

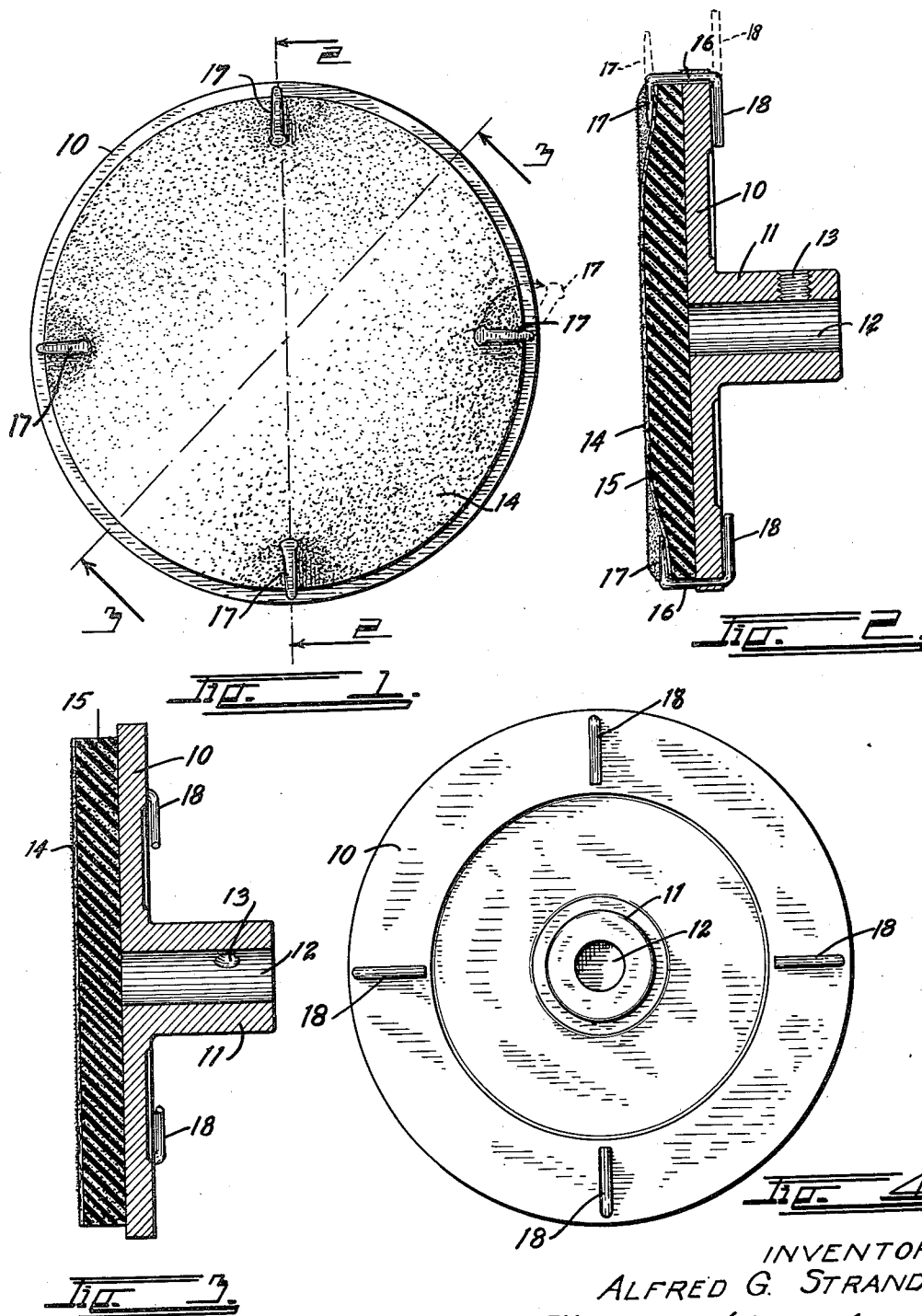
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SANDING DISK

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SANDING DISK

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2 Claims. (Cl. 51-197)

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This invention relates to a sanding disc of the rotary type used for wood-sanding operations. Such discs are applied to lathes, drill presses, and specially-designed, motor-driven sanding machines for sanding and smoothing floors, cabinet work, etc. The usual sanding disc consists of a circular, metallic face plate, to the surface of which circular sheets of sand or emery paper are attached by means of suitable adhesives. The sand paper wears down rapidly, so that the continual cementing of the paper discs to the face plate becomes a tedious, time-consuming operation.

The principal object of this invention is to provide a sanding disc with means whereby circular sheets of sand or emery paper or cloth can be quickly and easily attached without the use of adhesives of any kind, and without requiring the use of tools.

Another object of the invention is to provide a quick-change sanding disc with means for securing and cushioning the sand paper, so constructed that it will present perfectly flat surfaces to the work so as to eliminate the formation of grooves and hollows in the work surface.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a face view of the improved sanding disc, with the sanding element in place thereon;

Fig. 2 is a cross-section, taken on the line 2-2, Fig. 1;

Fig. 3 is a cross-section, taken on the line 3-3, Fig. 1; and

Fig. 4 is a rear face view thereof.

The invention consists of a circular metallic face plate 10 provided with an axially positioned conventional shaft hub 11 extending from the rear face thereof. A shaft bore 12 extends completely through the hub 11 of the face plate 10 so as to be concentric with both. A threaded set screw socket 13 may be provided for securing the hub 11 on any desired shaft.

The sanding element consists of a removable circular sheet 14 of sand paper or the like which is mounted over a circular cushion 15 of sponge rubber or similar resilient material. The sand

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paper disc 14 and the cushion 15 are detachably held in place on the face plate 10 by means of rotatable, U-shaped clips 16. There are an even number of clips, preferably four, equally spaced about the periphery of the disc 10 so as to position the clips in pairs in diametrically opposed relation.

The clips extend through receiving holes adjacent the edge of the plate 10 and each is bent to form a front clamping leg 17 and a rear handle portion 18. The length of the clips 16 is slightly less than the total thickness of the plate 10, the cushion 15, and the sand paper sheet 14, so that when the clamping legs 17 of the clips engage the edge portions of the sheet 14, the latter will be indented below the normal surface about each clip, as shown in Fig. 2. This prevents the clamping legs 17 of the clips from reaching the work being sanded so as to remove any possibility of scratching or marring the work.

The surface intermediate the clips, however, is forced outwardly by the resilient expanding action of the cushion 15 so as to form a substantially flat surface, as shown in Fig. 3. With four clips there will be two crossed flat surfaces which sand the work to a perfectly flat surface without the formation of hollows.

The sanding disc 14 and the cushion 15 can be instantly removed from the face plate 10 by simply rotating the handle portions 18 of the clips to the broken line positions of Fig. 2. A fresh sand paper sheet can then be placed on the cushion 15 and the clips rotated back to their original positions of Fig. 1.

The clips require no structure for holding them in the attached or clamping position, since the depressions formed in the sand paper sheet, plus the rough sand surface thereof, positively lock the clips in place until they are rotated from place by the handle portions 18. The extremities of the clamping legs 17 are preferably flattened, as illustrated, so as to present a minimum of projection toward the work.

It is desired to call attention to the fact that the depressed areas in the sanding surfaces around the clips 17 form open channels through which the powdered wood or other material is rapidly discharged by centrifugal action. It has been found that this provision for the clearance of the sandings prevents the latter from clogging the abrasive surface so that sanding discs may remain in use for from two to three times as long as the normal flat disc.

While a specific form of the improvement has been described and illustrated herein, it is de-

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sired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A sanding disc comprising: a circular, metallic face plate having a shaft-receiving bore at its axis; a circular resilient cushion on the front face of said plate; a circular sheet of sanding medium on the front face of said cushion; an even number of independently rotatable, U-shaped clips extending through receiving openings around the periphery of said disc comprising inwardly extending clamping legs on said clips extending over the edge portion of the abrasive surface of the sheet; and an inwardly extending handle portion on each of said clips extending over the rear face of said face plate for independently rotating each of said legs to and from said sheet.

2. A sanding disc comprising: a circular, metallic face plate having a shaft-receiving bore at its axis; a circular resilient cushion on the front face of said plate; a circular sheet of sanding medium on the front face of said cushion; an even number of independently rotatable, U-shaped clips

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extending through receiving openings around the periphery of said disc comprising inwardly extending clamping legs on said clips extending over the edge portion of the abrasive surface of the sheet; and an inwardly extending handle portion on each of said clips extending over the rear face of said face plate for independently rotating each of said legs to and from said sheet, said clips having a length less than the total thickness of said face plate, said cushion, and said sheet so that when the clamping legs are in place on said sheet, the latter will be depressed adjacent each clip below the general abrasive surface.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
317,622	Buzzell	May 12, 1885
361,399	Davis	Apr. 19, 1889
492,077	Weed	Feb. 21, 1893
495,491	Howe	Apr. 18, 1893
923,865	Lippincott	June 8, 1909
2,294,064	Amstutz	Aug. 25, 1942