Jan. 13, 1948. W. FINKELSTEIN 2,434,356

INTERCHANGEABLE SANDPAPER DEVICE

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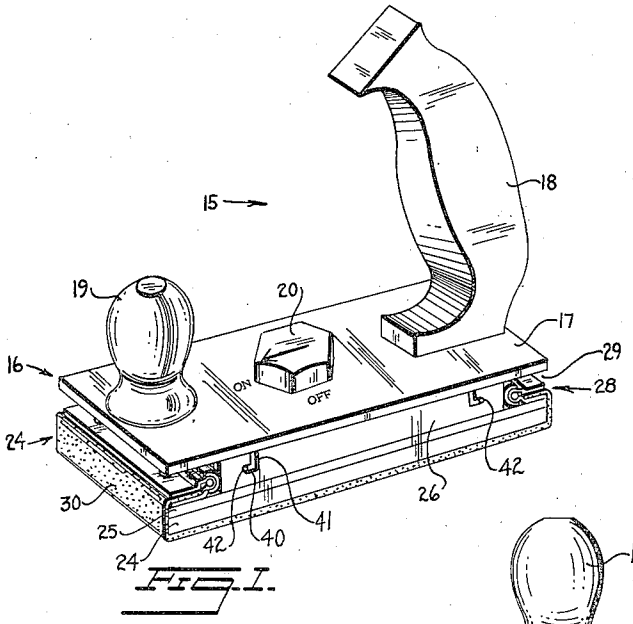


FIG. 1.

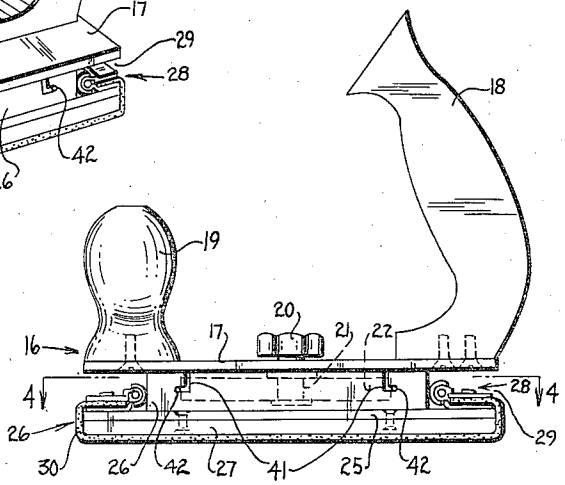


FIG. 2.

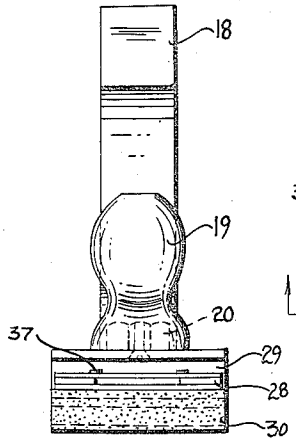


FIG. 3.

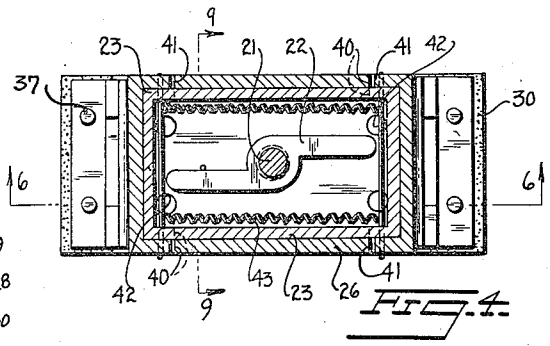


FIG. 4.

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INTERCHANGEABLE SANDPAPER DEVICE

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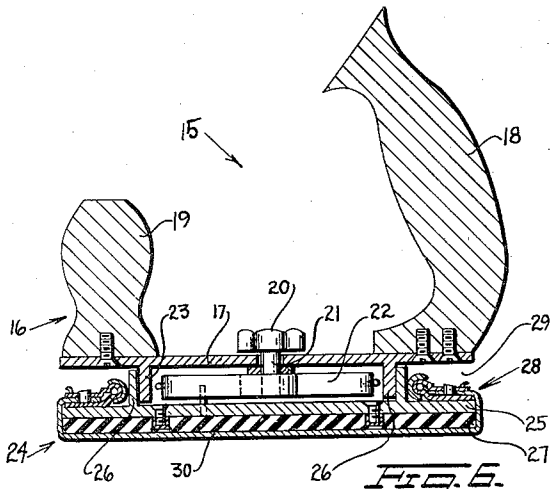


FIG. 6.

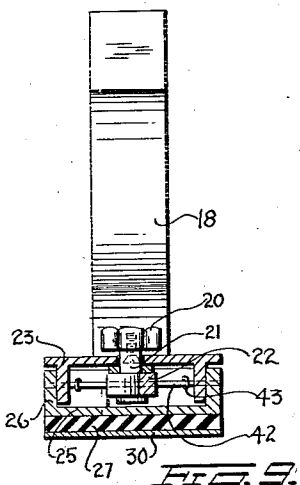


FIG. 9.

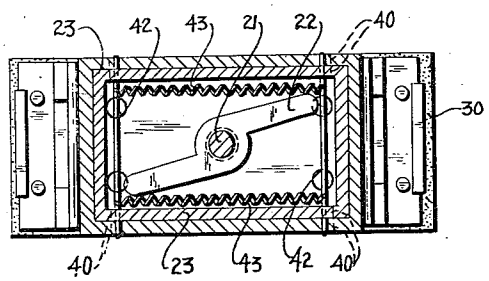


FIG. 5.

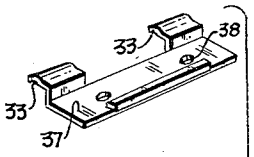
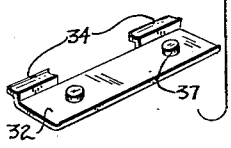


FIG. 8.



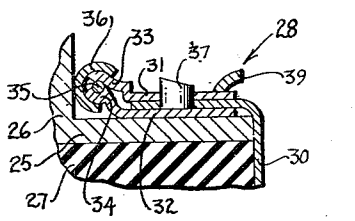


FIG. 7.

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UNITED STATES PATENT OFFICE

2,434,356

INTERCHANGEABLE SANDPAPER DEVICE

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Application July 27, 1946, Serial No. 686,681

8 Claims. (Cl. 51—187)

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The present invention relates to a sandpaper holding device and refers more particularly to a tool for holding a length of sandpaper in extended operative position on a mount, said mount being detachable from the handle portion of the tool.

An object of the present invention is the provision of novel means for attaching sandpaper to a hand tool for sanding.

A further object is that the portion of the tool to which the paper is attached shall be quickly detachable from the handle portion of the tool in order that different mounts of garnet paper, sandpaper, or emery cloth of a different size grit may be interchanged for greater convenience in performing various sanding operations, thus making it possible to use any number of mounts.

Another object is that the described tool shall be compact.

Still another object is that the tool shall be absolutely sturdy and reliable.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a tool embodying the present invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is an end elevation of the same.

Fig. 4 is a section on the line 4—4 of Fig. 2, the portions of the tool being locked together.

Fig. 5 is similar, the portions being unlocked.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is an enlarged fragment of the same.

Fig. 8 is an exploded perspective view of the paper gripping members in Fig. 7.

Fig. 9 is a section on the line 9—9 of Fig. 4.

Referring now in detail to the drawings, the sander 15 comprises two main portions. The handle portion 16 comprises a plate shaped body portion 17 carrying handle 18, knob 19 and the locking nut 20 on shaft 21 journalled in the body portion 17 and bearing on its opposite end the dual cam 22. Formed integral with body plate 17 or attached thereto in any convenient manner is the substantially rectangular flange portion 23, the four walls of which extend perpendicularly to plate 17, flange 23 further being symmetrically disposed relative to plate 17 in that its respective walls are parallel to the respective adjacent borders of plate 17.

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The paper mounting portion 24 of the tool 15 comprises a substantially flat or plate shaped portion 25 generally similar to plate 17 and comprising a flange 26 similar to flange 23 and extending parallel and close around the latter. A pad 27 of rubber or other soft material is affixed to the under side of plate 25 by means of internally threaded metal inserts 25^a molded in the pad at the time of manufacture, and for which corresponding openings are provided in plate 25. Screws within holes in plate 25 are threaded into these metal inserts 25^a for the purpose of holding them steady and immovable.

The sandpaper 30, emery cloth, garnet paper or other similar material is held in stretched or extended operative position on paper mounting portion 24 by means of gripping mechanisms 28 located on plate 25 exteriorly of flange 26 and in the recesses 29 formed between plates 17 and 25 by reason of their spaced relation due to the interposed flanges 23 and 26.

Gripper mechanisms 28 comprise the jaws 31 and 32 comprising parti-cylindrical pivot bearing portions 33 and 34 bearing on pivot roller 35 and resiliently urged thereagainst and into gripping engagement with each other by the parti-cylindrical spring 36. Cylindrical studs 37 have top surfaces slanting upwardly and inwardly so as to punch holes in the sandpaper 30 in coaction with jaw member 31 formed with holes 38 complementary to studs 37. If, however, the paper used is of exact size with the four holes already punched this attachment may be made more easily. A lip member 39 on jaw 31 affords easy purchase thereof in disengaging the jaws so as to release the sandpaper.

Flanges 23 and 26 are formed with coincident laterally opposite horizontal slots 40 near their ends and flange 26 further is formed with vertical slots 41 intersecting the slots 40 at their inner ends. Pins 42 extend laterally of the tool 15, each pin 42 extending through four of the slots 40 and being slidable longitudinally thereof. Extension springs 43 join pins 42 together and resiliently urge them toward each other and toward the vertical slots 41. In Fig. 5, pins 42 are coincident with slots 41 and consequently the handle portion 16 may be withdrawn from the paper mounting portion 24, pins 42 travelling upwards along slots 41 and finally out thereof. In Figs. 1, 2, 4 and 6, cam 22 actuated through locking nut 20 has moved the pins 42 outwardly along slots 40 to lock the portion 16 and 24 together.

While I have illustrated and described the preferred embodiments of my invention, it is to be

understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. In a sanding device, a paper mounting portion, a handle portion, means mounted on said two portions and adapted to detachably lock them together, said means comprising complementary substantially rectangular flanges mounted on each portion, a pin mounted so as to slide in a slot in the inner flange of said flanges, means for actuating said pin in one direction in said slot and resilient means urging said pin in the opposite direction, and a slot formed in the outer of said flanges and in which said pin is slidable to lock said portions together and to unlock the same.

2. In a sanding device, a paper mounting portion, a handle portion, means mounted on said two portions and adapted to detachably lock them together, said means comprising a substantially rectangular outer flange portion comprised by said paper mounting portion, a substantially rectangular inner flange portion comprised by said handle portion and fitting within said outer flange portion, said flange portions being formed with coincident horizontally extending slots, said outer flange portion being formed with a vertically extending slot intersecting said horizontal slot, a pin extending laterally through said horizontal slots and slidable longitudinally thereof, resilient means urging said pin into coincidence with said vertical slot and means actuatable to positively move said pin out of coincidence with said vertical slot whereby said handle and paper mounting portions are locked together.

3. In a sanding device, a paper mounting portion, a handle portion, means mounted on said two portions and adapted to detachably lock them together, said means comprising a substantially rectangular outer flange portion comprised by said paper mounting portion, a substantially rectangular inner flange portion comprised by said handle portion and fitting within said outer flange portion, said flange portions being formed adjacent their ends with pairs of laterally opposite horizontally extending slots, the slots of the respective flanges being coincident, a laterally extending pin slidable longitudinally in said coincident slots at each end of said flange, springs interconnecting said pins and urging them together, cam means actuatable to move said pins apart to lock said handle and said paper mounting portions together, and vertical slots formed in said outer flange intersecting said horizontal slots at the inner ends thereof to permit disengagement of said two last mentioned portions.

4. In a sanding device, in combination with a paper mounting member, paper gripping means comprising coacting jaw members, one of said jaw members comprising a stud member, the other of said jaw members being formed with a hole adapted to receive said stud, means pivotally mounting said other member relatively to said first mentioned jaw member, and resilient means urging said jaw members into gripping relation.

5. In a sanding device, in combination with a paper mounting member, paper gripping means comprising coacting jaw members, one of said jaw members comprising a stud member, the other of said jaw members being formed with a hole adapted to receive said stud, means pivotally mounting said other member relatively to said first mentioned jaw member, and spring means urging said jaw members into gripping relation.

6. In a sanding device, in combination with a paper mounting member, paper gripping means comprising coacting jaw members, one of said jaw members comprising a stud member, the other of said jaw members being formed with a hole adapted to receive said stud, means pivotally mounting said other member relatively to said first mentioned jaw member, and parti-cylindrical spring means urging said jaw members into gripping relation.

7. In a sanding device, in combination with a handle member and paper mounting member, said members each comprising a substantially flat body portion and a perpendicularly extending flange portion, said flange portions being adapted to interengage and to lock said body portions together in spaced relation, paper gripping means located exteriorly of said flange portions and between said body portions, said paper gripping means comprising coacting jaw members, one of said jaw members comprising a stud member, the other of said jaw members being formed with a hole adapted to receive said stud, means pivotally mounting said other member relatively to said first mentioned jaw member, and resilient means urging said jaw members into gripping relation.

8. In a sanding device, in combination with a handle member and paper mounting member, said members each comprising a substantially flat body portion and a perpendicularly extending flange portion, said flange portions being adapted to interengage and to lock said body portions together in spaced relation, paper gripping means located exteriorly of said flange portions and between said body portions, said paper gripping means comprising coacting jaw members, one of said jaw members comprising a stud member, the other of said jaw members being formed with a hole adapted to receive said stud, means pivotally mounting said other member relatively to said first mentioned jaw member, and parti-cylindrical spring means urging said jaw members into gripping relation.

WILLIAM FINKELSTEIN.

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