H. A. GSELL.

PACKING APPARATUS FOR MACHINES FOR PACKING MATCHES IN BOXES.

APPLICATION FILED JUNE 11, 1912.

1,081,379.

Patented Dec. 16, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

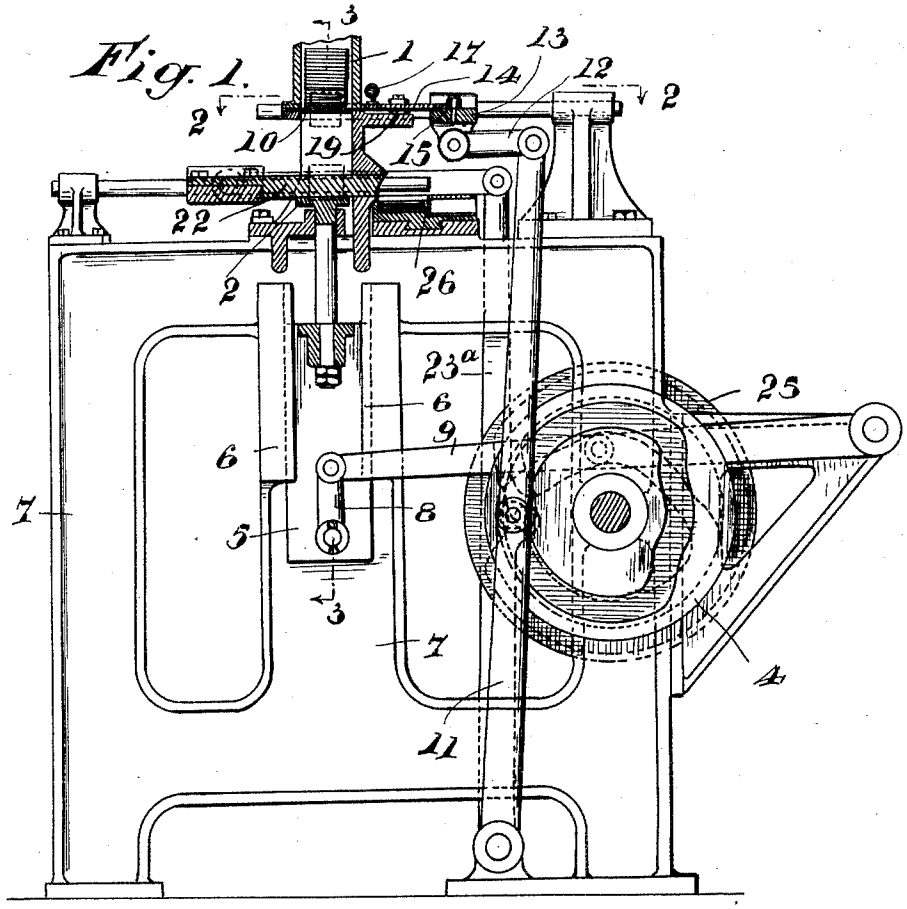
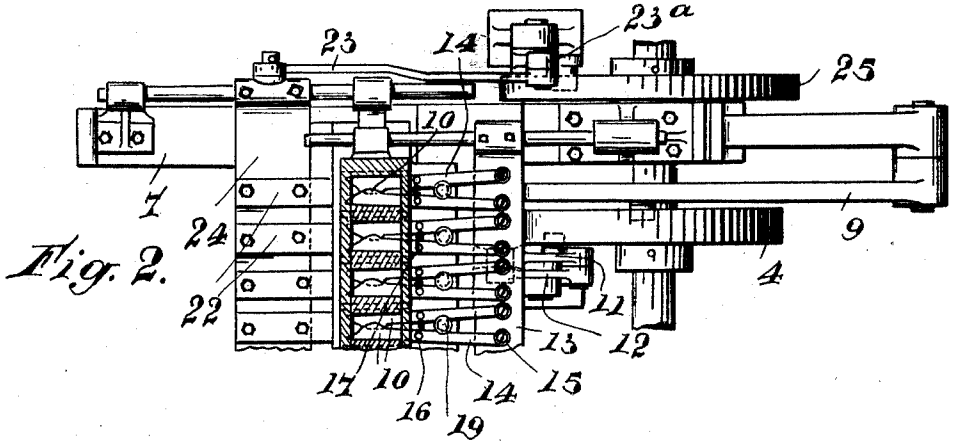


Fig. 2.



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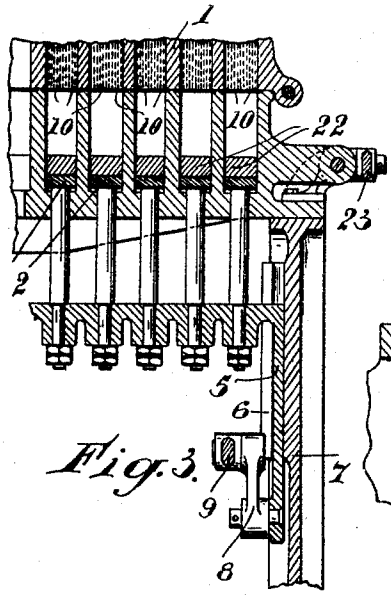


Fig. 3.

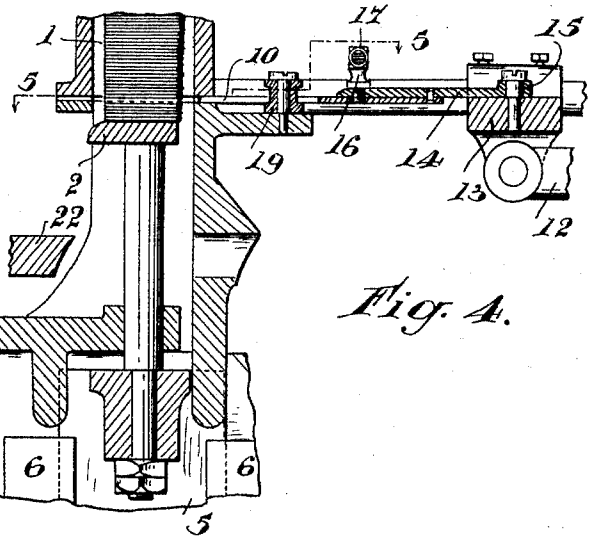


Fig. 4.

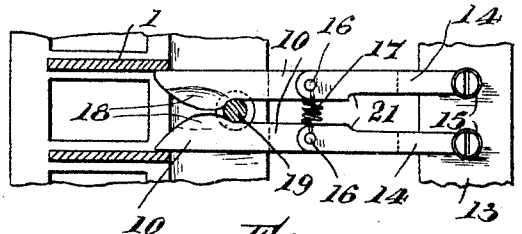


Fig. 5.

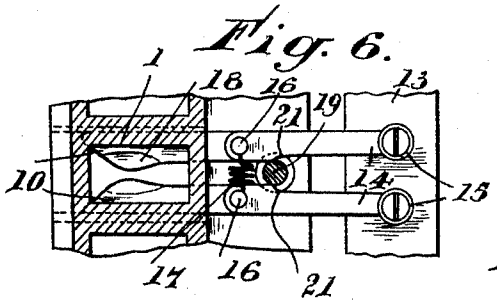


Fig. 6.

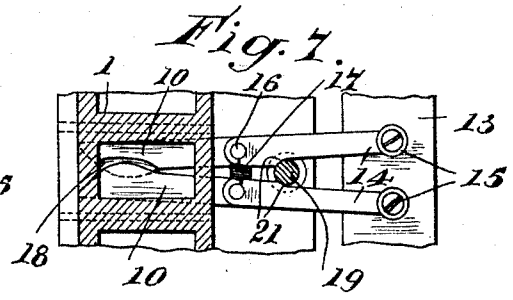


Fig. 7.

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UNITED STATES PATENT OFFICE.

HENRY ALFRED GSELL, OF PARIS, FRANCE.

PACKING APPARATUS FOR MACHINES FOR PACKING MATCHES IN BOXES.

1,081,379. Specification of Letters Patent. Patented Dec. 16, 1913.

Application filed June 11, 1912. Serial No. 703,088.

To all whom it may concern:

Be it known that I, HENRY ALFRED GSELL, a citizen of the Swiss Confederation, residing at Paris, France, have invented new and useful Improvements in Packing Apparatus for Machines for Packing Matches in Boxes; and I do hereby declare the following to be a full, clear, and exact description of the same.

The object of this invention is to provide a packing apparatus, wherein the matches are not measured off from the sides but from the front (the head or end of the matches), whereby considerable space is saved, and width for width, twice as many boxes as in the old arrangement may be filled. I know there are slides or knives for measuring off matches, which are also pushed in between the matches from the front and not from sides. The construction of these slides is fixed and does not allow a lateral movement, so that the matches are frequently cut into pieces or crushed in the acute angle of the dove-tailed slides.

The object of this invention is to provide measuring off slides or knives formed of two parts which can yield sidewise. Between these two knives a free space is maintained until the knives pass beyond the heads of the matches said free space corresponding to the thickness of one or two matches, whereupon the knives are closed completely. In this arrangement the matches cannot be cut into pieces, and the heads therefore cannot be injured, as at the utmost only one match can be wedged laterally between the knives. Thus no injury would be produced as this wedged match would assist in preventing the upper matches from dropping downward.

In the accompanying drawings a construction according to this invention is illustrated by way of example.

Figure 1 shows a front elevation partly in section of the complete packing apparatus; Fig. 2 shows a horizontal section on the line 2—2 of Fig. 1; Fig. 3 shows a vertical section on the line 3—3 of Fig. 1; Fig. 4 shows in vertical section an enlarged detail of the packing apparatus; Fig. 5 is a horizontal section on the line 5—5 of Fig. 4, showing a compartment of the measuring off apparatus prior to the measuring off, the slides or knives being in an open position; Fig. 6 is a similar section, the slides or knives being partly pushed in the compartment and Fig. 7 is a further similar section showing the slides completely pushed in and in a closed position.

In the magazine 1 are contained horizontally arranged matches as shown in Figs. 1 and 4. In order to enable a certain quantity to be measured off for each box, the plunger 2 will be raised into the position shown in Fig. 4, said plunger being actuated by a cam-disk 4 through the medium of a slide 5, moving in a slide 6 of the frame 7, and link 8 and lever 9.

Between the plunger 2 and the level of the measuring slides or knives 10 there is left a space corresponding to the volume of one box.

Now, when the measuring slides or knives 10, which are also actuated by the cam disk 4 through the medium of lever 11 and link 12 acting upon a bar 13, are moved backward, the matches drop upon the plunger 2. Afterward the knives are again moved forward entering between the matches of the corresponding compartment so that the matches above the level of the knives are separated from the matches supported by the plunger 2, and the latter will be lowered to a position where the matches are taken off.

The knives 10 are pivoted horizontally on the reciprocating bar 13 by means of links 14 and screws 15. Each link is provided with a pin 16 engaged by a spring 17. As shown in Figs. 5–7 the front end 18 of each knife is dish-shaped.

22 denote pistons connected to a bar 24 reciprocated by means of a connecting link 23 and a link 23^a by a cam disk 25. The pistons 22 push the measured-off matches into the boxes 26 as shown in Fig. 1.

The operation of the measuring slides or knives is clearly demonstrated in Figs. 5–7. During the forward movement of the knives 10^a roller 19 keeps them apart, until the side portion 18 is moved beyond the heads of the matches. The sloping edge 21 of the shank of each knife 10 enables the knives to be completely closed as shown in Fig. 7 by the action of the spring 17, when they are in their innermost position. Figs. 3 and 4 show how the knives slide in the spaces of the different compartments of the apparatus.

In the apparatus according to this invention the horizontally pivoted knives require only a small space for their actuation, so that the walls separating the different compartments of the magazine can be made

much thinner and considerable space is saved for the packing operation.

I claim:

1. In an apparatus for packing matches in boxes, wherein the store of matches is measured off by knives pushed in between the matches from the ends or heads of the latter, a reciprocating bar, knives pivoted horizontally in pairs on said bar and means for closing completely the knives of each pair after they have passed beyond the heads of the matches.

2. In an apparatus for packing matches in boxes wherein the store of matches is measured off by knives pushed in between the matches from the ends or heads of the latter, a reciprocating bar, knives having a dish-shaped front end and pivoted horizontally in pairs on said bar, a sloping edge on the shank of each knife, a roller arranged between the knives and springs moving the knives of each pair toward each other after the sloping edge of the knife engages said roller.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY ALFRED GSELL.

Witnesses:
O. SICLEMHAAR,
LUCIEN MEMMINGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."