Feb. 5, 1929. 1,701,240

L. A. MACLEAN

PATCH STRIP FOR TAG PATCHING MACHINES

Original Filed Oct. 24, 1927

Fig. 2

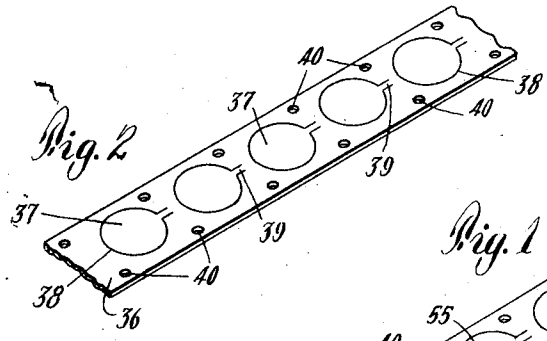


Fig. 1

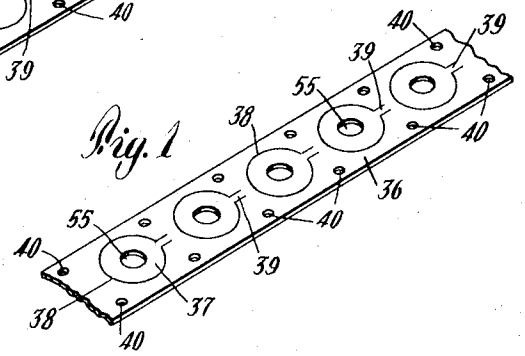


Fig. 3



Fig. 5

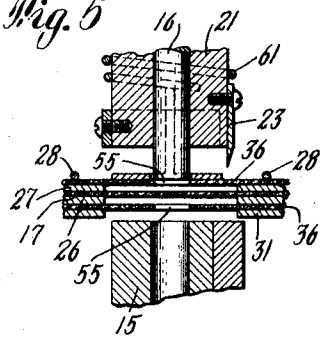


Fig. 4

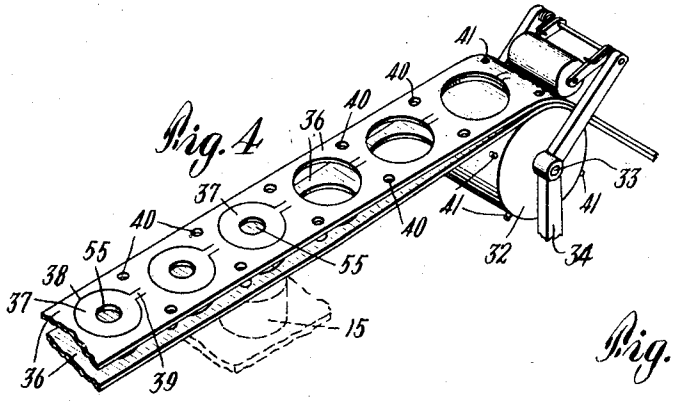


Fig. 6

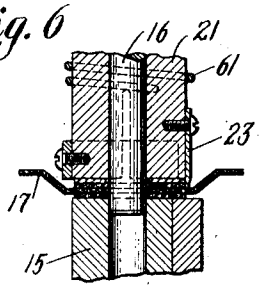


Fig. 7

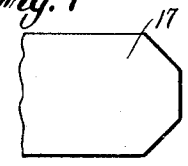


Fig. 8

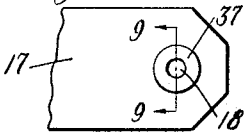
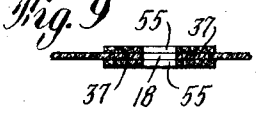


Fig. 9



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Patented Feb. 5, 1929. 1,701,240

UNITED STATES PATENT OFFICE.

LEONARD A. MACLEAN, OF READING, MASSACHUSETTS.

PATCH STRIP FOR TAG-PATCHING MACHINES.

Original application filed October 24, 1927, Serial No. 228,154, Patent No. 1,691,773. Divided and this application filed May 5, 1928. Serial No. 275,382.

This invention is a division of my application for Letters Patent of the United States, for improvement in machines for patching shipping tags, etc., filed October 24, 1927, Serial No. 228,154.

The machine disclosed by said application is adapted for use with a flexible patch strip adapted to be fed endwise step by step by a feeding element of the machine, the strip including a row of patches partially prepared, by the operation of making the strip, for application by the machine to a tag or other body, the patches being so nearly completed during the manufacture of the strip that they are easily detachable by the machine from the strip, and thereby converted into operative patches, which are applied to the body by the machine.

The present divisional application relates to the patch strip as an article of manufacture.

Of the accompanying drawings forming a part of this specification—

Figure 1 shows in perspective, a portion of a patch strip embodying the invention.

Figure 2 is a view similar to Figure 1, showing a modification.

Figure 3 shows in perspective a patch detached from the patch strip.

Figure 4 is a fragmentary perspective view, showing portions of two patch strips and portions of a machine used therewith.

Figures 5 and 6 are fragmentary sectional views, showing portions of two patch strips, a portion of a tag body, and elements of the machine which detaches patches from the strips and applies the patches to the body.

Figure 7 is a side view, showing a portion of a tag body.

Figure 8 is a side view, showing a patch applied to the tag body.

Figure 9 is a section on line 9—9 of Figure 8.

The same reference characters indicate the same parts in all of the figures.

The machine shown by my above-mentioned application includes a fixed punching die 15, and a movable punching die 16, said dies being adapted to punch a hole 18 (Figure 8) in the body 17 of a tag or other article of sheet material. The movable die is attached to a reciprocating plunger 21, having a pressing face at its lower end, opposed to a pressing face formed by the upper end of the fixed die 15. A severing cutter 23 is fixed to the plunger and is adapted to sever patches from the patch strip or strips hereinafter described.

A body locating pocket is formed between the punching dies by fixed spaced apart plates 26 and 27 (Figure 5). The plate 27 is provided with staple-shaped members 28, constituting, with the plate, an upper guide for one of the patch strips. The plate 26 and another plate 31 spaced therefrom, constitute a lower guide for another patch strip. The several plates are apertured to permit the pressing face of the plunger to pass through the plates when the plunger is projected downward, as shown by Figure 6.

The machine includes a feed roll 32, journaled in bearings in fixed standards 34, and rotatable step by step by operating mechanism which also reciprocates the plunger 21 in timed relation to the movements of the feed roll, so that the patch strip or strips next described may be moved between the dies when the plunger is raised, and held while the plunger and the movable die are being projected.

The patch strip 36 in which the present invention is embodied, may be of any desired length, is composed preferably of kraft or any suitably tough paper from which tag patches are usually made, and is provided with a row of patches 37 partially detached from the strip by substantially circular incisions 38, cut in the strip, the ends of the incisions being spaced apart by narrow necks 39, connecting the patches with the strip and adapted to be severed by the cutter 23, fixed to the plunger 21, to form detached patches 37 (Figure 3).

Each patch strip 36 is adapted to be engaged by positive feeding devices such as radial pins 41, on the feed roll 32, as shown by Figure 4, the strip being provided, in this instance, with holes 40 adapted to receive said pins, as indicated by Figure 4. The step-by-step movements of the feed roll are timed to advance the patch strip above the fixed punching die, until a partially severed patch is in registration with the pressing faces of the dies, and then hold the strip stationary while the plunger is being projected and the cutter 23 is severing the neck 39.

When the body 17 is to be provided with two patches, one on each side, two patch strips located side by side, are fed by the feed roll 32, as indicated by Figure 4, the upper strip being guided by the upper guide,

and the lower strip by the lower guide, the body 17 being inserted in the throat between said guides

Two patches are severed from the two strips by each projection of the plunger, and the severed patches, which have adhesive coatings, are pressed by the pressing faces of the punching dies against the body.

The patch strips may be prepared by any suitable mechanism, which may include means for punching holes 55 in the centers of the partially detached patches, said holes registering with the movable punching die 16, so that the duty of cutting the holes in the patches, is not imposed on said die. The holes 55 may be omitted, as indicated by Figure 2, in which case the die 16 will punch both the patches and the body 17.

The side of the patch strip which contacts with the body 17, may have a dried gum coating adapted to be rendered adhesive by moistening the sides of the body, or the gum coating may be omitted, the sides of the body being coated with an adhesive before the patches are pressed against it.

One patch strip is employed when the body 17 is to have a patch on one side only.

The described patch strip is an article of manufacture, and constitutes, in effect, a renewable element of a patching machine, the portion of the strip surrounding the patches 37 constituting a carrier for the partially severed patches, and being separably engageable with the feed roll 32.

The patch strip when prepared for use as a renewable element of a patching machine, includes a row of patch-forming portions designated by 37, and a carrier portion designated by 36, the strip being provided with means for separably confining the patch-forming portions within the carrier portion, so that the entire strip may be shipped and stored until it is ready for use, without liability of accidental separation of any of the patch-forming portions, said means permitting sidewise displacement of the patch-forming portions from the carrier portion, and their application to tags by the above-described operation of the machine, of which the strip is an element.

The cutters which form the incisions 38 do not remove any of the material of the strip, and are very thin, so that the margins of the patch-forming portions 37 are in close frictional contact with the edges of the carrier portion formed by the cutters. I have found that this frictional contact alone is sufficient to confine the patch-forming portions within the carrier portion, without the positive confinement provided by the necks 39, although I prefer such positive confinement.

I claim:

1. As an article of manufacture, a renewable patching-machine element composed of a flexible patch strip, adapted to be engaged and moved endwise by a feed member, the strip having a longitudinal row of incisions, forming the major portions of the margins of a row of patches which are connected with the strip by narrow necks between the ends of the incisions, the patches being separable from the strip by severing said necks.

2. As an article of manufacture, a renewable patching-machine element composed of a flexible patch strip, adapted to be engaged and moved endwise by a feed member, the strip having a longitudinal central row of punched holes and incisions nearly surrounding said holes and forming the major portions of the margins of a row of patches which are connected with the strip by narrow necks between the ends of the incisions, the patches being separable from the strip by severing said necks.

3. As an article of manufacture, a renewable patching machine element composed of a flexible patch strip adapted to be engaged and moved endwise by a feeding device, the strip having a longitudinal row of incisions defining a row of patch-forming portions and a carrier portion, means being provided for separably confining the patch-forming portions within the carrier portion, and permitting sidewise displacement of the patch-forming portions from the carrier portion.

In testimony whereof I have affixed my signature.

LEONARD A. MACLEAN.