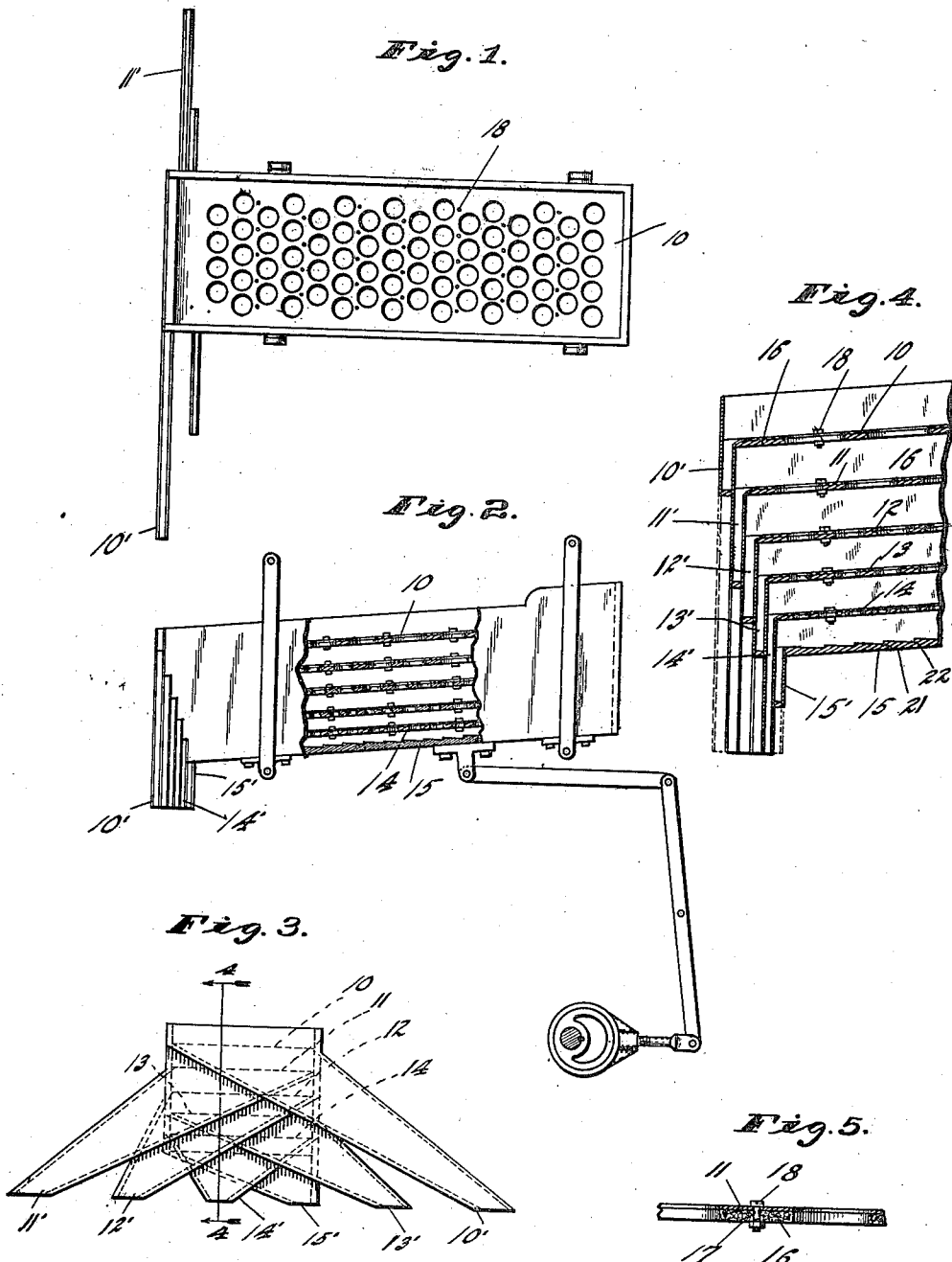


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COIN SORTER.  
APPLICATION FILED NOV. 9, 1909.

990,911.

Patented May 2, 1911.



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# UNITED STATES PATENT OFFICE.

FREDERICK L. SATTLEY, OF INDIANAPOLIS, INDIANA.

## COIN-SORTER.

990,911.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed November 9, 1909. Serial No. 527,057.

*To all whom it may concern:*

Be it known that I, FREDERICK L. SATTLEY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Coin-Sorters, of which the following is a specification.

In the separation of coins into different denominations some difficulty is experienced because of the tendency of the coins to ride upon one another so that the small coins are prevented from being separated from the larger coins.

The object of my invention is to produce a coin-sorting apparatus in which riding coins will be forced off from the carrying coins.

More particularly the object of my invention is to produce a sorting structure comprising a plurality of substantially horizontal, or slightly inclined superimposed differentially perforated shelves which will serve to permit small coins to pass therethrough, and provided with means for engaging the coins in such manner as to interrupt them and insure an overriding motion of any coins which may be carried by and be riding upon the interrupted coins.

A further object of my invention is to provide the receiving shelf for the smallest coins with feeding ridges which will insure their proper movement to the discharging outlet.

A further object of my invention is to provide means for eliminating the noise which is ordinarily an accompaniment of a sorting mechanism of this class and to provide such other changes in details of construction as may hereinafter be pointed out.

The accompanying drawings illustrate my invention as applied to a sorter of the vibratory type, as distinguished from the gyratory type, but it is to be understood that my invention is equally applicable, to other types of sorters.

Figure 1 is a plan of an apparatus embodying my improvements; Fig. 2 a side elevation of the parts shown in Fig. 1 and including also a mechanism for vibrating the structure; Fig. 3 an elevation of the discharge end; Fig. 4 a section on line 4 4 of Fig. 3 on an enlarged scale and Fig. 5 a sectional detail showing the coin interrupting and the sound deadening members in conjunction with a perforated shelf.

In the drawings 10, 11, 12, 13 and 14 indicate a plurality of superposed differentially perforated shelves combined into a single

vibratory structure in a well known manner, said shelves being preferably formed of comparatively thin sheet metal. The shelves deliver to discharge spouts 10', 11', 12', 13' and 14' respectively and below the shelf 14 is arranged an imperforate plate or shelf 15 which delivers to a discharge spout 15'. With such a construction the noise made by the coins dropping through the partitions is quite objectionable and I have found that, by placing beneath each partition a sound absorbing plate 16 perforated to correspond with the plate which it supports, I am able to practically eliminate the noise. In practice I make the plate 16 of heavy cardboard or pasteboard which has sufficient rigidity to materially strengthen and support the metal plates or shelves. It is necessary to keep the metal plate in close contact with the deadening plate and I therefore provide a plurality of bolts 17 which pass through the metal plate and its supporting deadening plate 16 and clamp the same firmly together. I then provide some or all of the bolts 17 with heads 18 which are preferably cylindrical so as to have a surface which will lie substantially at right angles to the working face of the sorting shelf and this head projects above the working face of the sorting shelf an amount slightly less than the thickness of the coin which is to be retained upon the shelf. This leaves a considerable range for the amount of projection of the head between that permissible for a "dollar" shelf and that required for a "penny" shelf but in practice I find it sufficient if all of the heads project from their shelves an amount slightly less than the thickness of a copper penny, *i. e.* slightly less than the thickness of the next to the smallest diameter of coin. Shelf 15 has its upper or receiving face formed into a plurality of teeth or ridges 21 having their shoulders 22 presented toward the discharge chute 15' so as to force the coins to travel toward the discharge chute in a well known manner.

In operation a conglomerate stream or mass of coins is delivered to the receiving face of the uppermost shelf 10 and many coins will ride upon other coins so that, when the carrying coin is larger than the carried coin, the carried coin would be prevented from passing down through the perforations 10' to the shelf 11. As the structure is vibrated, however, the coins will be driven along the face of shelf 10 and will come into

contact with the projecting heads 18 of pins 17 so that if any coins be riding upon the interrupted coins the riding coins will be shot off from the interrupted coins and will pass freely over the projecting heads 18, so as to come down upon the shelf and, if small enough, will pass freely through the perforations to the next shelf below.

I claim as my invention:

10 1. In a coin sorter the combination with a perforated coin receiving shelf, of a plurality of pins projected above the face of the shelf between the perforations thereof and having a projecting extent less than the thickness of coins which will not pass through the perforations of the shelf.

20 2. In a coin sorter, a series of superimposed differentially perforated sorting shelves having openings through which the coins are projected in the sorting operation, and obstructions situated in the path of travel of the coins with relation to the shelves, said obstructions being elevated above the adjacent shelf to a height ap-

proximately no greater than the thickness 25 of a coin properly lodged on that shelf, whereby such coins will not serve as carriers to prevent smaller coins from passing through the perforations of such shelf.

3. In a coin sorter, a series of superim- 30 posed differentially perforated sorting shelves having openings through which the coins are projected in the sorting operation, and obstructions situated in the path of travel of the coins with relation to the shelves, said obstructions bearing such relation to an adjacent shelf as to prevent smaller coins from permanently riding upon those coins intended to be retained by such shelf. 40

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this thirtieth day of October, A. D. one thousand nine hundred and nine.

FREDERICK L. SATTLEY. [L. s.]

Witnesses:

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