

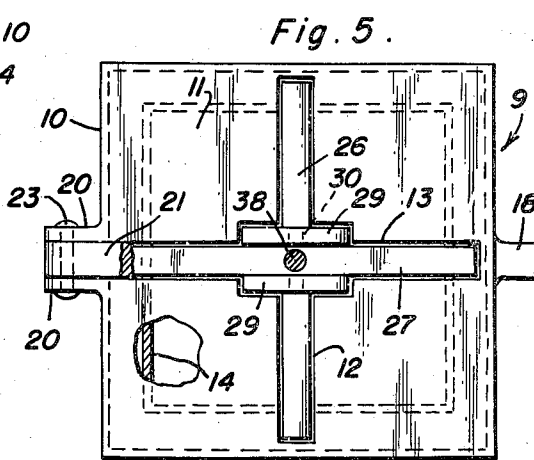
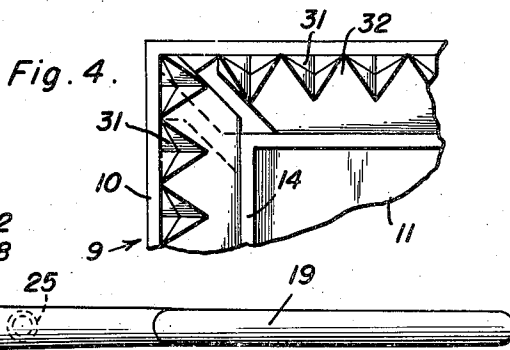
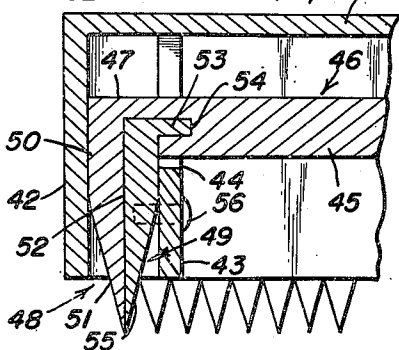
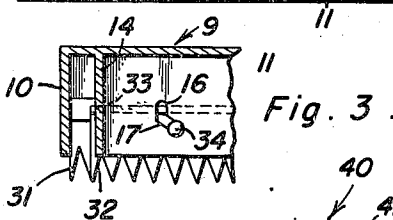
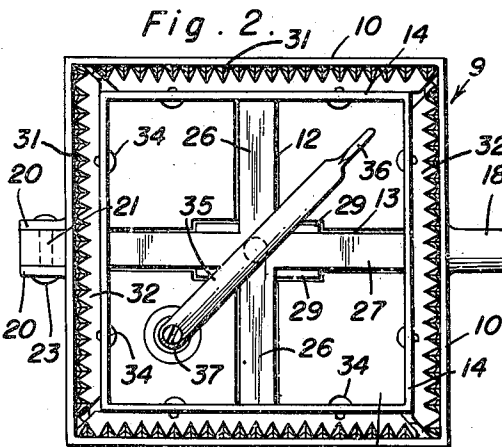
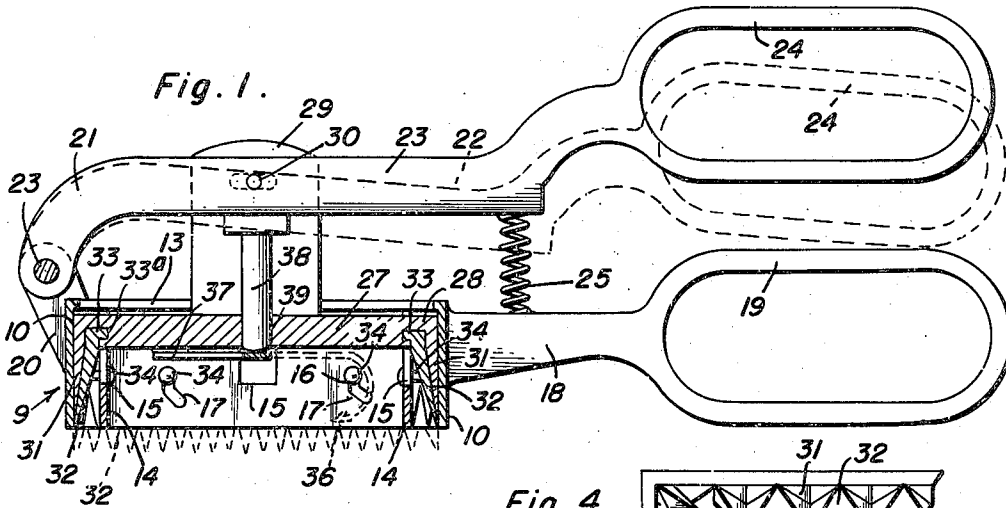
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2,483,493

SAMPLE CUTTER FOR TEXTILE PIECE GOODS

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SAMPLE CUTTER FOR TEXTILE PIECE
GOODS

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The present invention relates to certain new and useful improvements in sample cutting and taking devices and has more specific reference to hand-used and operated cutting or shearing tool which serves to rapidly cut and take a sample of textile piece goods which is under tension and continuously in motion.

It is a matter of common knowledge in the textile industry that piece goods samples have to be taken from time to time for purposes of inspecting, checking, testing and for other purposes. At the present time it is the accepted practice to stop the machine, cut out the sample and then start the machine again. Manifestly, this slow and tedious practice materially interrupts the work, causes appreciable time loss and spoilage of certain yardage.

The object of the present invention is to provide a simple, practical and reliable cutter which is such in construction that it penetrates the tensioned material, pierces the same, cuts the wanted sample or patch and then, in addition, catches hold of the thus cut sample for ready and easy removal for testing and other purposes.

Another object of the invention is to provide a simple, efficiently operable sample cutter and remover which is characterized by a pair of handle equipped levers having novel and improved cutting means on their work performing ends said means being unique and distinctive in that it functions to not only penetrate the moving material to temporarily connect the tool thereto, but anchors it, after which the second step of the completely severing is immediately performed, thereafter permitting automatically operable means, a simple penetrating and lifting hook, to come into play for "plucking" the sample for use.

In carrying out a preferred embodiment of the invention I have evolved and produced a pair of handle equipped levers with a complemental head structure carried by one of the levers, and cutting means within the confines of the head structure, the latter being operable by the remaining lever, said means being characteristically new in that it completely shears all four marginal edge portions of the selected patch and allows the latter to be lifted and moved while the textile material is continuously in motion and under tension.

Visualized more explicitly, the invention has to do with novel cutting means embodying a frame-like sheath rigid on the outer end of one lever and cutting means wholly housed, when not in use, within the confines of the sheath for

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protection, said cutting means being projectable and retractable, in relation to said sheath, under the action of the relatively movable lever and permitting satisfactory accomplishment of the three successive stages of penetrating and piercing the moving textile material, shearing the chosen patch appropriately, and then hooking said patch so that it may be lifted and removed with the tool itself.

Briefly the preferred embodiment of the invention has to do with a sheath of general rectangular form embodying spaced inner and outer walls with a cutter head having component portions movable between the respective walls on each marginal side of the frame, said cutter head being operable by a pivotally mounted lever carried by the sheath, said sheath having another lever which serves as a handle and there being an operating connection between the first named lever and head whereby the latter is telescoped and projected in relation to the sheath in order to obtain the progressive steps of piercing the cloth, shearing it and then catching hold of the sheared patch for lifting.

Other objects, structural characteristics, and improvements, will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views;

Figure 1 is a view of the sample cutting and taking tool in its entirety, parts being shown in elevation and other parts in section, the cutter head being retracted in full lines and projected in dotted lines;

Figure 2 is a bottom plan view of the tool as shown in Figure 1;

Figure 3 is a fragmentary sectional and elevational view through one corner portion;

Figure 4 is a bottom plan view of a fragmentary type looking at one corner portion and showing the relationship of shearing cutters;

Figure 5 is a top plan view with portions broken away for clearness of illustration of other parts;

Figure 6 is a fragmentary sectional view, on an enlarged scale, and based on Figure 3 and showing a preferred form of the cutting teeth, both sets of the latter.

Referring now to the drawings (Figures 1 to 5) by distinguishing reference numerals and accompanying lead lines, the numeral 9 designates one unit of the overall structure which may be conveniently and bodily identified as a sheath. This includes an outer wall or rim 10 or rectangular

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form in bottom or top plan view, includes a top portion 11 with a cruciform slot therein whose portions are identified by the numerals 12 and 13 (Figures 2 and 5). In addition, and forming an integral part of the sheath, is an inner wall 14 and this is in spaced parallelism to the wall 10 said walls being sufficiently spaced apart to provide accommodation space for the projectable and retractable portions of the novel rectangular cutter head. The wall 14 is provided at equidistant and spaced points with adapter and clearance notches 15 and is further provided with bayonet-type slots including vertical portions 16 and lateral end portions 17 (see Figure 3). Secured rigidly to one rim portion 10 and extending at right angles from same is a relatively stationary lever 18 terminating in a suitable hand grip 19. On the diametrically opposite side of the frame or sheath are upstanding lugs or ears 20 which serve to accommodate the laterally down-turned end portion 21 of an opposed relatively movable lever 22. The portion 21 is pivoted between the ears 20 as at 23 in Figure 1. Also the lever 22 has a hand grip 24 opposed to the hand grip 19. A coiled spring 25 is interposed between the two levers and operates to press the levers normally apart.

The cutter head comprises a frame unit which includes complementary cruciform portions 26 and 27 and said portions 26 and 27 integrally connect with the rectangular frame proper 28 which operates in the spaces between the walls 10 and 14. The cutter head frame also includes integrated upstanding spaced parallel actuating ears 29 with which the intermediate portion of the lever 23 has operating connection as at 30. Referring further to the frame portion of the cutter head it is made up of four cutters, that is one on each marginal portion of the sheath. These cutters might be defined as individual shears and each pair of shears resembles a sickle-bar construction and includes a toothed rigid or fixed toothed comb 31 to cooperate with the cutting teeth of a relatively reciprocable cutter bar 32 which latter has an assembling and keying flange 33 mounted and shiftably slidable in a keying groove 33a provided in the frame 28. The shiftable cutter bar 32 in each instance has pins 34 extending laterally therefrom and operable in the aforementioned bayonet slots, as shown in Figure 3. That is to say, each pin is headed and slidable from the uppermost position in the slot as shown in Figure 1 to the downmost position shown in Figure 3. As the pin moves downwardly through the portion 16 of the slot its action is to project the combs of the respective cutters. Then, as it moves further downwardly and the pin rides into the portion 17 it imparts a lateral movement to the relatively shiftable cutter bar and obviously thus provides the desired shearing or complete cutting step. It will be seen therefore that the sheath is characterized by a substantially rectangular shell or frame with inner and outer walls defining four marginal adapters for four individual but simultaneously operable cutters. The four cutters go together to make up the principal part of the cutter head and the cutter head is projectable and retractable in relation to the sheath. The sheath is held by the handle 18 or the hand grip 19 of said handle. The hand grip 24 is held in opposed relation and is pressed by way of the handle 19 against the tension spring 25 and this imparts movement to the ears 29 which ears in turn project said cutter head. The cutter head is normally within the confines of the sheath

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and therefore out of the way as shown in Figure 1. When, however, the lever 22 is pressed to the dotted line position shown in Figure 1 the entire cutter head is projected outwardly beyond the rim portion of the sheath. The first step is to press the pointed ends of the respective teeth 31 and 32 of the cutters through the moving fabric, that is the moving strip of textile piece goods. This first step attaches or connects the tool to the moving material. The next step is the shearing step. This is brought about by the cam action of the headed pins 34 operating in the properly shaped slots 16 and 17, as is obvious. It will be understood that both the cutter guard and cutter bar move out simultaneously to complete the first step whereas the second step is one in which the cutter bar 13 reciprocates in relation to the cutter guard as both are being further projected. It follows that the shearing action now severs completely the sample which takes the form of a rectangular patch. To complete the operation I provide a pickup member which is a resilient arm or finger 35 of the type shown in Figure 2. It has a sample piercing hook 36 at its free end and the other end is suitably attached to and anchored on the top wall 11 of the sheath as at 37. The lever 22 bears against the headed end of a plunger rod 38 which projects slidably through an opening 39 provided therefor in the cutter head at the center of the latter and under this principle of construction during the final or third step, the plunger 38 engages the finger 35 and flexes same so that it reaches out, catches hold of the patch and thus holds the patch on the tool while the tool is lifted from the moving cloth. Hence, the sample is now ready for use.

Reference is had now to the modification illustrated, fragmentarily in Figure 6. Here the sheath unit is denoted by the numeral 40 and comprises, as before covered, a substantially rectangular shell characterized by a slotted top wall 41, an outer marginal rim or wall 42, an inner spaced integral wall 43, the latter having keying and assembling slots 44 at the necessary points to accommodate the cruciform arms 45 on the cutter head unit 46. The latter unit is fundamentally the same as the one already described and is characterized primarily by frame members 47 which is slidably operable in the channel or space provided between the walls 42 and 43. The outermost toothed comb is denoted by the numeral 48 and the inner complementary comb is denoted by the numeral 49. These parts may also be referred to as cutter guard and cutter bar respectively, if preferred. In any event the body portions of the teeth in the outer comb 48 are flat, as at 50 and in firm slidable contact with the inner surface of the wall 42. Then the teeth proper are tapered or beveled as at 51 and the straight surfaces 52 are in contact with corresponding straight surfaces provided on the teeth in the comb 49. This part 49 has flange means 53 operating in a keyway or groove 54 provided therefor. Here the beveled surfaces of the teeth, as at 55 slant toward the beveled surfaces 51 of the teeth in the comb 48. This means that the teeth in the respective combs have flat surfaces slidably contacting each other and have beveled surfaces 51 and 55 which come to a point at the center of the channelway between the walls 42 and 43. The wall 43 is provided with the aforementioned bayonet slots (not shown) to accommodate the headed pins 56 corresponding to the headed pins 34 already mentioned. The opera-

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tion of the cutting teeth in this form of the invention is precisely the same as that already described. The only difference in the structure seen in Figure 6 is the difference in the shapes and relationship of the respective sets of cutting teeth. The styles of teeth shown in Figure 6 are preferred over the styles illustrated in Figures 1 to 4 inclusive.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. A sample cutter for cutting a patch from piece goods while the latter is in motion and under tension comprising a cutter head embodying relatively stationary and movable toothed cutter members and handle equipped lever means for handling the tool and actuating the cutters including an encasing sheath for said cutters, one lever being rigidly attached to said sheath and the other lever being hingedly mounted for relative movement on the sheath and said cutters being projectable and retractable in relation to the sheath and normally housed in an out-of-the-way and safe position within the confines of the sheath when not in use.

2. The structure specified in claim 1, together with a resilient hooked finger carried by the cutter means and adapted to be brought into play to releasably engage the cut sample before the latter has been completely severed.

3. A hand operated simple cutting and taking device for moving textile piece goods comprising a casing-like sheath, a lever rigidly attached at one end to said sheath and provided with a handle, projectable and retractable cutter means mounted for slidable and shiftable operation within the confines of said sheath, a second lever hingedly mounted on said sheath, said second lever being provided with a handle opposed to the first named handle, and an operating connection between the second lever and the said projectable and retractable cutter means.

4. A hand operated sample cutting and taking device for moving textile piece goods comprising a casing-like sheath, a lever rigidly attached at one end to said sheath and provided with a handle, projectable and retractable cutter means mounted for slidable and shiftable operation within the confines of said sheath, a second lever hingedly mounted on said sheath, said second lever being provided with a handle opposed to the first named handle, and an operating connection between the second lever and said projectable and retractable cutter means, said cutter means embodying a frame and each of the frame members embodying a relatively fixed cutter guard and a cooperable contacting relatively movable cutter bar.

5. A hand applied, moved and actionable sample cutter adapted to be used while a run of textile piece goods is in motion and under tension comprising a sheath, a lever rigidly attached to said sheath and provided with a handle, a second lever pivotally mounted on said sheath and provided with a handle opposed to the first han-

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dle, spring means interposed between said levers for normally spreading same apart, a projectable and retractable cutter head telescopically mounted in said sheath adapted to be projected beyond the sheath, said cutter head embodying a relatively fixed toothed cutter guard and a complementary relatively shiftable and shearing cutter bar cooperable therewith, and an operating connection between the cutter head and second named lever.

6. A hand applied, moved and actionable sample cutter adapted to be used while a run of textile piece goods is in motion and under tension comprising a sheath, a lever rigidly attached to said sheath and provided with a handle, a second lever pivotally mounted on said sheath and provided with a handle opposed to the first handle, spring means interposed between said levers for normally spreading same apart, a projectable and retractable cutter head telescopically mounted in said sheath and adapted to be projected beyond the sheath, said cutter head embodying a relatively fixed toothed cutter guard and a complementary relatively shiftable and shearing cutter bar cooperable therewith, and an operating connection between the cutter head and second named lever, said sheath including a slotted wall and said cutter bar having pins operable in the slots.

7. In a hand applied sample cutter of the class described, a sheath embodying spaced parallel inner and outer walls, a handle attached to a portion of said sheath and having a hand grip, said handle being relatively fixed, a second handle pivotally attached to said sheath and having a hand grip opposed to first named hand grip, cutter means embodying coacting toothed members, said members being projectable from the sheath and being located in relation to the other member to provide a shearing action in order to project the cutter means and to then shear the goods, and an operating connection between the second pivoted handle and the cutter means.

8. In a hand applied sample cutter of the class described, a sheath embodying spaced parallel inner and outer walls, a handle attached to a portion of said sheath and having a hand grip, said handle being relatively fixed, a second handle pivotally attached to said sheath and having a hand grip opposed to first named hand grip, cutter means embodying coacting toothed members, said members being projectable from the sheath and being located in relation to the other member to provide a shearing action in order to project the cutter means and to then shear the goods, and an operating connection between the second pivoted handle and the cutter means, said cutter means embodying a finger terminating in a hook, said finger being resilient and said hook being adapted to snare the sample which is cut, and an operating connection between said pivoted handle and the finger.

9. The structure specified in claim 8, said inner wall having bayonet-type slots, the relatively movable toothed cutter member having headed pins and said headed pins being operable in said slots.

10. A hand applied moved and operable sample cutter and taker of the class described comprising a substantially square shell forming a sheath and embodying four rim walls and four opposed parallel complementary inner rim walls, the respective pairs of walls being spaced apart, a substantially square frame structure operable within said shell and embodying four marginal cutters, the respec-

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tive cutters each including a toothed cutter guard and a toothed cutter blade, the respective cutters being operable in the adjacent spaces between the respective rim walls, a rigid lever mounted on one of the outer rim walls of the sheath, a second lever pivotally mounted on the opposed rim wall of the sheath, said levers being adapted for coaction with each other and having spring means interposed therebetween, and an operating connection between the pivoted lever and the cutter frame.

11. The structure defined in claim 10, the inner rim walls on the respective sides of the adapter having bayonet-type slots, the relatively movable cutter blades having headed pins operable in said slots.

12. The structure defined in claim 10, the in-

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ner rim walls on the respective sides of the adapter having bayonet-type slots, the relatively movable cutter blades having headed pins operable in said slots, a hooked spring finger anchored on said sheath, and means on said pivoted lever engaging said finger for rendering the latter operable.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
483,884	Welmer	Oct. 4, 1892
1,385,481	Williams	July 26, 1921