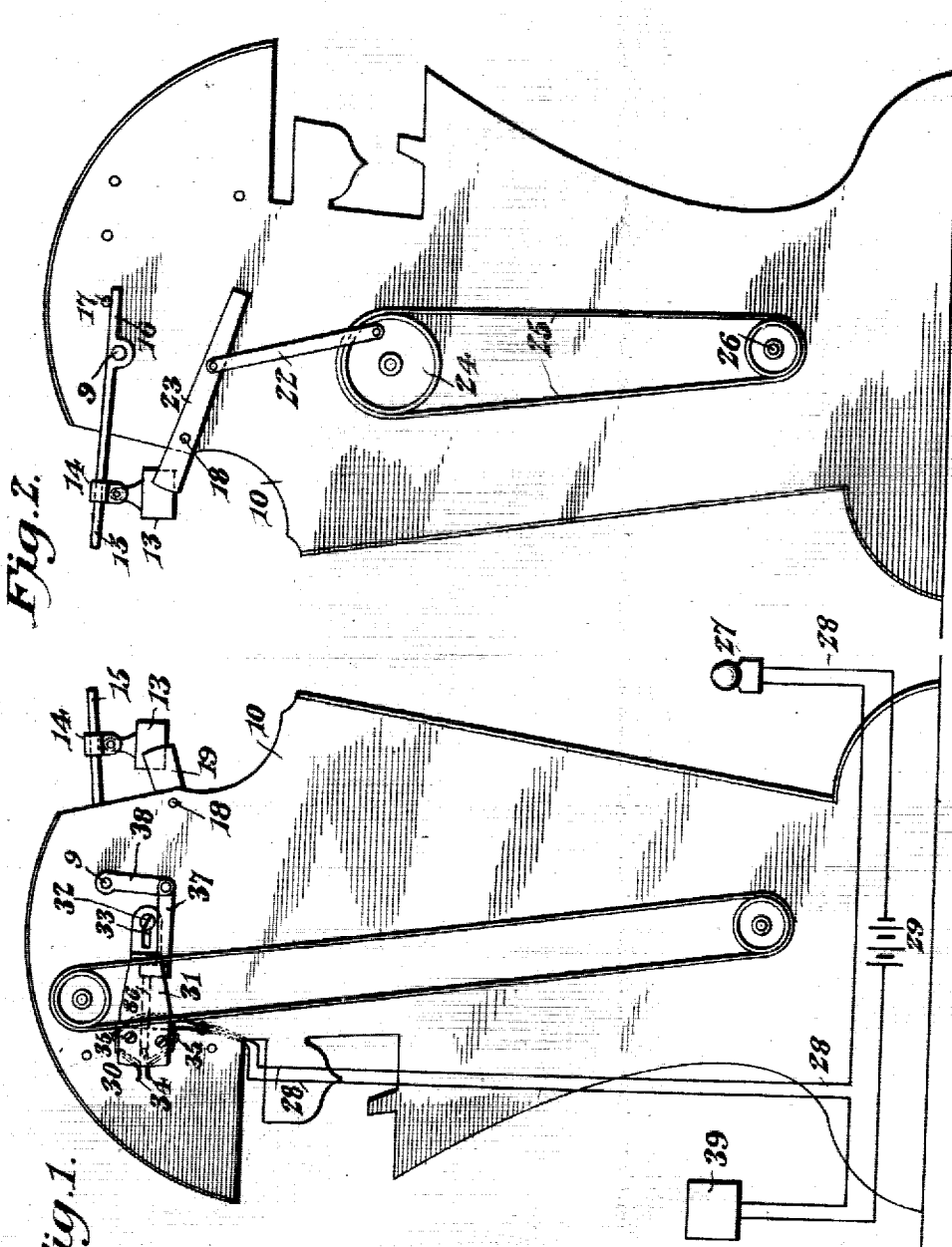


No. 853,602.

PATENTED MAY 14, 1907.

J. W. SCOTT.
CARD FEEDER.
APPLICATION FILED FEB. 20, 1906.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

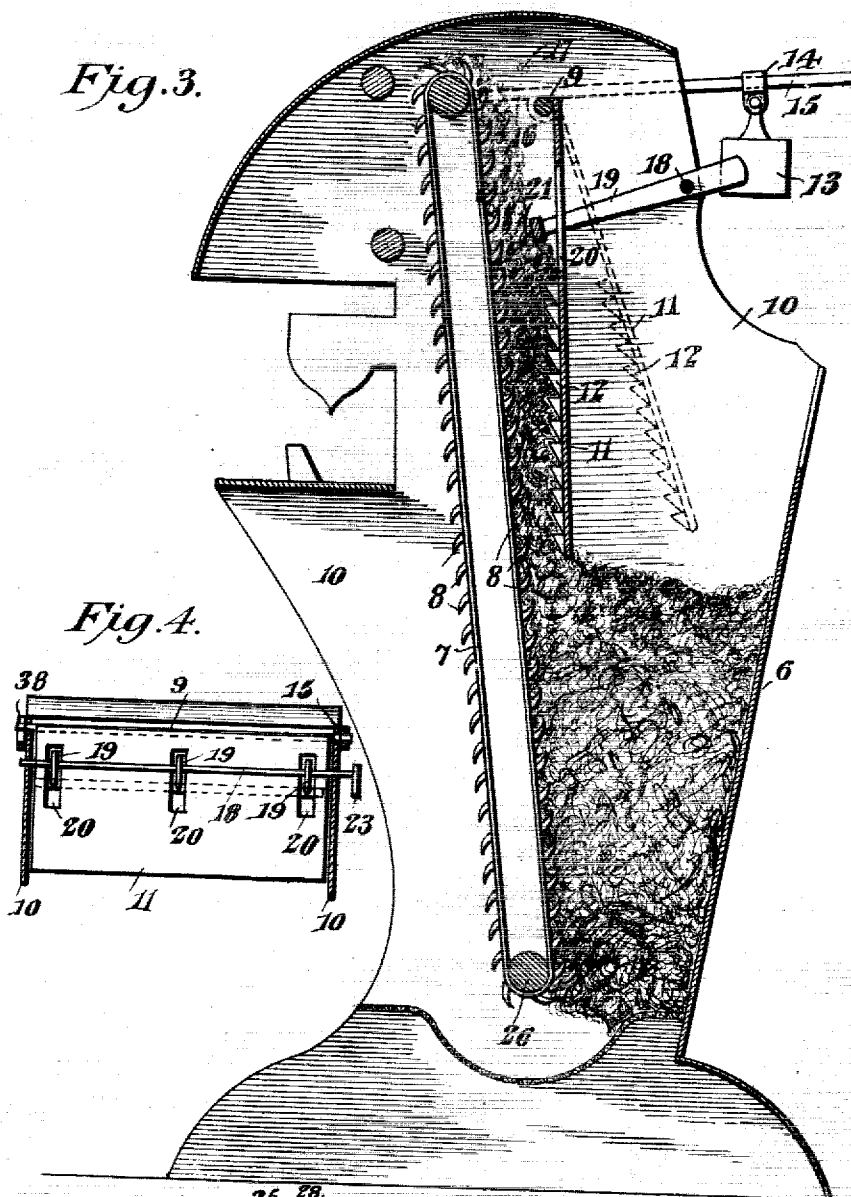


Fig. 4.

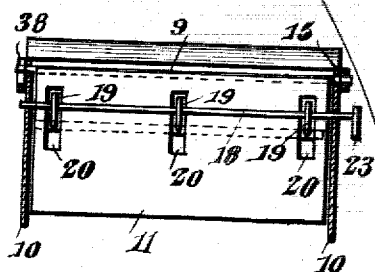
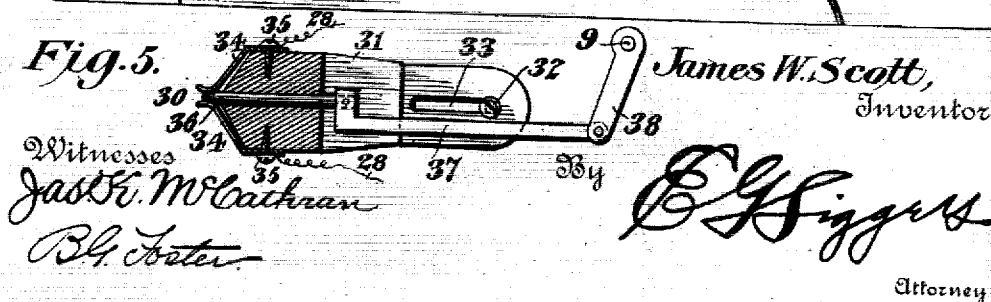


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES WALKER SCOTT, OF OSWEGO, NEW YORK.

CARD-FEEDER.

No. 853,602.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed February 20, 1906. Serial No. 302,068.

To all whom it may concern:

Be it known that I, JAMES WALKER SCOTT, a citizen of the United States, residing at Oswego, in the county of Oswego and State of New York, have invented a new and useful Card-Feeder, of which the following is a specification.

This invention relates more particularly to that class of machines commercially known as Bramwell feeders. In this class of feeders, considerable difficulty has been experienced in providing mechanism that will feed all the material placed therein and feed the same evenly to the weighing mechanism. This has led to the employment of presser plates or mechanism which will maintain the stock against the conveyer. While this has to a certain extent accomplished its purpose, it is found that the comb which controls the amount of stock carried off by the conveyer, when employed in connection with the presser devices, has a tendency to separate the long and short stock and return the latter to the hopper or receptacle, moreover, partially stripping the conveyer teeth so that the same deliver uneven quantities to the weighing mechanism. As a result, instead of the conveyer delivering the stock in mixed condition, it is very apt to feed the long stock first and finally the short material that has been combed off the conveyer, and furthermore, the unequal feeding is objectionable as the weighing mechanism will operate much better when a continuous equal amount is being fed thereto.

The present invention has for its object the provision of novel and simple means, whereby the material in its mixed condition, as caught by the conveyer will be evenly delivered from the feeder, and the selection or separation of the different classes of stock, with the return of the shorter, is entirely avoided.

Another and important object is to provide simple alarm and stop mechanisms, whereby when the stock in the feeder is low, or about exhausted, the operator will be notified, and the entire carding mechanism supplied by the feeder, may be automatically stopped if desired.

An embodiment of the invention that is at present considered the preferable one is shown in the accompanying drawings, wherein:—

Figure 1 is an elevation of one side of the machine. Fig. 2 is a similar view of the

other side of the machine. Fig. 3 is a vertical sectional view through the machine. Fig. 4 is a detail sectional view on a smaller scale, showing the arrangement of the comb-supporting arm and presser plate. Fig. 5 is a detail sectional view of the switch mechanism.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

The general structure of a well known type of feeder is disclosed, the same comprising a receptacle preferably in the form of a hopper 6. The front wall of this hopper or receptacle consists of an upwardly extending endless conveyer 7, having outwardly extending teeth 8. Journaled in the upper portion of the receptacle is a rock-shaft 9, and secured to said rock-shaft between the end walls 10 of the receptacle is a depending presser in the form of a plate 11 that swings with the rock-shaft 9, and is movable toward and from the conveyer. The lower portion of the plate 11 is preferably provided on its front side with forwardly extending teeth 12 which teeth are thus disposed in opposing relation to the teeth 8 of the conveyer. The presser plate is yieldingly urged toward the conveyer by means of a weight 13, slidably mounted as shown at 14 upon an arm 15, secured between its ends to one of the projecting ends of the rock-shaft 9, and located exteriorly of the casing or receptacle. The forwardly extending portion 16 of the arm is arranged to abut against a stop 17 mounted on the adjacent end wall 10, and this stop is so located that the inwardly swinging movement of the presser plate 11 is limited to prevent the teeth thereof coming into contact with the teeth of the conveyer.

Associated with the above-described mechanism, is a suitable comb. In the present embodiment, a rock-shaft 18 is journaled in the end walls 10 outside of the presser plate 11, and is provided between said end walls with forwardly extending arms 19 secured thereto, which arms project through slots 20 in the presser plate and carry at their inner ends a comb 21 of any suitable structure. This comb thus operates between the presser plate and the conveyer and between the upper and lower edges of the former. The rock-shaft 18 is operated in any suitable manner, as for instance, by means of a pitman 22 pivoted to a crank arm 23, secured to one end of the shaft, the pitman being

also connected to a pulley 24 driven through the medium of a belt 25 from one of the conveyer shafts, as 26.

The operation of the mechanism may be briefly described as follows. The stock is placed in the receptacle in the ordinary manner, and when said receptacle is full, the presser will be in its rearmost position, as indicated in dotted lines. The weight 13, however, serves to yieldingly urge the plate toward the conveyer, and as the material in the receptacle or hopper is carried away by the conveyer, the presser plate will swing toward said conveyer. The comb 21 is continually oscillated between the plate and the conveyer, and is consequently combing off the surplus material from the latter. Instead of this material being returned, over or by the presser plate, back on the top of the body of stock in the hopper, it is retained by the presser, so that it will be immediately re-engaged by the teeth of the conveyer, and thus the conveyer teeth will at all times be kept full and an even quantity be carried away to the weighing mechanism. Experience has demonstrated that as a result of this arrangement there is practically no selection or separation between the long and short material, and both are maintained in their mixed condition and fed evenly to the usual weighing mechanism, whether the hopper is filled or not.

For the purpose of notifying the operator or attendant when the stock becomes exhausted or is low, the following mechanism is preferably employed. A bell 27 is provided that may be placed in any position desired, and an electrical circuit shown diagrammatically at 28 includes said bell, a source of electrical energy 29, and a switch or circuit closer 30. The switch or circuit closer comprises a supporting body 31, adjustably mounted on one end of the wall 10 of the body by means of a screw 32 that is passed through a slot 33 in the support. A pair of spaced contact springs 34 are secured, as shown at 35 on one end portion of the body, and have their free terminals disposed contiguous to each other, but out of contact. To these spring contacts 34 the wires of the circuit 28 are connected. An actuating plunger 36 is slidably mounted on the body, and has one end movable between and into engagement with the contact springs, the other end of the plunger being connected to a link 37 having a pivotal connection with a crank arm 38 carried by the rock-shaft 9. It will thus be apparent that when the presser plate 11 swings to its innermost position, the arm 38 will be swung in a corresponding direction, the plunger 36 will be forced between the contact springs 34, and consequently the circuit will be closed, thereby ringing the bell 27 and notifying the attendant or operator of the condition of the machine. If desired suit-

able electrically operated stop mechanism, shown diagrammatically at 39, may be included in the circuit 28, and this mechanism may be so arranged that when the circuit is closed, the entire carding mechanism associated with the feeder can be stopped. Any well known or desired type of stop mechanism may be employed, as desired, and it is therefore believed to be unnecessary to describe the same in detail.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a feeder of the class described, the combination with a hopper, of an upwardly extending conveyer constituting a wall of the hopper, a presser plate pivotally hung from its upper end in the upper portion of the hopper and swinging toward and from the upper portion of the conveyer, said plate having a pintle projecting from the hopper, an arm connected between its ends to the projecting pintle and disposed outside the hopper, a weight mounted on the arm on one side of the pintle, a stop located in the path of movement of the portion of the arm that is on the opposite side of said pintle to the weight, and an oscillatory comb operating in the space between the conveyer and presser plate, said comb being disposed below the upper portion of said plate.

2. In a feeder of the class described, the combination with a conveyer, of a movable presser coacting therewith, and a comb projecting through the presser and co-operating with the conveyer.

3. In a feeder of the class described, the combination with a conveyer, of a movable presser coacting therewith and spaced therefrom, a movable comb operating in the space between the conveyer and presser, and supporting means for the comb located outside of said space.

4. In a feeder of the class described, the combination with a conveyer, of a movable presser coacting therewith and spaced therefrom, a supporting device located in rear of the presser, and a comb carried by said device and located in the space between the conveyer and presser.

5. In a feeder of the class described, the combination with end walls, of a conveyer operating between the same, a movable presser also disposed between the end walls and coacting with the conveyer, being spaced

from the latter, a rock shaft journaled in rear of the presser, means for operating the rock shaft, and a comb carried by said rock shaft and located in the space between the conveyer and presser.

5 6. In a feeder of the class described, the combination with a conveyer, of a comb co-operating with the upper portion of the conveyer, and a presser that swings toward and
10 from the conveyer, and is disposed in rear of the comb, said presser extending above and below the comb and thus maintaining the material against the conveyer both above and below the said comb.

15 7. In a feeder of the class described, the combination with a conveyer, of a swinging presser plate disposed adjacent thereto and having slots, and an operating comb having
20 arms projecting through the slots, said comb operating between the presser plate and the conveyer.

8. In a feeder of the class described, the combination with a receptacle, of an upwardly extending conveyer constituting one
25 wall of the receptacle, a presser plate hung within the receptacle and swinging toward and from the conveyer, means for yieldingly urging the presser plate toward the conveyer, rock-shaft journaled outside the plate, arms
30 carried by the rock-shaft and projecting

through the presser plate, and a comb carried by the inner ends of the arms and disposed between the conveyer and the presser plate.

9. In a feeder of the class described, the combination with a hopper, of an upwardly
35 extending conveyer constituting the rear wall of the hopper and having forwardly extending teeth, a rock-shaft journaled in the hopper, a presser plate suspended from the
40 rock shaft and having a swinging movement toward and from the conveyer, said plate having rearwardly extending teeth on its lower portion, and upright slots, an arm
45 mounted on the rock-shaft, a weight adjustable on the arm for swinging the presser plate toward the conveyer, a stop for limiting said swinging movement, another rock shaft journaled on the hopper outside the presser plate,
50 arms carried by the rock-shaft and projecting through the slots of the presser plate, and a comb mounted on the inner ends of the arms between the presser plate and conveyer.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature
55 in the presence of two witnesses.

JAMES WALKER SCOTT.

Witnesses:

ESTELLE SCOTT,
ELIAS H. FOLEY.