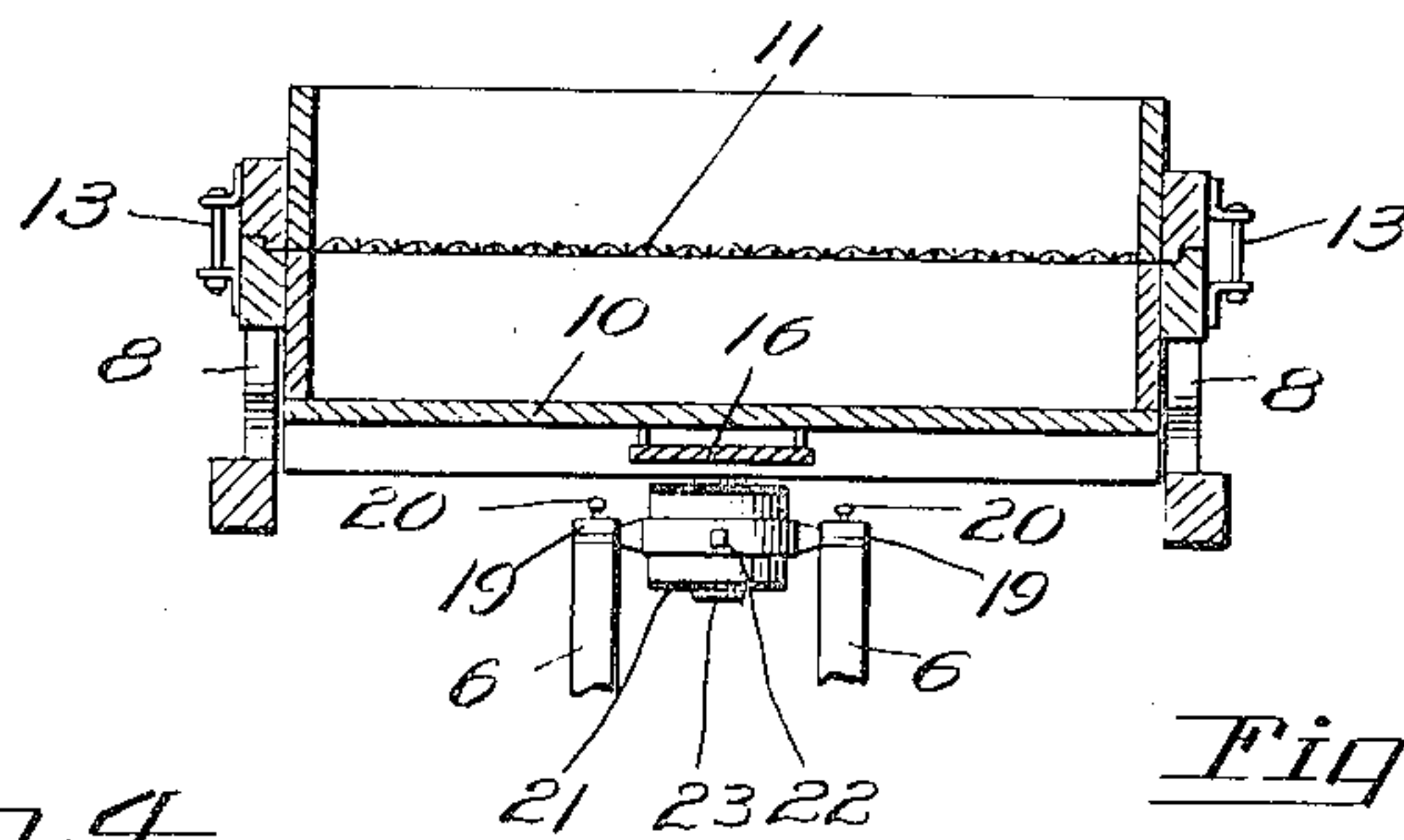


Fig. 4.

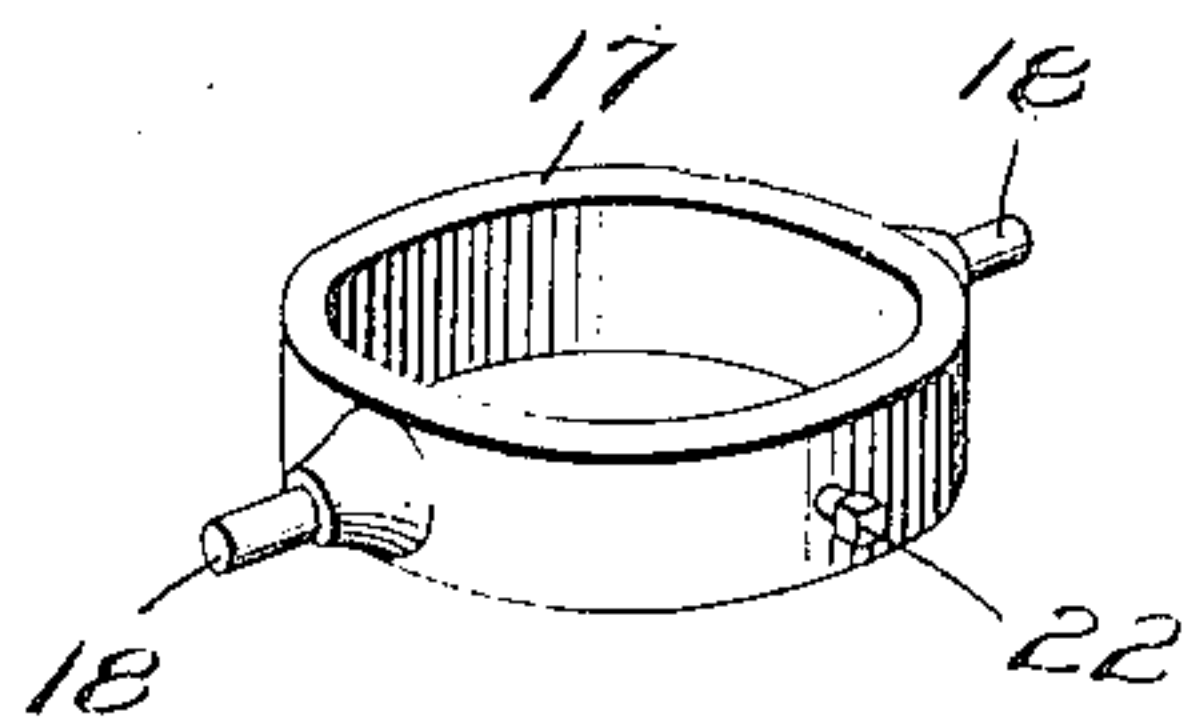
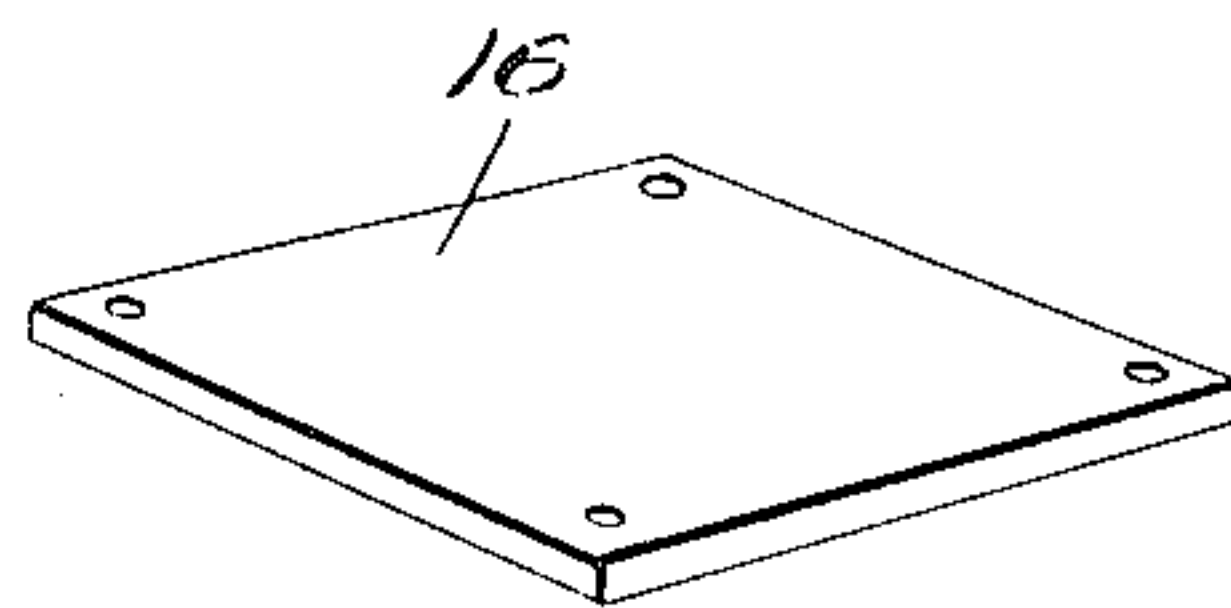


Fig. 5.



Witnesses

F. C. Gibson.

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UNITED STATES PATENT OFFICE.

ARCHIE B. MEIKLEJOHN AND JESSE R. VILLARS, OF BUTTE, MONTANA.

ORE-SCREEN.

935,216.

Specification of Letters Patent. Patented Sept. 28, 1909.

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To all whom it may concern:

Be it known that we, ARCHIE B. MEIKLEJOHN and JESSE R. VILLARS, citizens of the United States of America, residing at Butte, in the county of Silverbow and State of Montana, have invented new and useful Improvements in Ore-Screens, of which the following is a specification.

This invention relates to ore screens, and one of the principal objects of the invention is to provide novel and efficient means for giving a vibratory motion to the screen.

Another object of the invention is to provide a screen mounted on springs and to arrange an electro-magnet in proximity to a contact plate secured to the bottom of the screen, whereby an intermittent current may be employed to alternately energize and de-energize the magnet to attract the plate and vibrate the screen and to release the same alternately.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a front to rear vertical section taken centrally through the screen. Fig. 2 is a rear elevation of the screen. Fig. 3 is a transverse vertical section. Fig. 4 is a perspective view of the supporting ring for the magnet. Fig. 5 is a perspective view of the contact plate.

Referring to the drawing, the numeral 1 designates the short front legs of the frame, and 2 are the longer rear legs or supports, said legs being connected by side bars 3 and cross bars 4. Supported upon the side bars 3 is a pair of cross bars 5, and supported upon the cross bars 5 are the diverging magnet-supporting arms 6. Inclined bars 7 connected at one of their ends to the rear legs 2 near their upper ends are secured at their lower ends to the front legs 1 near their lower ends. Mounted on the bars 7 are the elliptical springs 8, said springs being connected at their upper sides to the screen frame 9, said frame having an inclined bottom 10 and provided with a rabbeted upper edge for receiving the screen 11, said screen being secured to a rectangular frame 12 and provided with suitable means 13 for securing said screen to the frame 9. An oversize discharge opening 14 is provided above the

screen 11, and an undersize opening 15 is provided under the screen.

Secured under the bottom 8 is a contact plate 16. Supported upon the upper ends of the arms 6 is a ring 17, said ring being provided with trunnions 18 held in keepers 19 on the upper ends of the arms 6, said keepers being provided with set screws 20 for securing the trunnions 18 in adjusted positions. Supported within the ring 17 is a magnet 21, a set screw 22 extending through the ring 17 and bearing against the magnet to hold it in place. A core 23 extends through the magnet, and the conductors 24 lead from the magnet to a suitable source of electrical supply, providing an alternate or direct current.

The operation of our invention may be briefly described as follows: The ore to be screened may either be wet or dry, and the screen is vibrated by energizing and de-energizing the magnet to draw the plate 16 to the core against the tension of the springs 8 and to release the same and allow the screen to rock and move vertically. The screen is vibrated by the action of the alternating current, which alternately attracts and repels the plate causing rapid vibration.

Our invention is of comparatively simple construction, can be installed at slight cost, operates efficiently and quickly for its purpose and gives superior results.

We claim:—

The herein described ore screen comprising a frame, inclined bars connected to said frame, a screen frame, elliptical springs connected to said bars and to said screen frame, a ring provided with projecting trunnions, arms connected to the frame to which said trunnions are journaled, an electro-magnet supported within said ring and provided with a core, a contact plate on the bottom of said screen frame, and conductors leading to a source of electrical supply for magnetizing and demagnetizing said magnet and core.

In testimony whereof we affix our signatures in presence of two witnesses.

ARCHIE B. MEIKLEJOHN.
JESSE R. VILLARS.

Witnesses:

FRANK WEST, Jr.,
L. F. BOYCE.