

944,929.

F. WESTWOOD.
SCRAP BUNDLER.
APPLICATION FILED MAY 8, 1909.

Patented Dec. 28, 1909.

Fig. 1.

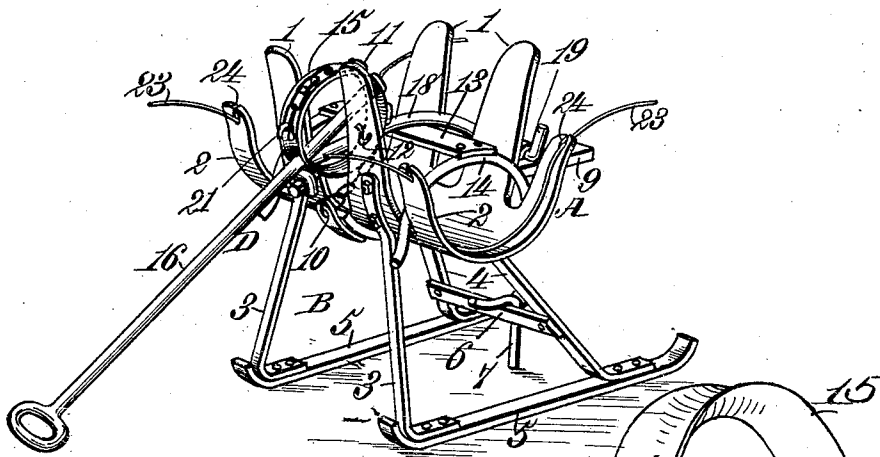


Fig. 5.

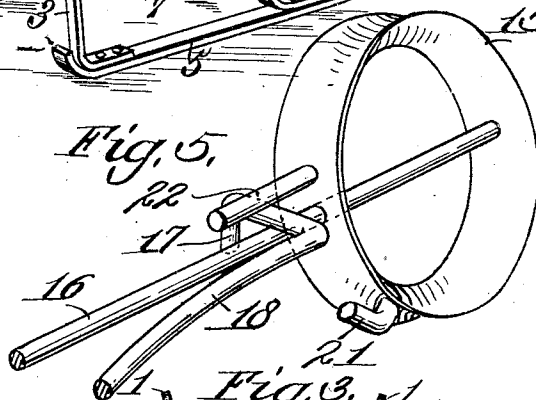


Fig. 2.

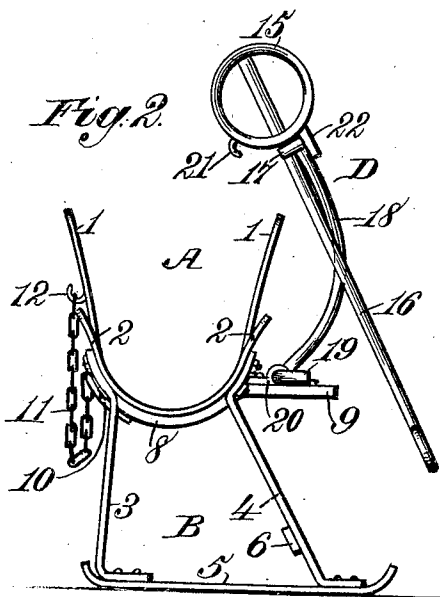


Fig. 3.

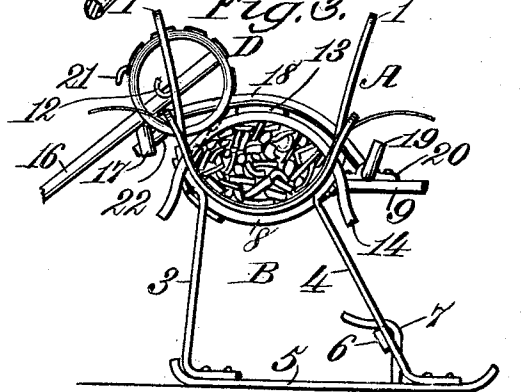
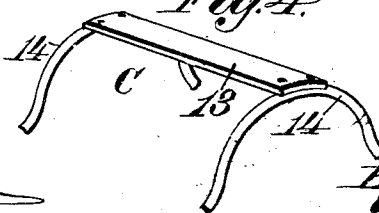


Fig. 4.



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UNITED STATES PATENT OFFICE.

FELIX WESTWOOD, OF WHEELING, WEST VIRGINIA.

SCRAP-BUNDLER.

944,929.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FELIX WESTWOOD, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented new and useful Improvements in Scrap-Bundlers, of which the following is a specification.

The present invention has reference to improvements in scrap bundlers, and its principal object, broadly stated, comprises the production of an extremely simple, effective and readily operated apparatus of the general type specified, designed for use in connection with sheet metal cutting machinery to receive and subsequently compress into a compact bundle the strips or trimmings which fall thereinto from the cutters when the sheets are cut to the commercial size.

Briefly described, the improved apparatus includes a trough shaped receptacle provided with pairs of spaced major and minor arms arranged on opposite sides thereof, and a follower of somewhat similar shape, designed for superposition thereupon and having its arms adapted to fit between the adjacent major and minor arms of the receptacle, whereby displacement of the follower, both lateral and longitudinal, is prevented, the follower being pressed down upon the scrap contained in the receptacle and locked by means of an element which is in effect a cam lever. This lever and the especial attendant devices employed in connection therewith present the more important features of the invention, although the latter also resides to a material extent in the particular construction of the receptacle and follower, and in the specific arrangement of the several elements with respect to each other.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the complete apparatus. Fig. 2 is an end elevation, the lever appearing in raised position. Fig. 3 is a similar view showing the lever in lowered position. Fig. 4 is a detail perspective view of the follower. Fig. 5 is an enlarged fragmental perspective view of the lever.

Reference being had to said drawings, and to the characters marked thereon, A designates in a general manner the receptacle, B the supporting frame therefor, C the follower, and D the compressing and locking lever.

The receptacle A, which is usually termed

the scrap box, is constructed of any suitable material, preferably sheet metal bent into trough shape, and is formed at each side with two central or major arms 1 and with two end or minor arms 2, the major arms being spaced from each other and from the adjacent minor arms as shown in Fig. 1. The major arms have a height approximately twice that of the minor arms, which latter are bent slightly beyond the first-mentioned arms, the corresponding arms on both sides of the receptacle being located directly opposite each other.

The support B upon which the receptacle is mounted includes front and rear pairs of legs 3 and 4 fastened at their upper ends to the major arms 1, and at their lower ends to a pair of runners 5 whose ends are shown as slightly upturned. The rear legs are connected by a cross-piece 6 with which a hook 7 affixed to the floor is arranged for engagement, the purpose of this construction being hereinafter stated at length.

To the under face of the receptacle there is bolted or otherwise secured in any suitable manner a brace 8 which projects rearwardly therebeyond, as indicated by the numeral 9, this projection or continuation forming a supporting arm upon which the lever D is pivotally mounted. The front end of the brace is provided with a hook 10 having connected thereto one end of a chain 11 whose other end, when the chain is not in use, may be engaged with a hook 12 secured to one of the front major arms 1, or may be allowed to rest upon the floor, according as preferred.

The follower C which is placed upon the scrap after a sufficient quantity has been deposited in the receptacle, comprises a relatively wide metal strap 13 to whose ends is secured a pair of arcuate bars 14 of counter-part construction. These bars form the arms of the follower and are designed to extend through the spaces between the major arms 1 and the adjacent minor arms 2 of the receptacle, thereby holding the follower against both lateral and longitudinal displacement, as will be apparent.

The follower itself is held down upon the scrap and locked in place by means of the lever D and the parts associated therewith. This lever, as shown, consists essentially of a channeled metal ring 15 formed with a pair of diametrically-opposite perforations in which is securely fitted one end of a main

straight rod or lever proper 16, the latter being supported by an L-shaped finger 17 formed upon the upper end of a bowed clamping rod 18. The last-mentioned rod, whose curvature conforms somewhat to that of the follower has its lower end formed with a finger 19 of similar shape pivotally mounted in a bearing 20 secured to the upper face of the brace extension or arm 9. The ring 15 above referred to is formed with a peripheral hook 21 arranged to engage the free end of the chain 11 when the lever is to be operated, and with a radial pin 22 which is located adjacent to said hook and is directly engaged with the finger 17.

The apparatus as a whole is normally positioned directly adjacent to the chute (not shown) with which the cutting machine is ordinarily provided, so that as the sheets are trimmed by the cutters, the falling scrap is discharged through said chute into the receptacle A. When sufficient scrap has accumulated in the receptacle to be compressed into a bundle, the apparatus is moved bodily away from the chute until the hook 7 engages the cross-piece 6, the provision of the runners facilitating the movement of the apparatus, as will be apparent.

Prior to the admission of the scrap into the receptacle, the tie-wires 23 with which the ends of the bundle are to be bound, are positioned upon the upper faces of the minor arms 2. To retain these wires in place, the upper or free terminals of the arms in question are formed with short inwardly-extending slits 24, the mouths of which are constricted, as shown in Fig. 1. In positioning said wires, they are first led through the slits in the rear or right hand arms and are then led across the receptacle and finally passed through the slits in the front or left hand arms, the wires resting upon the bottom of the receptacle and against the upper faces of the arms.

After the receptacle has been filled and the apparatus moved away from the chute, the follower is placed upon the scrap in the manner above stated, and the free end of the chain 11 engaged with the ring hook 21. The rod 16 is then swung upwardly and from the right over to the left, moving across the receptacle into the position shown in Fig. 3. During this movement, the pin 22 rolls around the finger 17, as an axis, the engagement of the pin and finger preventing displacement of the rod 16. As said rod swings across the receptacle, it carries with it the bowed rod 18, which latter is caused to assume a position transverse of and directly in contact with the follower, during which movement it passes through the spaces between the major arms 1 and is thus guided. As the movement of the main rod or lever continues, the chain is wound tightly around the ring until it binds against

the bottom of the channel in which it fits, the binding action of the chain coöperating with the engagement of the pin and finger 17 in locking the rod in its final position, in which position it points downwardly toward the floor, the finger above referred to projecting across the upper surface of the pin. The curved rod 18 which is then in its operative position exercises a direct clamping pressure upon the follower, the curved formation of the latter and the receptable shaping the scrap into a compact bundle. At the conclusion of the pressing operation, the ends of the tie wires are drawn sharply toward each other, so as to remove them from the slits 24, whereafter said ends are tied together, in the ordinary manner. The lever is then swung in the opposite direction from that above described until the finger 19 formed upon the lower end of the bowed rod contacts with the brace arm 9, thereby holding said rod in upright or inoperative position. The apparatus is then ready to be moved back into its original position adjacent the chute.

It will be apparent from the foregoing that the action of the main rod is, in effect, that of a cam lever, and also that this rod, by reason of the engagement of its pin 22 with the finger 17 of the pivoted rod may be regarded as pivotally supported, these terms being employed in this connection in the appended claims.

What is claimed is:

1. In a scrap bundler, the combination of a receptacle; a follower arranged to fit therein; a clamping member arranged for engagement with the follower; and a cam lever pivotally supported with relation to said member for retaining the same in operative position.

2. In a scrap bundler, the combination of a receptacle; a follower arranged to fit therein; a clamping member arranged for engagement with the follower; a member pivotally supported with relation to the clamping member; and a flexible element arranged for connection with the second-named member and for coöperation with the same to hold said clamping member in operative position.

3. In a scrap bundler, the combination of a receptacle; a presser member arranged to fit therein; and mechanism including a clamping member and a cam lever associated therewith for operating the presser member and retaining the same in position.

4. In a scrap bundler, the combination of a receptacle; a presser member arranged to fit therein; a pivotally mounted clamping member arranged for swinging movement across the receptacle from one side thereof to the other and into engagement with the presser member; and mechanism associated with said clamping member for effecting

such movement thereof and for retaining it in operative position.

5. In a scrap bundler, the combination of a receptacle; a presser member arranged to fit therein; a pivotally-mounted clamping member arranged for movement into position to engage the presser member; a lever pivotally supported with relation to the clamping member and provided with an annular cam; and a flexible element connected at opposite ends with the receptacle and the cam and arranged to be wound around the latter during the movement of the lever in one direction to cooperate with said lever in retaining said clamping member in operative position.

6. In a scrap bundler, the combination, with a receptacle and a presser member arranged to fit therein, of mechanism for operating said member and retaining the same in position, said mechanism comprising a pivotally mounted clamping member provided with a bent finger, a lever provided with a cam having a pin pivotally engaged with said finger, and a flexible element connected at opposite ends with the receptacle and the cam.

7. The combination, with a frame provided with an arm, and a receptacle mounted upon the frame, of a member pivotally mounted adjacent one end thereof upon said arm and provided at each end with a lateral finger, one of said fingers being arranged for contact with the arm, to support said member in inoperative position; and a member pivotally engaged with the other finger of the first-named member.

8. The combination, in a scrap bundler, of a receptacle provided at opposite sides with pairs of spaced arms; and a presser member arranged to fit in said receptacle and having arms adapted to project through the spaces

between the first-named arms, whereby said member is held against lateral and longitudinal displacement.

9. The combination, in a scrap bundler, of a receptacle provided at opposite sides with pairs of spaced arms; a presser member arranged to be lifted bodily into and out of the receptacle and having arms adapted to project through the spaces between the first-named arms when said member is in position in said receptacle; and mechanism for operating said member and retaining the same in such position.

10. The combination, in a scrap bundler, of a receptacle provided at opposite sides with pairs of spaced major and minor arms; a presser member arranged to fit in said receptacle and having arms adapted to project through the spaces between the major arms and the adjacent minor arms; a clamping member arranged for movement into position to engage the presser member and to project at its ends through the spaces between the major arms; and means for retaining the clamping member in such position.

11. In a scrap bundler, the combination of a receptacle provided at opposite sides with pairs of spaced arms, the end arms at each side being formed with openings through which the tie wires are adapted to be inserted; and a presser member arranged to fit in said receptacle and having arms adapted to project through the spaces between the pairs of arms.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FELIX WESTWOOD.

Witnesses:

J. F. A. SMITH,
LUE S. WHITEHEAD.