U. U. ULAM.

ALARM FOR TIN CLEANING MACHINES.

APPLICATION FILED NOV. 4, 1918.

1,313,766.

Patented Aug. 19, 1919.

3 SHEETS—SHEET 1.

Fig. 1.

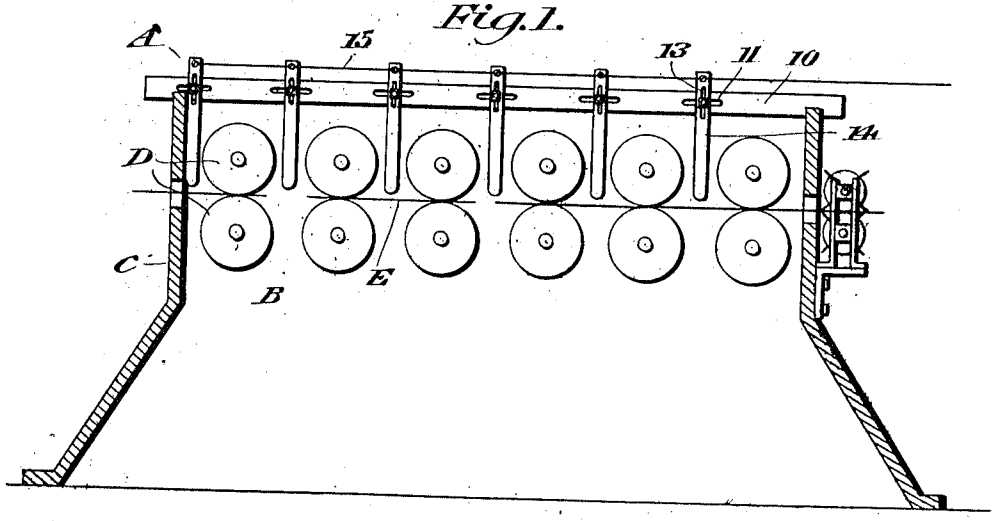


Fig. 2.

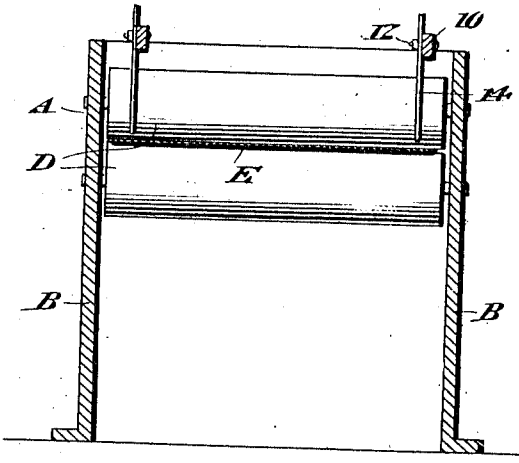


Fig. 3.

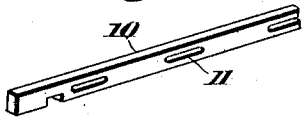
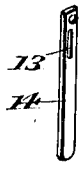


Fig. 4.



Witness

M. H. Peters

Inventor

Ura U. Ulam

By Victor J. Evans

Attorney

U. U. ULAM.

ALARM FOR TIN CLEANING MACHINES.

APPLICATION FILED NOV. 4, 1918.

1,313,766.

Patented Aug. 19, 1919.

3 SHEETS—SHEET 2.

Fig. 5.

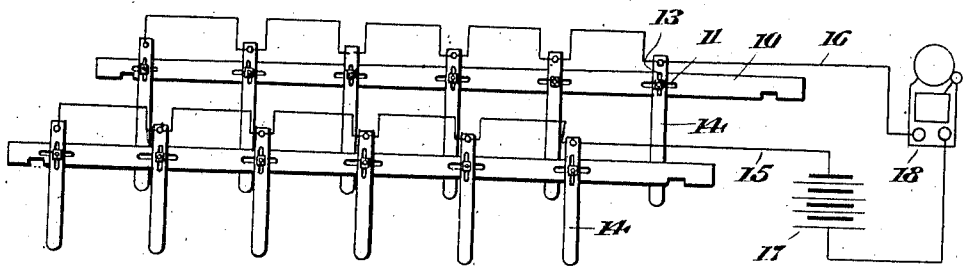


Fig. 6.

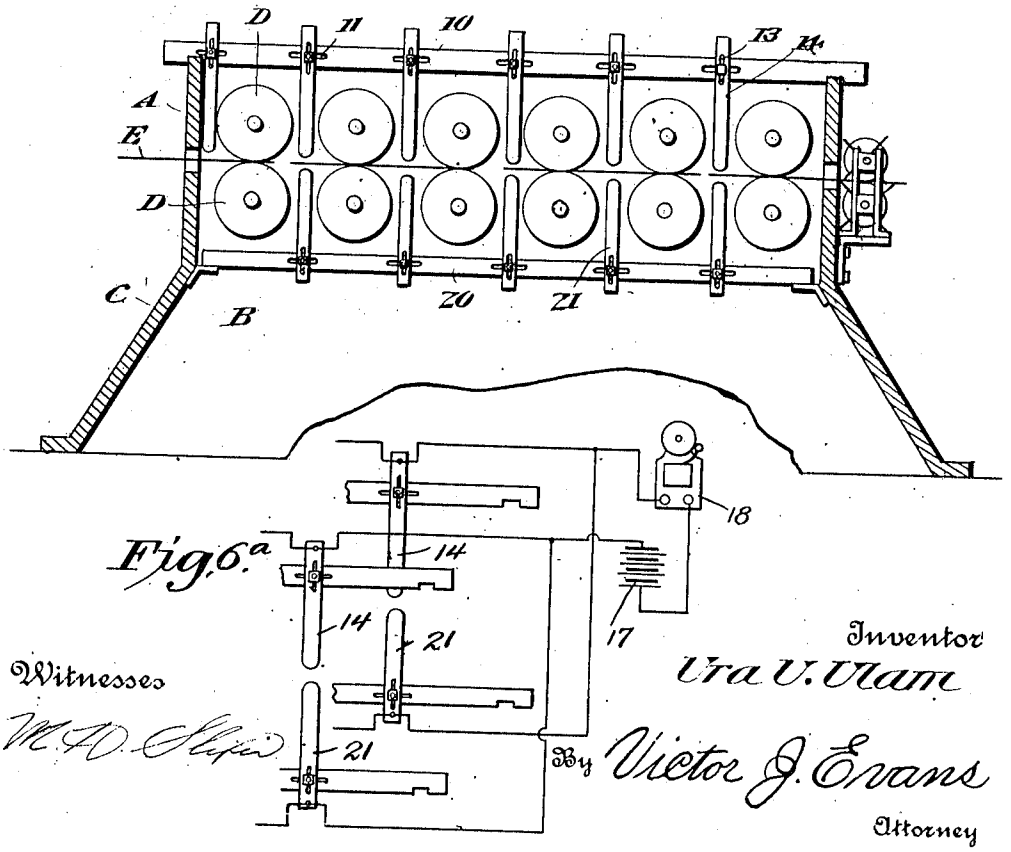


Fig. 6a.

Witnesses

M. A. Shipe

Inventor

Ura V. Ulam

By Victor J. Evans

Attorney

U. U. ULAM.

ALARM FOR TIN CLEANING MACHINES.

APPLICATION FILED NOV. 4, 1918.

1,313,766.

Patented Aug. 19, 1919.

3 SHEETS—SHEET 3.

Fig. 7.

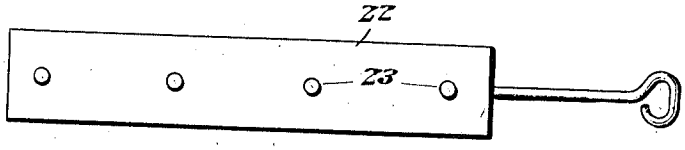


Fig. 8.

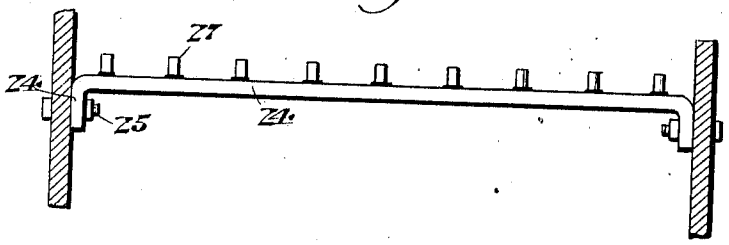


Fig. 9.

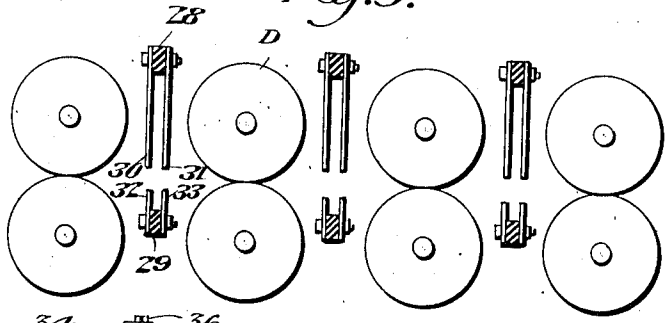


Fig. 11.

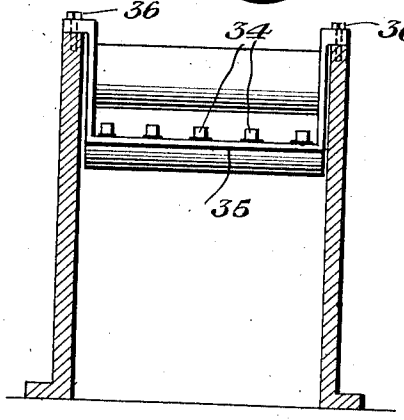
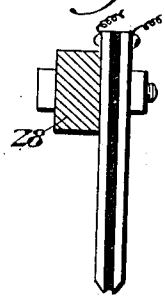


Fig. 10.



Inventor

Ura U. Ulam

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

URA U. ULAM, OF CHESTER, WEST VIRGINIA.

ALARM FOR TIN-CLEANING MACHINES.

1,313,766. Specification of Letters Patent. Patented Aug. 19, 1919.

Application filed November 4, 1918. Serial No. 261,028.

To all whom it may concern:

Be it known that I, URA U. ULAM, a citizen of the United States, residing at Chester, in the county of Hancock and State of West Virginia, have invented new and useful Improvements in Alarms for Tin-Cleaning Machines, of which the following is a specification.

This invention relates to alarm devices, and has for its object the provision of an electric alarm or signal adapted for use in connection with machines for cleaning sheets of tin whereby an alarm will be given in the event of "cobbling" of any of the sheets passing through the machine.

More specifically the object of the invention resides in the provision of a plurality of contact members extending between the rollers of a tin cleaning machine in position to be engaged by a sheet during cobbling or buckling thereof, these contact members being arranged in a circuit including a source of current and an alarm or signal.

An important object is the provision of a device of this character in which the various contact members are adjustably mounted so that their positions between the rows may be varied and so that the distance between their ends and the sheet passing through the machine may be regulated.

A further object is the provision of a device of this character which will be simple and inexpensive in manufacture and installation, which will be efficient in use, durable in service and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings in which:—

Figure 1 is a sectional view through a tin cleaning machine showing my device applied thereto.

Fig. 2 is a cross sectional view.

Fig. 3 is a perspective view of one of the contact supports.

Fig. 4 is a perspective view of one of the contacts

Fig. 5 is a diagram of the circuit showing the use of a bell as a signal or alarm.

Fig. 6 is a sectional view through a tin cleaning machine provided with a plurality of upwardly extending contact members in addition to the series of downwardly extending contact members.

Fig. 6ª is a diagrammatic view showing the two sets of contact members of Fig. 6 arranged in branch circuits.

Fig. 7 is a plan view of a type of slide used in this character of machine and provided with contact members.

Fig. 8 is a detail view illustrating a modified form of lower contact members.

Fig. 9 is a somewhat diagrammatic sectional view through a tin cleaning machine showing a modified form of contact member.

Fig. 10 is a detail view through one pair of the contact members shown in Fig. 9, and.

Fig. 11 is a cross sectional view showing another modified form of lower contact members.

Referring more particularly to the drawings, and especially to Figs. 1 to 5, inclusive, the letter A designates a machine for cleaning sheets of tin, this machine including a casing formed of side and end walls B and C, respectively. Journaled within the casing are coacting rolls D between which the sheets of tin E are passed during the cleaning operation. The means for rotating the coacting rolls D and the other mechanism connected with the device are not shown, as forming no part of the present invention.

In machines of this type it frequently occurs that a sheet of tin in passing through the series of coacting rolls will "cobble" or buckle and not only be distorted and consequently rendered useless, itself, but will also ruin other sheets subsequently fed into the machine until the machine is stopped and all the cobbled or buckled sheets removed.

In carrying out my invention I provide a pair of supporting bars 10, formed of wood or other suitable insulating material, which are disposed longitudinally of the casing of the machine and which are secured upon the top edges of the end walls C by any suitable means. The bars 10 are provided with a plurality of elongated slots 11 through which pass clamping screws 12 which extend through elongated slots 13 in the upper ends of metallic contact members 14 which extend downwardly within the casing of the machine between the successive rolls D and which are so positioned as to have their lower extremities disposed

slightly above the plane of the sheets of tin passing between the coacting rolls. All the contacts 14 carried by one bar 10 are connected by a wire 15 and all the contacts carried by the other bar 10 are connected by a wire 16. The wire 15 is connected with one pole of a source of current 17 which has its other pole connected with one terminal of a bell 18, or other suitable signal, and the wire 16 is connected to the other terminal of the bell.

In the event that any sheet E of tin passing through the machine should cobble or buckle upwardly, it will engage against the lower ends of the adjacent pair of contacts 14 and form a bridge between them, closing the circuit through the bell 18 or whatever signal it is desired to employ. This will of course apprise the operator of the machine that a sheet has cobbled or buckled and he may then of course shut down the machine and remove the defective sheet before further damage is done.

The provision of the elongated slots 11 in the supporting bars 10 and the slots 13 in the contact members 14 is very important as by means of the clamping screws 12 passing through these slots, the contact members 14 may be adjusted vertically so that the position of their lower ends in respect to the plane of the sheets of tin passing through the machine may be regulated and the contact members 14 may also be adjusted longitudinally of the supporting bars 10 so that they will be disposed in the most effective positions in respect to the adjacent rolls D.

While I have shown my device adapted for ringing a bell, it will of course be understood that I may make use of any other desired form or signal or may provide some electrically operated device for automatically cutting off the driving power of the machine when the circuit is closed through the contact by buckling or cobbling of a sheet.

Referring more particularly to Fig. 6 of the drawings it will be seen that in addition to the upper supporting bars 10 and the contact members 14 depending therefrom, I have provided lower supporting bars 20 which are disposed in the bottom of the machine and which are provided at spaced intervals with a plurality of upwardly extending contact members 21 which are disposed between the pairs of co-acting rolls and which have their ends terminating below the plane of travel of the sheets passing between the rolls. In this form of the device, by referring to Fig. 6ª it will be seen that the current passing from the cells is divided so that a portion thereof will pass through the contact members 21 as well as through the contact members 14. When a machine is equipped with this modified form of my device it will be seen that downward as well as upward cobbling or buckling of the sheets will close the circuit through the signal.

Referring to Fig. 7 it will be seen that I may make use of a slide 22 which is ordinarily employed in machines of this character for supporting a plurality of contact members 23 the function of which is identically the same as that of the contact members 21.

Referring to Fig. 8 it will be seen that I have provided a modified form of means for securing the lower contact members within the casing of the machine. In this form, the lower supporting members 24 are formed as suitable rods or bars which have their ends laterally directed as shown at 25 and suitably bolted upon the casing of the machine as shown at 26. In this form, the bar 24 is provided with a plurality of upwardly extending contact members 27. This type of support may be used to extend longitudinally of the machine with the contact members 27 disposed between the successive pairs of rolls or it may be used to extend transversely of the machine with all of the contact members 27 on each bar disposed between two successive pairs of rolls. The electrical connection in this form may be such as will be found most advantageous in service.

Referring to Figs. 9 and 10 it will be seen that I have provided a still further modified form of means for supporting the contact members. In this form I provide upper and lower bars 28 and 29 respectively which extend transversely of the machine and which are arranged preferably in vertical alinement with each other. The upper bars 28 have secured thereon and insulated therefrom contact members 30 and 31 which are arranged in pairs and the lower bars 29 have secured thereon and insulated therefrom upwardly extending contact members 32 and 33 likewise arranged in pairs. With this arrangement, all the contacts 30 and 32 are connected in common as are all the contact members 31 and 33. In the event of buckling of a sheet either upwardly or downwardly, engagement of the sheet against any pair of contacts will result in bridging them and closing the circuit between them for sounding the signal.

In Fig. 11 I have shown the lower contact members 34 as extending upwardly from a U-shaped supporting bar 35 which has the ends of its arms laterally directed and engaged upon the top of the casing and secured in position by suitable screws 36. This arrangement permits the lower contact supporting bar to depend entirely from the top of the casing. The upper contact members may be supported in the same way. The operation of this form is of course the same as in the other forms.

Having thus described my invention I claim:—

1. In combination with a tin cleaning machine including a casing and a series of co-acting rolls journaled therein and engaging upon opposite sides of sheets of tin passing through the machine; an alarm mechanism comprising a plurality of contacts disposed between the successive rolls in non-obstructing position in relation to the normal path of travel of the sheet and in position to be engaged by said sheet upon buckling thereof, said contact members being included in a circuit including a source of current and a signal.

2. In combination with a tin cleaning machine including a casing and a plurality of co-acting rolls journaled therein and adapted for engagement with the opposite sides of sheets of tin passing through the machine; an alarm mechanism comprising a pair of spaced supporting members engaged upon the top of said casing, and a plurality of contact members connected with and depending from said supporting members, said contact members being disposed between the successive rolls and terminating adjacent the plane of movement of said sheets between said rolls, said contact members being included in a circuit including a source of current and a signal device.

3. In combination with a tin cleaning machine including a casing and a plurality of co-acting rolls journaled therein and engaging upon opposite sides of sheets of metal passing through the machine; an alarm mechanism comprising a pair of spaced supporting members engaged upon the top of said casing and a plurality of vertically adjustable contact members depending from said supporting members and disposed between the successive rolls, the lower ends of said contacts terminating adjacent the normal plane of movement of said sheets, and said contact members being arranged in a circuit including a source of current and a signal.

4. In combination with a tin cleaning machine, including a casing and a plurality of coacting rolls journaled therein and engaging upon opposite sides of sheets of material passing through the machine; an alarm mechanism comprising a pair of spaced supporting members engaged upon the top of said casing, a plurality of vertically adjustable contact members depending from said supporting members and arranged between the successive rolls with their lower ends terminating adjacent the normal plane of movement of said teeth, means whereby said contact members may be adjusted longitudinally of said supporting members, and said contact members being arranged in a circuit including a source of current and a signal.

In testimony whereof I affix my signature.

URA U. ULAM.