

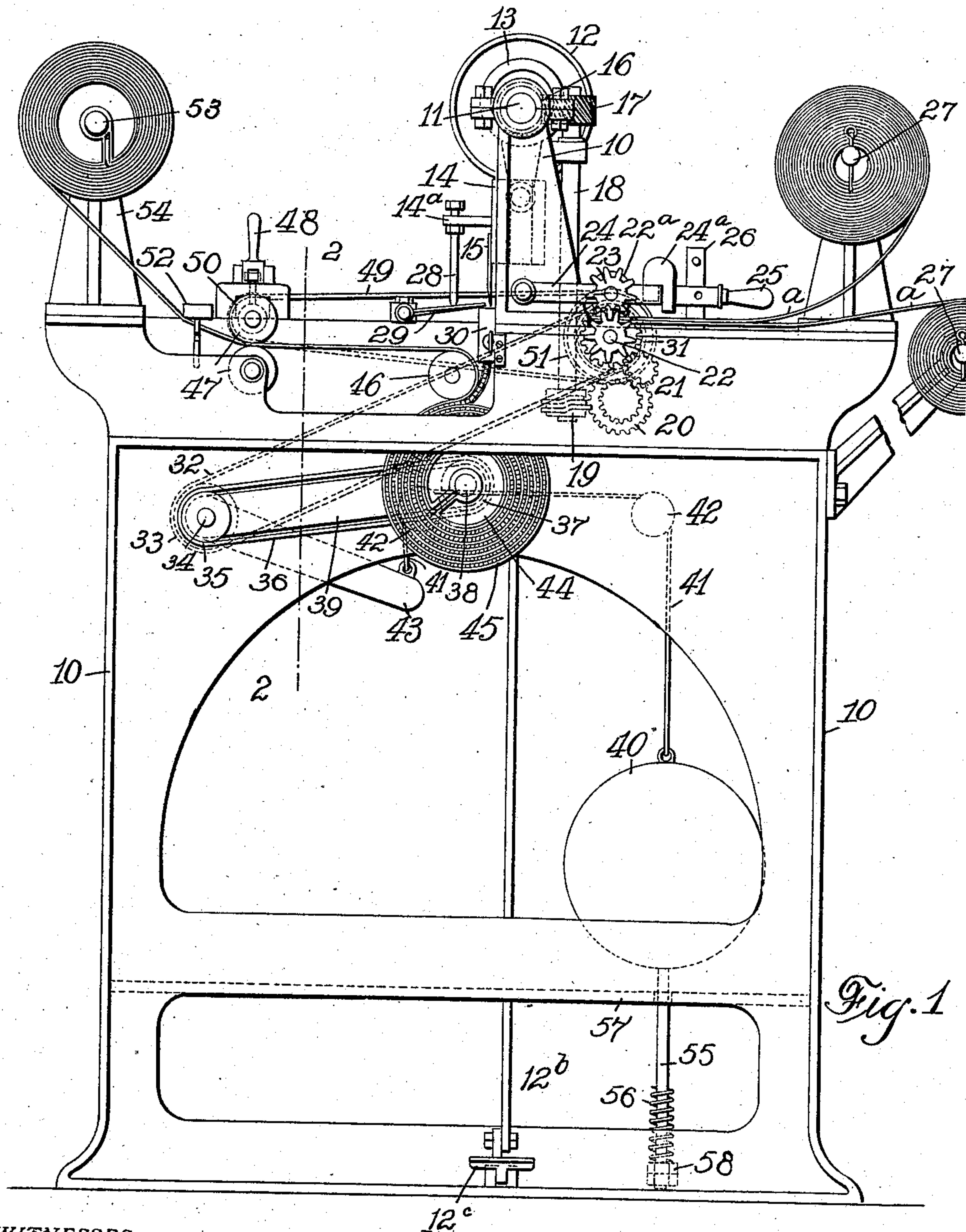
No. 881,334.

PATENTED MAR. 10, 1908.

W. H. PARKER.  
MATCH MACHINE.

APPLICATION FILED FEB. 27, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

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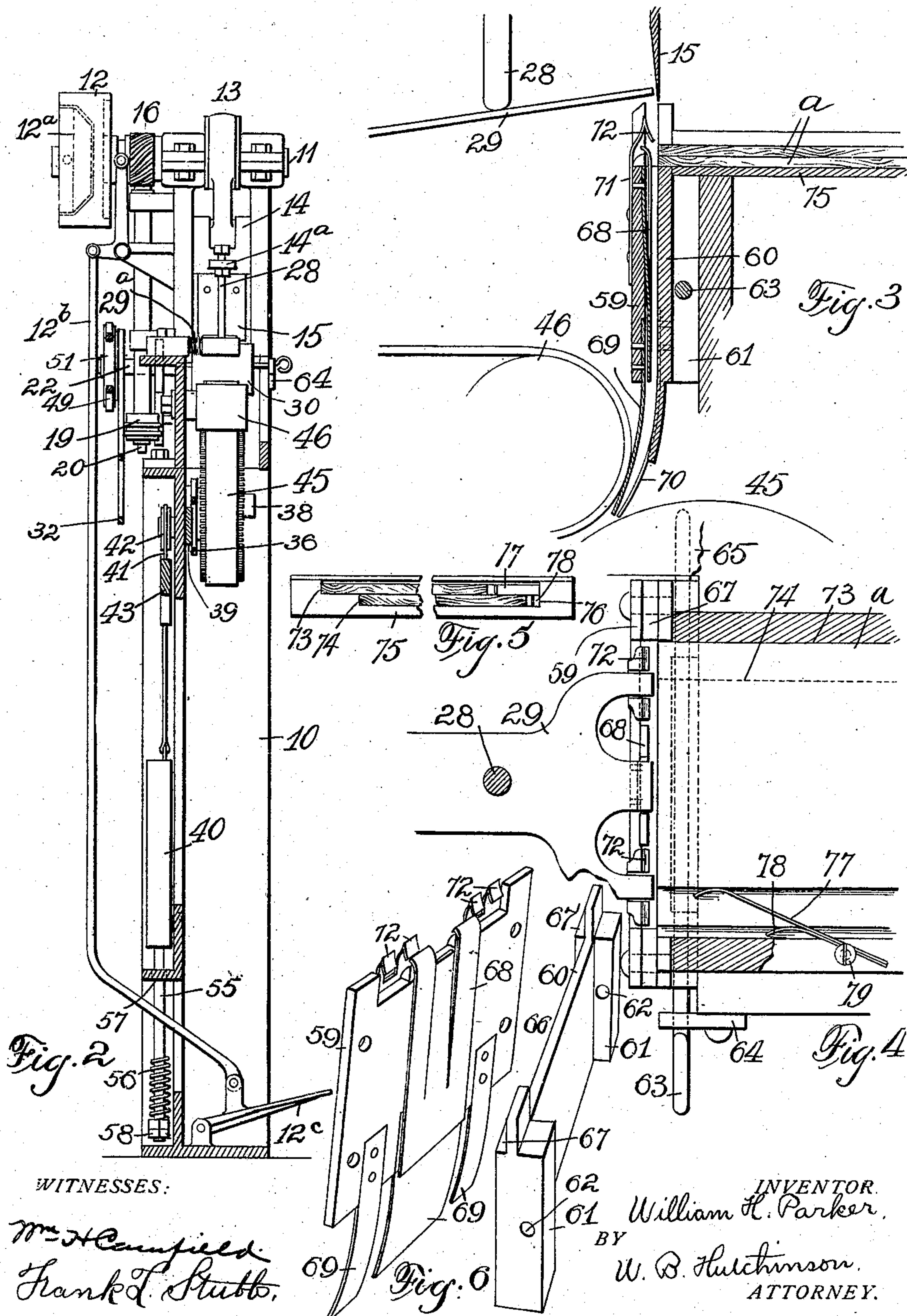
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# UNITED STATES PATENT OFFICE.

WILLIAM HENRY PARKER, OF PASSAIC, NEW JERSEY, ASSIGNOR TO DIXIE MATCH COMPANY,  
A CORPORATION OF NEW JERSEY.

## MATCH-MACHINE.

No. 881,334.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed February 27, 1905. Serial No. 247,429.

*To all whom it may concern:*

Be it known that I, WILLIAM H. PARKER, of Passaic, in the county of Passaic and State of New Jersey, have invented a new and Improved Match-Machine, of which the following is a full, clear, and exact description.

This invention relates to a machine for making matches, and is an improvement on a machine illustrated and described in the patent granted to me on January 17, 1905, No. 780,223, and is particularly designed to make matches according to the process described in my Patent No. 780,224 dated January 17, 1905.

The machine is particularly intended to take two strips of veneer, feed them simultaneously, one strip over-lapping the other, cut them off and then feed the splints, at a right angle to the veneer in close contact and roll them up in a coil of tape, each alternate match projecting from the same side of the roll whereby the necessary spaces are preserved between the heads of any two matches by the intervening match.

The machine is further designed to provide a chute that can be removed quickly in case it becomes clogged or to furnish different sized matches.

The machine is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the machine; Fig. 2 is a section on line 2—2 in Fig. 1; Fig. 3 is a vertical section of the chute; Fig. 4 is a top view of the same; Fig. 5 is a face view of the veneer feeding guideway; and Fig. 6 is a perspective of the two parts or plates comprising the chute.

In the drawings 10 is a suitable frame, in the upper part of which is journaled a shaft 11, which in turn is driven by the pulley 12. The preferred form of construction of the pulley is shown in Fig. 2, the pulley being loose on the shaft and actuated by means of the bell crank connected to the rod 12<sup>b</sup> leading down to the foot piece 12<sup>c</sup>. It will thus be seen that by the operation of the foot piece the pulley 12, which is constantly in motion, is thrown over against the cone 12<sup>a</sup> which is keyed to the shaft and the machine is thus operated. On the shaft 11, nearly in the center, is arranged an eccentric 13 that imparts a reciprocating motion to the block 14 to which is secured the knife 15, this construction embodying the cutting mechanism. I also secure to the shaft 11 a gear 16, which

is in mesh with the gear 17 on the shaft 18, to the bottom end of which is arranged a worm gear 19 that, in a steady rotation, provides an intermittent motion to the gear 20. The gear 20, through the train of gears 21, rotates the shaft 22 of the lower one of a pair of feed rolls 22<sup>a</sup>, these two feed rolls 22<sup>a</sup> being kept in unison as to their motion by a pair of gears 23. The pair of feed rolls is journaled in an arm or arms 24 provided with the weight 24<sup>a</sup> and operated by the handle 25 which can be held in its raised position by the stop 26, this enabling the raising of the upper feed roll when it is necessary to insert any new strip of veneer to the veneer table. The veneer is fed from two rolls placed on suitable shafts 27 that are arranged at any convenient point on the machine on suitable brackets. I have lettered the two strips of veneer with a small *a*. It will be seen that this device furnishes an intermittent feeding of the veneer and this intermittent feeding being arranged to take place on the withdrawal of the knife from the veneer table.

A stud 14<sup>a</sup> is arranged on the block 14 and it serves to hold a bolt 28 that operates a leaf 29 that is returned normally by the spring 29<sup>a</sup>, this leaf serving to force on the completion of the cut, the severed splints down through a chute 30. This chute 30 will be described in detail hereinafter, and is only mentioned here in a general way. On the shaft 22 of the lower veneer feed roll are arranged a pair of sprocket wheels, one of which 31, operates by means of a chain 32, sprocket wheel 33, on a shaft 34 that extends through the machine transversely, and on the opposed side of the web has a sprocket 35 which, through a chain 36 and a sprocket 37, rotates a shaft 38. This shaft 38 is supported on the end of a lever 39 which is pivoted on the shaft 34 and is normally held upward by the action of a weight 40 which, through the medium of the rope or cable 41, and the pulleys 42, tends to pull up on the lever 43, which is also secured to the shaft 34, all this mechanism operating to hold the end of the lever 39, up against the end of the chute. The shaft 38 holds the block 44 on which is wound the roll of splints 45, this roll having an intermittent motion through the medium of the chain and sprockets previously described. The tape of the splint roll is fed over a roll 46 after passing through the feed rolls 47, the upper one of which can be raised



by means of the handle 48, for the insertion of the tape and is operated by means of the chain 49 running over a sprocket wheel 50 and back onto a sprocket 51 on the lower shaft 22 of the veneer chute rolls. This insures a proper and sure feeding of the tape, the tape preferably passing through a guide 52 and being supported on the shaft 53 of a suitable standard 54. This machine thus provides a steady intermittent feeding of the veneer, of the tape for the splint roll and of the roll itself, and at the same time furnishes a positive feeding of the cut splints through the chute into the splint roll.

As the roll enlarges, it will be seen that it is slowly pressed away from the roll 46 and the chute 30 by the reason of this enlargement, and its weight slowly balances the power of the counter weight 40, and when it gets to that point where the preponderance of weight might be on the side of the roll, the weight 40 has risen to a point where the rod 55 has raised enough for the end of the spring 56 to come in engagement with the under edge of the web 57. The engagement of the spring would then compensate for the surplus weight that a large roll would entail, the pressure of this spring being regulated by the nuts 58.

The particular construction of chute is illustrated in Figs. 3, 4, 5 and 6, and it is composed of two plates 59 and 60. The plate 60 has on either end a flange 61, each flange being perforated as at 62, and through these perforations can be placed a pin 63 fitting on one end into the fixture 64 and projecting on the other into a suitable similar fixture or into the body of the machine 65. This construction allows a quick removal of this plate 60 and consequently the whole chute, as the front plate is fastened to the plate 60 to form the chute. In case of a clogging of the chute or a necessity for changing, the advantage of this quick removal feature will be apparent.

On the opposed side of the plate 60 is a cut-away portion 66 having the end flanges 67, these providing, with the plate 59, a way or chute through which the splints are arranged to pass. This plate 59 has a spring 68 fastened to its inner side, this spring being preferably split as shown, to provide a spring action the whole length of the duct or chute and insuring a steady holding of the splint

during their whole path of travel. The curved spring arms 69 and 70 on the plates 59 and 60 respectively, lead the web of splints down into the splint roll and they maintain a grip on the splints by their own resilience. The passage of the cut splints through the chute is insured by the plate 29 actuated as before described, by the bolt or finger 28. The plate 29 is cut away to avoid the projecting springs, but has the necessary fingers to project in so as to engage the match at two or three different points along its length to insure the straight passage of the splints. On the outside of the plate 59 I arrange the springs 71 that are bent over at the top into the noses 72, the office of these being to prevent the catching of any splints on the plate 29, and their being pulled out of the chute on this plate's return in fact, prevents any of the splints getting out the top of the chute.

As described in my previous patent for a process of making matches, I arrange a veneer table with space for two strips of veneer, butting up against the staggered end pieces 73 and 74 of the plate 75, the opposed side being made flush as at 76, but I employ two springs 77 for one strip of veneer and 78 for another, these being held securely by means of the screw 79 or any similar means and these springs serve to hold the veneer strips up against these staggered edges on the other side of the table and it will thus be seen that the strips are fed in their proper relation, so that when cut off, they present a pair of strips, the opposed end of each one overlapping that of the other, and these, when placed in series and wrapped into a roll with tape to form an intervening medium, form a web showing on each side the alternate heads of the matches projecting for the purposes of dipping.

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

In a match machine, the combination with the coiling means, of a counter weight to balance the coil, and a tension spring thrown into action by the movement of the counter weight, and adapted to augment the action of the weight.

WILLIAM HENRY PARKER.

Witnesses:

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