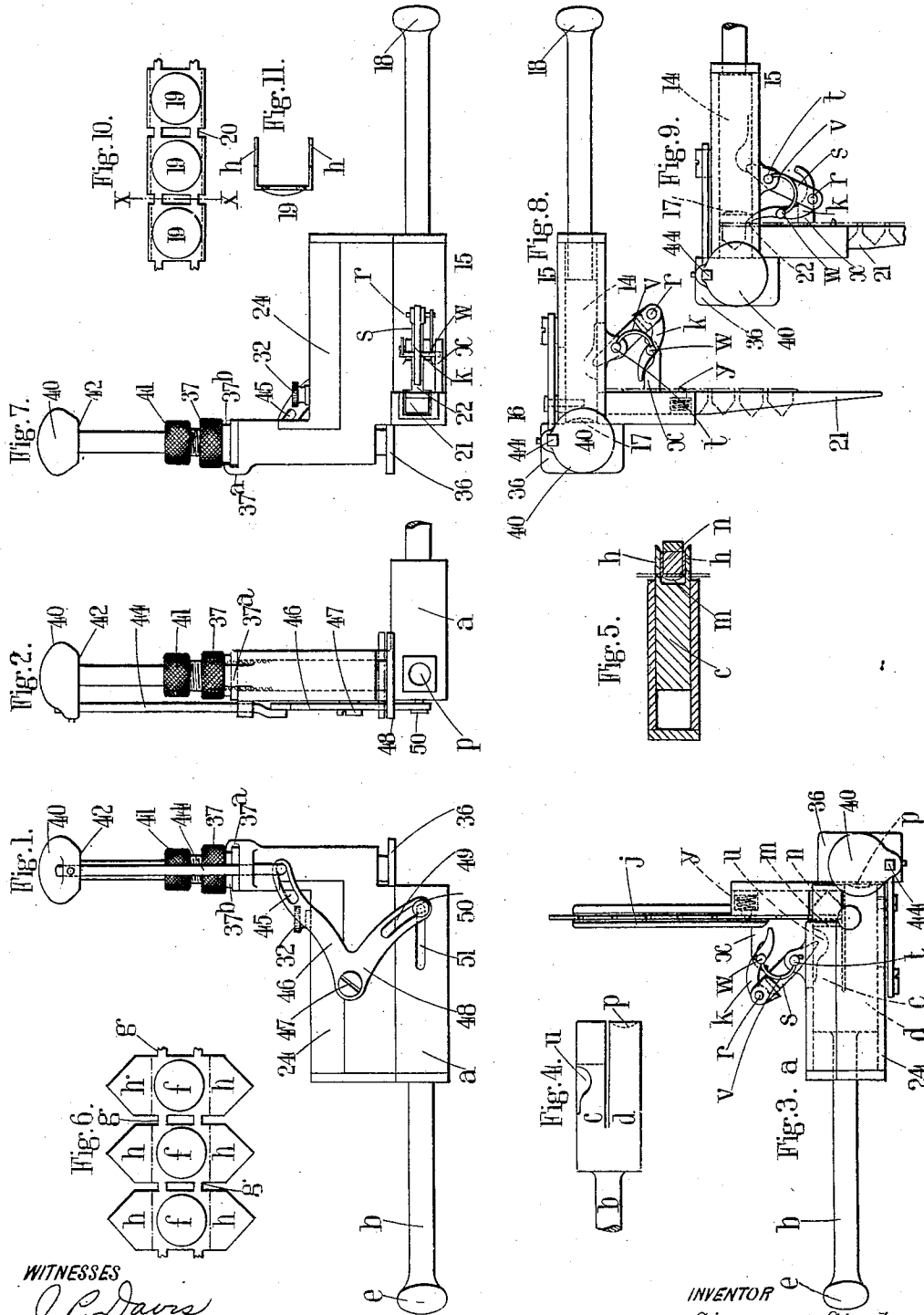


S. STROH.
MEANS FOR ATTACHING SEALS TO PACKING CASES.
APPLICATION FILED SEPT. 24, 1909.

977,342.

Patented Nov. 29, 1910.

2 SHEETS—SHEET 1.



WITNESSES
J. P. Davis
C. E. Holske

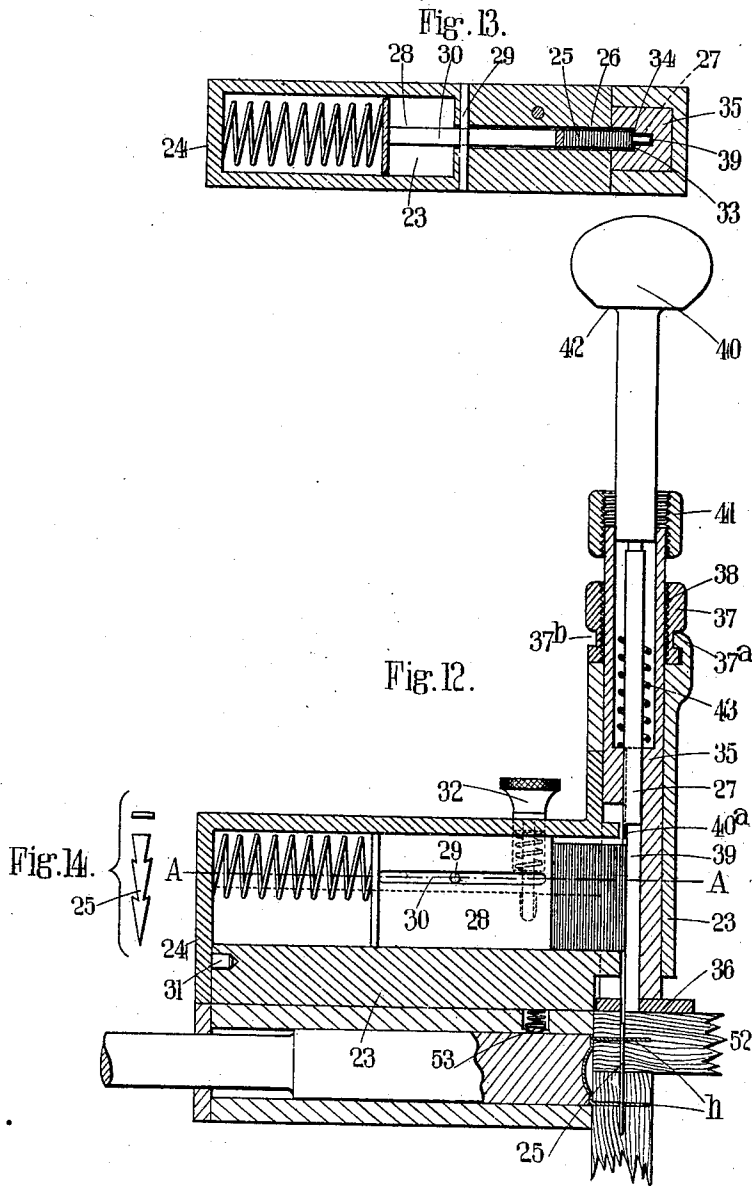
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WITNESSES

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UNITED STATES PATENT OFFICE.

SIGMUND STROH, OF LONDON, ENGLAND.

MEANS FOR ATTACHING SEALS TO PACKING-CASES.

977,342.

Specification of Letters Patent.

Patented Nov. 29, 1910.

Application filed September 24, 1909. Serial No. 519,464.

To all whom it may concern:

Be it known that I, SIGMUND STROH, a subject of the King of Great Britain, and resident of 30 Allerton road, Lordship Park, London, N., England, merchant, have invented certain new and useful Improvements in and Relating to Means for Attaching Seals to Packing-Cases, of which the following is a specification.

10 This invention relates to seals for packing cases, and has for its object to provide improved means for attaching the same.

Packing cases have hitherto been secured closed by clamps in the form of a U-shaped piece of metal, which is driven into the lid and side of the packing case and secured in place by a pin driven through the case and through the two arms of the U-shaped piece of metal. Such clamps have been attached by first placing in position and driving in each U-shaped piece of metal and then each pin. Sealing wax has also been used for securing packing cases, but owing to the brittle nature of the wax, the seals are very frequently broken or entirely removed when the cases are handled.

The usual form of clamp is as above set forth, a U-shaped piece of metal. When such clamps are plain on the outer surface or are embossed in a manner common to clamps which can be obtained by anyone, they possess the disadvantage that any unauthorized person can remove the clamp and replace it with a similar one. For greater security the clamps used with this invention are embossed in any particular manner so as to form seals. For instance, by embossing with the name of a firm or its trade mark.

40 According to this invention a strip of metal cut and shaped to form a supply of seals connected together by narrow necks of metal, is automatically fed through the device and a stock of pins is so arranged that after each operation a fresh seal and a fresh pin are in position for use.

One form of device constructed in accordance with this invention is provided with a supply of seals in the form of a coil, the strip of metal being flat except at the embossed part which forms the actual seal. The device is also provided with a pair of spring-pressed plungers one of which is adapted when struck, to bend each seal successively into the U-shaped form and the other is adapted, when struck by the same

blow, to engage the back of the strip of metal and to force a seal into the packing case, simultaneously shearing off the necks or parts of the necks of metal by which the seals are held together in the strip. The return stroke of these spring-pressed plungers operates a pawl and feeds the strip through the device so as to bring another seal into position to be bent to the U-form, and the seal bent by the last stroke into position to be driven into the packing case. The device is also provided with a magazine to contain pins, which are successively and automatically brought into position to be driven into the packing case and through the seal, by an adjustable spring-pressed plunger acting at right angles to the first named plungers.

Referring to the drawings, Figure 1 is a side elevation of one form of device constructed in accordance with this invention. Figure 2 is a front elevation and Fig. 3 is a plan thereof. Fig. 4 is a plan and Fig. 5 a sectional elevation of a detail. Fig. 6 is a face view of a strip of seals used with this form of device. Fig. 7 is a side elevation of a modified form of device constructed in accordance with this invention. Fig. 8 is a plan thereof. Fig. 9 is a part plan showing the operation of a detail. Fig. 10 is a face view of a strip of seals used with the modified form of device. Fig. 11 is a section on line X—X, Fig. 10. Fig. 12 is a sectional elevation on an enlarged scale showing the operation of the device; Fig. 13 is a section of the device shown in Fig. 12, drawn on a line A—A, and Fig. 14 shows the pin.

The form of device shown in Figs. 1 to 5, is provided with a supply of seals in the flat form shown in Fig. 6, and is adapted firstly to bend each seal successively into U-shape; secondly, to advance the supply of seals so as to bring the next seal into bending position and the bent seal into driving position, and thirdly to drive the bent seal into its final position, said driving taking place at the same time as the adjacent seal is bent as hereinbefore set forth as the first operation. The device is also provided with a supply of pins and means for driving said pins, as will be more fully described hereinafter.

a is the body of the device in which is slidably mounted a plunger *b* which is bifurcated as shown in Figs. 3 and 4, the arm *c* being adapted to bend a seal and the arm *d* being adapted to drive a bent seal into its final position, when the plunger *b* is struck

on its head *e*. The seals *f* (Fig. 6) are formed from a strip of metal stamped so that said seals are connected by narrow necks of metal *g*, and each seal *f* has a central part and two projecting tongues *h*, *h*, the central part being suitably embossed. As will be seen from Fig. 3, the strip of seals is fed to the device along a grooved guide *j*, and passes through the body *a* of the device in front of the two arms *c*, *d* of the plunger *b*, said strip being advanced by a pawl *k*, the action of which will be hereinafter set forth.

The tool formed by the arm *c* of the plunger *b* is gapped as at *m*, to constitute a female member adapted to pass over a male member *n* forming part of the body *a*, and in so doing to bend the projecting tongues *h* *h* of the seal *f* from the position shown in dotted lines in Fig. 5 to the position shown in full lines. The driving tool formed by the arm *d* of the plunger *b* is suitably recessed at *p*, in order to prevent damage to the embossed part of the seal *f*. In use, when the plunger *b* is struck the tool *d* drives a bent seal into its final position and the tool *c* simultaneously bends the adjacent seal into U-form.

The pawl *k* is pivoted at *r* to a lever *s*, having its fulcrum at *t* in lugs in one with the body *a*. The opposite end of the lever *s* is adapted to be moved into a recess *u* in the arm *c* of the plunger *b*, by a spring (not shown) so that during part of the return stroke of said arm, motion is imparted to said lever *s* and is transmitted to the pawl *k*, which engages between two adjacent seals *f* and feeds forward the supply. The pawl *k* is provided with a spring *v* and a pin *w* engaging a guide *x*, to direct said pawl as it engages the seals, and a spring-pressed stop *y* is provided to engage between adjacent seals and holds them in proper position.

The modified form of device shown in Figs. 7 to 9, is provided with a supply of seals shown in Fig. 10, previously bent to U-shape as in Fig. 11, and is adapted to advance the seals into driving position and to drive the seal into its final position, said driving taking place on the forward stroke of a slidable member and the advancing of the adjacent seal into driving position taking place on the backward stroke of said slidable member.

Both forms of the device are provided with a supply of locking pins and means for driving said pins, as will be more fully described hereinafter.

Referring to Figs. 7, 8 and 9, within the hollow body 15 is slidably mounted the plunger 14, the extremity 16 of which is suitably recessed as at 17 in order to prevent damage to the center part of the seal when the seal is driven into its final posi-

tion by striking the head 18 of the plunger 14.

The seals 19 (Fig. 10) are formed from a strip of metal and stamped so that said seals are connected by narrow necks of metal 20, and are bent into U-shape (shown in Fig. 11) before being introduced into the device.

As will be seen in Fig. 8, the strip of seals is fed into the device along a guide 21, passing through an opening 22 into the body 15 of the device, each seal being held in front of the plunger 14 till the forward stroke of said plunger shears off the seal in position shown in Fig. 9 in dotted lines, and drives said seal into its final position. On the return stroke of the plunger, the succeeding seal is advanced into the body of the device by means of a pawl *k* as hereinbefore set forth. Both forms of the device described are provided with means for preventing seals driven into position, from being withdrawn, said means consisting in driving a pin through both arms *h*—*h* of the seal.

The pin driving mechanism and the magazine containing said pins, will be described with reference to Fig. 12, wherein 23 is the body of the magazine disposed parallel to the seal driving plunger, 24 being a removable cover to enable the pins to be inserted into the magazine.

The pins 25, preferably of tapered and barbed form and rectangular in cross-section as shown in Fig. 14, are inserted in a narrow channel 26 (Fig. 13) provided in the body 23, and are forced under a vertically disposed plunger 27 which will be more fully described hereinafter.

The pins are pressed forward against ridges 33, 34 forming the end of the channel under said plunger, by means of a spring-pressed plate 28, slidably mounted within the channel 26, and held to the removable cover 24 by means of a pin 29 sliding within a slot 30 in said plate. The removable cover 24 is secured to the body of the device by means of a stop 31 and a spring-pressed button 32 engaging holes therein. The pin driving plunger 27 is disposed vertically over the driving position, and is slidably mounted within an adjustable member 35 provided at its lower extremity with a presser foot 36, the position of said member being adjusted and secured relatively to the body 23 of the device by means of a nut 37, engaging the threaded upper extremity of said member as at 38, and held to the body 23 by a hook projection 37^a on said body engaging a groove 37^b in said nut. The member 35 is provided with flat surfaces to prevent its rotation within the body 23. The pin driving plunger 27, preferably of square or rectangular form in cross section, is slidably mounted in a groove 39 of identical form in cross sec-

tion provided in the adjustable member 35, said plunger being provided at its upper extremity with a head 40, and at its lower extremity with a lip 40^a.

5 The length of the downward stroke of the plunger 27 is adjusted by means of a distance nut 41, provided on the upper extremity of the threaded portion 38 of the adjustable member 35, said downward stroke being
10 arrested by the upper face of the nut 41 coming into contact with the bottom face 42 of the head 40.

A cushion spring 43, concentric with the pin driving plunger 27, is mounted within the adjustable member 35. The pin driving
15 plunger 27 is adjustably connected to the seal driving plunger placed horizontally thereto, by means of a rod 44 (Fig. 1) secured by any known means to the head 40 and adapted to slide within a slot 45, provided in one arm 46 of a bell crank lever ful-
20 crumed at 47. The other arm 48 of said bell crank lever is also provided with a slot 49, engaged by a pin 50 secured to the seal-driving plunger 6, said pin passing through a
25 slot 51 provided in the body *a* of the device.

In working the device and presuming the magazine is filled with pins and that the seals are also in position, the device is first
30 adjusted according to the thickness of the cover 52 (Fig. 12) of the box, by adjusting the height of the presser foot 36 by means of the nut 37. The seal-driving plunger is then sharply struck on its head and the forward stroke thereof drives the seal into position as shown in Fig. 12, and in the form of
35 device shown in Figs. 1 to 5, bends the adjacent seal. A spring-pressed button 53, is provided in the body of the device to hold each seal as it is fed into position to be driven. The forward motion of the seal
40 plunger will raise, by means of the bell-crank lever, the pin-driving plunger 27, allowing a pin to come under said plunger. The device is then struck a second blow on the head
45 40 of the pin driving plunger, and the downward motion of the said plunger will drive the pin into the box and through the seal as shown in Fig. 12. The downward motion of
50 the pin driving plunger will impart backward motion (by means of said bell-crank) to the seal driving plunger. As will be clearly seen, the bell crank lever prevents both the said plungers from being worked
55 at the same time and on the backward stroke of the seal driving plunger, advances by means of the seal supply advancing mechanism, the supply of seals for the next operation.

60 By means of such a device the seals can be rapidly and accurately fixed.

The pin-driving plunger is provided with a lip 40^a so as to force the pins below the surface of the packing case so that the

case can only be opened by breaking the
65 seals, and if desired holes may be provided in the tongues *h h* of the seals to receive the pins.

Claims.

1. Means for sealing packing cases comprising means for automatically feeding
70 through a device a supply of seals consisting of a strip of metal cut and shaped to form a series of seals connected together by narrow necks of metal, means in said device
75 adapted to separate and drive said seals individually, means for driving pins from a stock, and means for bringing a fresh seal and a fresh pin into position for use after each operation. 80

2. Means for sealing packing cases comprising means for automatically feeding
80 through a device a supply of seals consisting of a strip of metal cut and shaped to form a series of seals connected together by
85 narrow necks of metal, means in said device adapted to bend such seal into a U-shape, means in said device adapted to separate and drive said seals individually, means for driving
90 pins from a stock, and means for bringing a fresh seal and a fresh pin into position for use after each operation.

3. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward
95 stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return stroke, a second plunger arranged at
100 right angles to said first plunger, said second plunger being adapted to drive a pin through said seal, substantially as set forth.

4. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward
105 stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return stroke, a second plunger arranged at right angles to said first plunger, said second
110 plunger being adapted to drive a pin through said seal, and means for automatically bringing a pin into driving position, substantially as set forth.

5. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward
115 stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return
120 stroke, a second plunger arranged at right angles to said first plunger, said second plunger being adapted to drive a pin through said seal; a bell crank lever connecting said first and second plungers, substan-
125 tially as set forth.

6. Means for sealing packing cases comprising a plunger adapted to be reciprocated

and adapted to drive a seal on its forward
stroke, a feeding pawl operatively connected
to said plunger, said plunger being adapted
to operate said feeding pawl on its return
5 stroke; a tool integral with said plunger,
said tool being adapted to bend said seals
into U-shape; a second plunger arranged at

right angles to said first plunger, said sec-
ond plunger being adapted to drive a pin
through said seal, substantially as set forth.
SIGMUND STROH.

Witnesses:

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WILLIAM DAVIES.