Dec. 23, 1930. S. THIELMANN 1,786,096

MEANS FOR SCRAPING OFF WOODEN SURFACES

Filed March 30, 1929

Fig. 1.

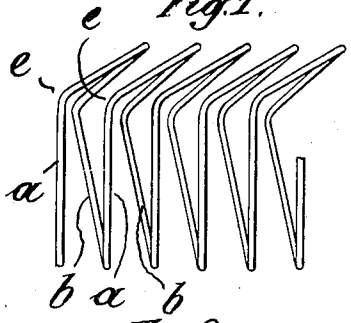


Fig. 2.

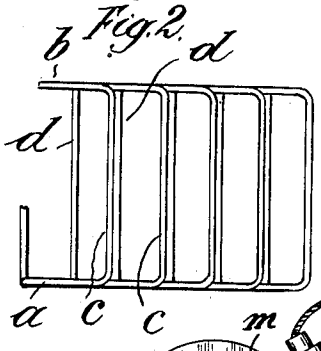


Fig. 3.

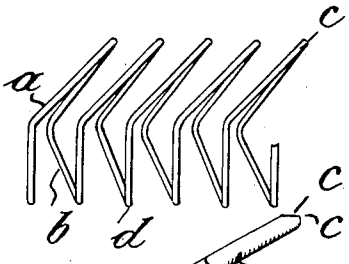


Fig. 4.

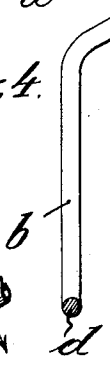


Fig. 5.

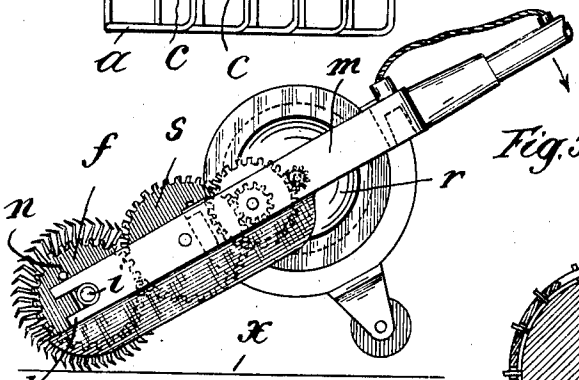
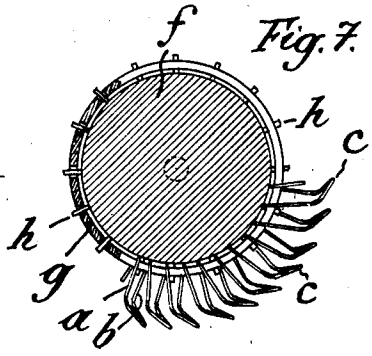


Fig. 7.



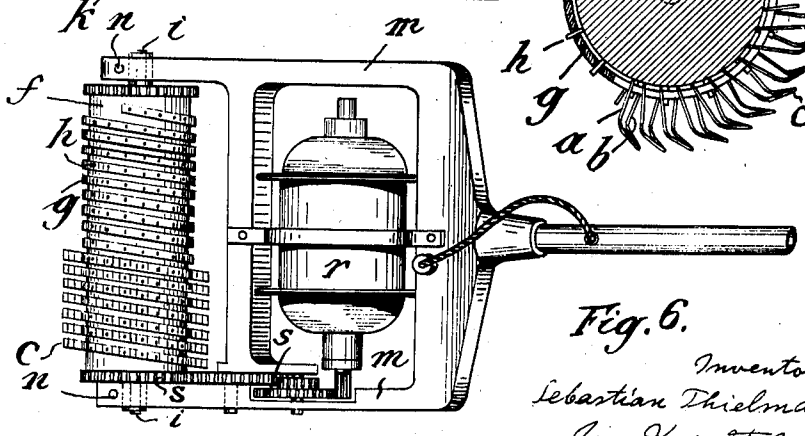


Fig. 6.

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UNITED STATES PATENT OFFICE

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MEANS FOR SCRAPING OFF WOODEN SURFACES

Application filed March 30, 1929, Serial No. 351,298, and in Germany September 1, 1928.

My invention relates to a new means for scraping off inlaid floors or similar wooden surfaces. To scrape off such floors or surfaces so-called scraper ribbons are used which either are mounted on a suitable base plate or on a cylinder adapted to revolve rapidly. These scraper ribbons either possess individual scrapers flattened out on their front faces and bent in known manner, or wire bails arranged in staggered relation to one another, the middle portion or web of which is flattened out or sharpened.

In both these cases the individual scrapers or scraping bails are mounted by their ends on a ribbon consisting of felt or rubber and fitted with a linen cloth stiffening and are held thereon by their free ends being bent over on the rear side of the ribbon, the mounting of the scrapers being carried out in known manner by means of suitable setting machines. Although these scraper ribbons are manufactured mechanically and have turned out to be well suited for the purpose aimed at, their use is comparatively expensive, as in particular the life of the scrapers, when consisting of bail-shaped wires, is comparatively short, the web of the bail wearing out very rapidly by its repeatedly being re-sharpened. Besides, the mounting of the scraper ribbon on a motor-driven rotary cylinder involves certain difficulties due to the helical course of the ribbon.

Now my invention has for its object to obviate these drawbacks. I likewise employ wire bails the middle portion or web of which is sharpened and forms the scraping member proper, but according to my invention no individual wire bails are mounted on a felt or rubber ribbon, but the scrapers form a continuous organic whole extending when mounted for use, along a helical line and having polygonal cross section. The lateral legs of the continuous scraping member thus obtained may be bent at the middle, instead of in the customary way, near one end, so that the member may be turned 180 degrees on the cylinder and the opposite webs of the individual polygonal spires be used as scrapers.

In order that my invention may be more easily understood, two preferred embodiments of the same are illustrated by way of example in the accompanying drawings as well as a motor-driven scraping machine fitted with my new scraping member. In these drawings

Figure 1 is a fragmentary side view of my new scraping member,

Figure 2 is a corresponding top view,

Figure 3 is a lateral view of the other embodiment of the member,

Figure 4 is one of the individual scrapers the member is composed of, in an enlarged lateral view, to better show its sharpened scraping edge,

Figure 5 is a side view of a scraping machine fitted with the new scraping member and driven by an electric motor,

Figure 6 is a corresponding top view, and

Figure 7 is a section, on an enlarged scale, through the cylinder having mounted on it the scraping member.

Referring first to Figures 1 and 2, the continuous wire which forms the individual scrapers constitutes a member of rectangular cross section and consisting of individual bails the legs of which are denoted by a, b, while the upper middle portion or web is denoted by c; d is the lower connecting section which normally serves as supporting member. The legs a, b are bent at a suitable level, at e, about 45 degrees, as can be seen from Figures 1 and 4. After having mounted the described wire member along a spiral line on the cylinder, the outer bail portions or webs c are sharpened, in the manner to be seen from Figure 4, by means of a suitable grinding machine, so as to form scraping edges c^1 suitable to scrape the inlaid floor or similar wooden surface. When the edges have become dull, they can easily be re-sharpened.

In the embodiment illustrated in Figure 3, the legs a, b are bent about in the middle, so that the spiral wire member may be turned over after the webs c have become dull, so that the lower webs d, now the outer ones, can be sharpened and serve as scrapers.

In the embodiment shown the wire is assumed to have circular cross section. As a matter of course, the wire may also have a

polygonal cross section, in particular a flat band-like cross section, in order to obtain a more favorable scraping effect.

The operative portions of the member, that is the webs *c* or *d* are hardened, as usual in such scrapers, to increase their resistance, unless the whole spiral member consists of a hard material, e. g. piano string wire.

The described wire member is mounted along a spiral line on a wooden cylinder *f* illustrated in Figures 5 to 7 and fastened thereon by means of a metal ribbon *g* drawn therethrough. This ribbon *g* is secured in position on the cylinder *f* by pins *h* projecting from the cylinder and engaging corresponding holes in the ribbon, the ends of the latter being fixed on the cylinder *f*, by any suitable means. The cylinder is provided with trunnions *i*, which are slid, for instance, into the slotted bearing ends *k* of the fork-shaped frame *m* of the machine and secured therein by cotters *n*. The cylinder *f* is driven in a known manner by an electric motor *r* through the intermediary of a suitable gear train *s*. In the scraping operation the cylinder *f* rests on the surface *x* to be treated.

What I claim, is:—

1. A scraping device consisting of a plurality of polygonal loops of wire joined together in the form of a helix, said loops having their sides along at least one side of said helix provided with a scraping edge.

2. A scraping device consisting of a frame, a substantially cylindrical drum rotatably mounted upon said frame, a plurality of loops of wire joined together in the form of a helix helically wound around said drum, said loops having sharpened flat outer sides lying in a virtual cylinder coaxial with said drum, and means for rotating said drum.

The foregoing specification signed at Berlin this 14th day of March, 1929.

SEBASTIAN THIELMANN.