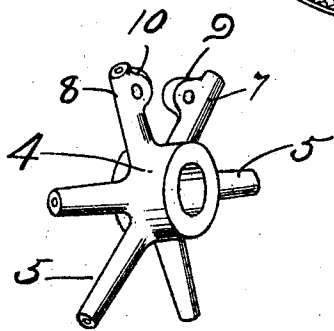
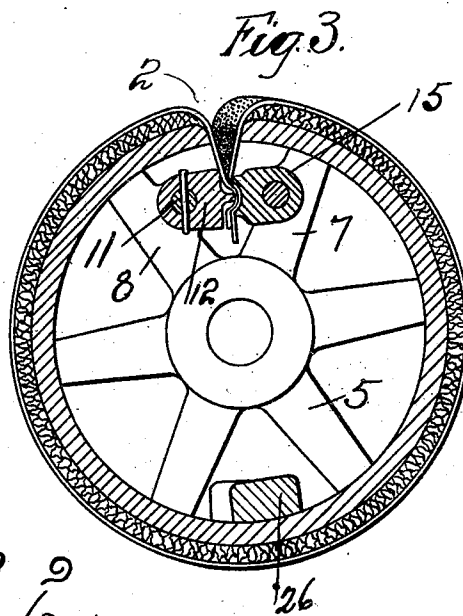
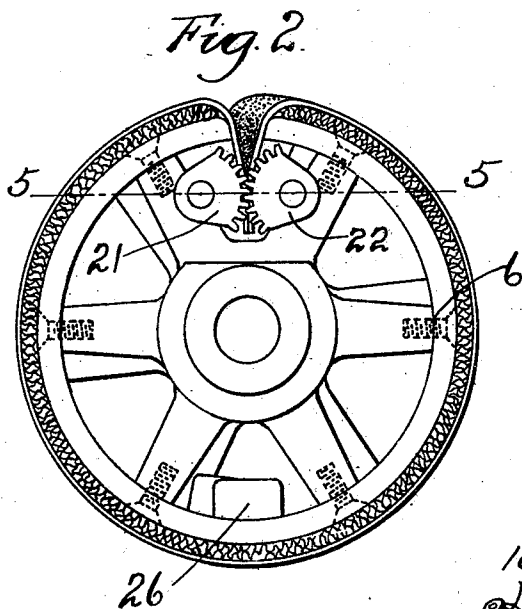
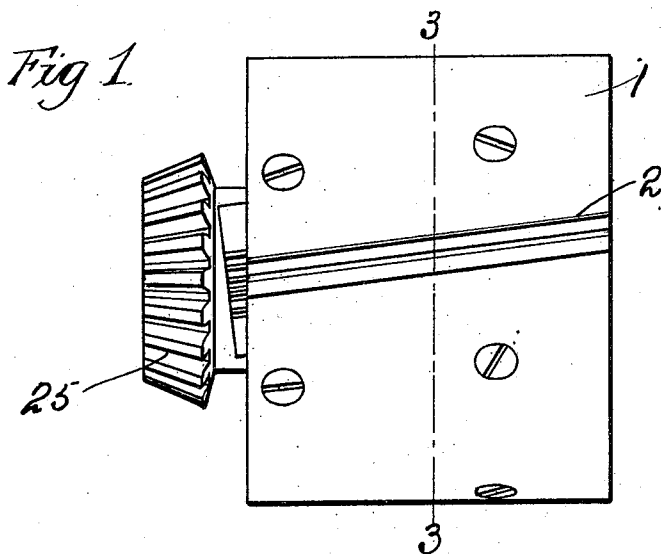


F. R. ALLEN.
SURFACING ROLL.
APPLICATION FILED OCT. 1, 1908.

933,946.

Patented Sept. 14, 1909.
2 SHEETS—SHEET 1.



WITNESSES
Willard H. Bardeley.
E. J. Ogden

Fig 4.

INVENTOR
FRED R. ALLEN.
BY
Howard E. Barlow
ATTORNEY

F. R. ALLEN.
SURFACING ROLL.
APPLICATION FILED OCT. 1, 1908.

933,946.

Patented Sept. 14, 1909.
2 SHEETS—SHEET 2.

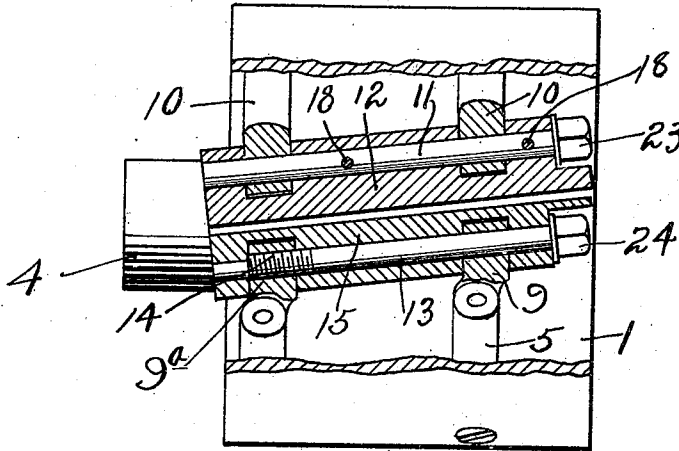


Fig. 5.

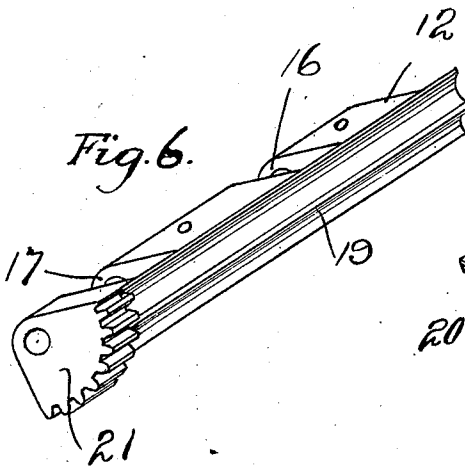


Fig. 6.

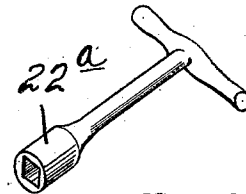


Fig. 8.

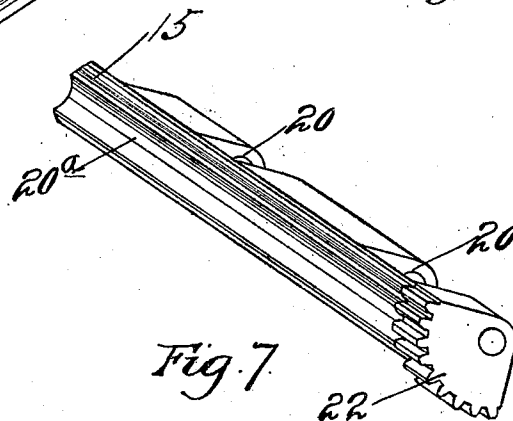


Fig. 7.

WITNESSES
Willard H. Bardeley.
E. O. Ogden

INVENTOR
FRED R. ALLEN.
BY
Howard E. Barlow
ATTORNEY

UNITED STATES PATENT OFFICE.

FRED R. ALLEN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO UNITED STATES FLOOR SURFACING MACHINE COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

SURFACING-ROLL.

933,946.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed October 1, 1908. Serial No. 455,739.

To all whom it may concern:

Be it known that I, FRED R. ALLEN, a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Surfacing-Rolls, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to surfacing rolls and has for its object to provide a roll of simple, practical and inexpensive construction adapted to engage both ends of the abrasive or polishing material, draw the same tightly around and securely fasten the ends of said material within the roll and retain the whole firmly in that position while the roll is being operated.

A further object of the invention is to so construct the roll that the covering may be applied and removed quickly by unskilled hands, without the loss of time.

In carrying out my invention I have provided a supporting shell in which is mounted a pair of corrugated rotatable gripping and binding jaws, the same being adapted to engage both ends of the surfacing material to draw it tightly around the roll, and means are provided for securely locking said jaws in position while the roll is in operation.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1—is a plan view of the roll showing its driving gear and the diagonal slot cut through the shell. Fig. 2—is an end view of said roll showing the meshing segments which serve to keep the grip jaws in time with each other. Fig. 3—is a central sectional end view on line 3—3 of Fig. 1. Fig. 4—is a detail in perspective of one of the spiders in which the jaws are rotatably mounted. Fig. 5—is a section on line 5—5 of Fig. 2 showing the jaws in section, the arrangement of their bearings and the bolt for tightening and locking the jaws in position. Fig. 6—is a perspective view of the jaw which has the longitudinal rib. Fig. 7—is a perspective view of the jaw that is provided with a longitudinal slot into which the surfacing material is pressed and gripped by the rib of the opposite jaw. Fig.

8—is a perspective view of the key which is used for operating the jaws and the locking bolt.

Referring to the drawings, 1 designates a comparatively thin tubular shell which may be made of commercial steel tubing or any other suitable material, said shell being slotted at 2 through its surface for the purpose of admitting the ends of the surfacing material after the same has been wrapped around said shell, to be retained therein in the manner hereinafter described.

In order to form center bearings through which the shaft may pass for supporting the roll I have provided a pair of spiders, see Fig. 4, with hubs 4, (but one long hub may be employed having two sets of arms if desired). These two spiders contain a plurality of radially projecting arms 5, the outer ends of which arms are adapted to engage the inner surface of the shell 1 and be secured thereto by means of retaining screws 6—6, see Fig. 2 which pass from the outside of the shell through and are threaded into said arms. Two of these arms 7 and 8 in each spider or set are provided with bosses 9 and 9^a and 10—10, see Fig. 5, bosses 10—10 being for the purpose of receiving the pin 11 on which the jaw 12 is adapted to rotate while bosses 9 and 9^a are for the purpose of receiving the bolt 13, one end of said bolt being threaded at 14 through the boss 9^a which is for the purpose of binding and locking the jaw 15 through which it passes.

Jaw 12, see Fig. 6, is notched out or recessed in its back edge at 16 and 17 to receive the corresponding bosses 10—10 on the arms 8 of the spiders. The face of this jaw is provided with a longitudinal rib 19 which is adapted to engage and grip the surfacing material. The opposite jaw 15, see Fig. 7, is similarly notched or recessed at 20—20 to engage the corresponding bosses 9—9^a in the arms 7. The face of this latter jaw is provided with a longitudinal groove 20^a against which the rib 19 on the opposite jaw binds and retains the surfacing covering. These jaws are geared together to work in unison with each other by means of the meshing toothed segments 21 and 22 which are attached to the outer end of each. These jaws are held in their respective positions within the shell between the bosses of the spiders, jaw 16 being retained by the pivot

pin 11 to which pin it is secured by means of the cotter pins 18—18, while jaw 15 is retained to swing freely on the threaded pin or bolt 13 so that by inserting the operating key 22^a, see Fig. 8, onto the head 23 both jaws are operated in unison and when said jaws are turned into the desired position the key is removed from bolt 11 and inserted onto the head 24 of bolt 13, whereby said bolt is set up tightly binding jaw 15 against its bosses 9 and 9^a, securely holding both jaws in position.

A driving gear 25 is mounted on and fixed to the outwardly projecting hub 4.

15 The operation of this device may be more fully described as follows: It is found in practice to be a very economical, practical and efficient construction to form the center bearings and supporting arms independent of the shell and secure the shell thereto by screws or other suitable means. By this method of construction the shell may be removed and the jaw bearings fitted up and the jaws mounted therein and put in operative condition before this, the operating mechanism, is placed within the shell. A weight 26 is secured to the interior of the shell diametrically opposite the said jaws to balance the weight of the same so that the roll will run smoothly when rapidly revolving.

It is found in practice very advantageous to apply a flexible or yielding cushioning material to the surface of the roll, such as pile carpeting or the like, around which the surfacing sheet is wrapped, the ends of said material being passed down through the slot 2 in the face of the roll and between the gripping jaws. The key is then placed on the head 23 and said jaws are turned toward each other, the longitudinal rib 19 engaging the ends of said material and pressing and binding it firmly into the corresponding groove in the opposite jaw, at the same time pulling or drawing it tightly around the roll and placing the same under considerable tension. The key is then removed from the head 23 and placed on head 24 when by setting up this screw the jaw 15 is bound tightly in position securing both jaws and preventing them from turning backward until released by the loosening of the bolt 13.

The device is extremely simple and practical in construction, inexpensive to build and very efficient in its operation.

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

60 1. In a surfacing roll, a surfacing covering on said roll, a pair of jaws pivotally held within said roll, means in said jaws for engaging and binding said covering between them and drawing the same tightly around the roll when said jaws are rotated, means

for causing said jaws to rotate simultaneously and frictional means for locking said jaws.

2. In a surfacing roll, a surfacing covering on said roll, a pair of jaws, pivot bolts on which said jaws are mounted, means in said jaws for engaging and binding said covering between them and drawing the same tightly around the roll when said jaws are rotated, means for rotating said jaws, means for causing said jaws to rotate simultaneously, and means whereby one of said pivot bolts may be caused to bind and hold said jaws by friction to retain the tension on said covering.

3. In a surfacing roll, a surfacing covering on said roll, a pair of rotatable jaws within said roll, a longitudinal rib on one jaw, the opposite jaw being provided with a corresponding groove into which said rib is adapted to force the covering when the same is engaged between said jaws, means for rotating said jaws to draw inward or release said covering, intermeshing gear teeth for causing said jaws to work in unison, and frictional means for locking said jaws.

4. In a surfacing roll, a surfacing covering on said roll, a pair of jaws, pivot bolts on which said jaws are mounted, a longitudinal rib on one jaw, the opposite jaw being provided with a corresponding groove into which said rib is adapted to force the covering when the same is engaged between said jaws, means for rotating said jaws to draw inward or release said covering, intermeshing gear teeth for causing said jaws to work in unison, and means whereby one of said pivot bolts may be caused to bind and hold said jaws by friction to retain the tension on said covering.

5. A surfacing roll comprising a shell provided with a slot therethrough, a center bearing provided with arms and formed independent of and attached to said shell, a pair of jaws pivotally hung in said arms, the same being set beneath and parallel with said slot, means in said jaws for engaging and binding said material and drawing the same tightly around the roll when said jaws are rotated, and means for locking said jaws to retain the tension on the covering.

6. A surfacing roll comprising a shell provided with a slot therethrough, a center bearing provided with arms and formed independent of and attached to said shell, a pair of jaws, pivot bolts in said arms on which said jaws are mounted, said jaws being set beneath and parallel with said slot, means in said jaws for engaging and binding said covering between them and drawing the same tightly around the roll when said jaws are rotated, means for rotating said jaws, means for causing said jaws to rotate simultaneously, and means whereby one of said pivot bolts may be set up to bind and hold

said jaws by friction to retain the tension on said covering.

7. A surfacing roll comprising a shell provided with a slot therethrough, a center bearing provided with arms and formed independent of and attached to said shell, a pair of jaws, pivot bolts in said arms on which said jaws are mounted, said jaws being set beneath and parallel with said slot, a longitudinal rib on one jaw, the opposite jaw being provided with a corresponding groove into which said rib is adapted to force the covering when the same is en-

gaged between said jaws, means for rotating said jaws to draw inward or release said covering, intermeshing gear teeth for causing said jaws to work in unison, and means whereby one of said pivot bolts may be caused to bind and hold said jaws by friction to retain the tension on said covering.

In testimony whereof I affix my signature in presence of two witnesses.

FRED R. ALLEN.

Witnesses:

FREDERIC A. GREENE,
E. I. OGDEN.