G. W. STALEY.

EJECTING MECHANISM FOR WIRE SCRAP REELING MACHINES.

APPLICATION FILED DEC. 1, 1913.

1,124,070. Patented Jan. 5, 1915.

Fig. 1.

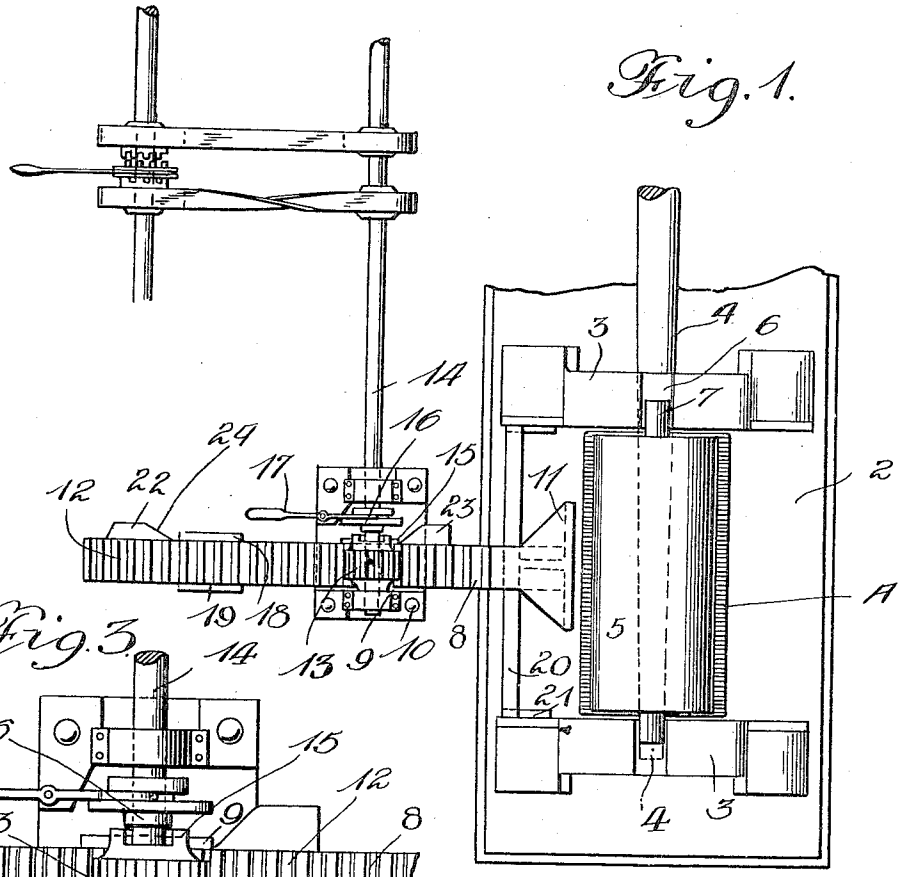
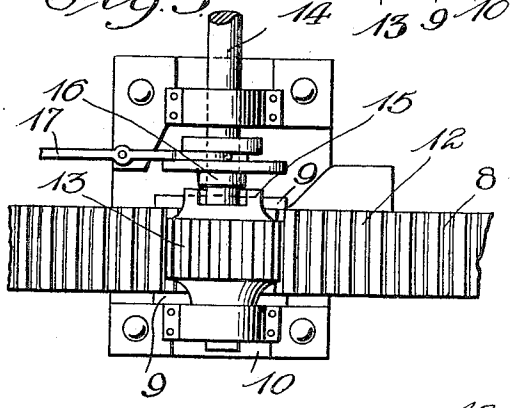


Fig. 3.



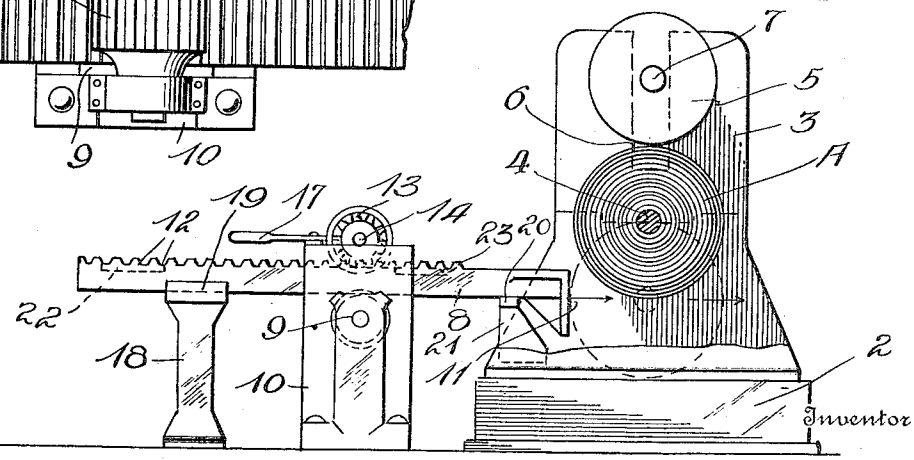


Fig. 2.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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EJECTING MECHANISM FOR WIRE-SCRAP-REELING MACHINES.

1,124,070. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed December 1, 1913. Serial No. 804,031.

To all whom it may concern:

Be it known that I, GEORGE W. STALEY, citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Ejecting Mechanism for Wire-Scrap-Reeling Machines, of which the following is a specification.

My invention relates to machines for reeling wire and particularly to machines designed for the purpose of reeling wire scrap, these machines being known as "cobble ballers." Heretofore in machines of this character after the wire scrap has been wound up in the form of a cylinder, the spindle upon which it is wound is removed and the cylinder of wire scrap allowed to drop upon the base of the machine. This pull or roll of wire scrap is very heavy and heretofore in machines of this type a number of men have been employed to roll and push the bundle of scrap wire off the base.

The primary object of my invention is the provision of power-operated means for the purpose of shifting the roll off the base of the machine and thus permit the reeling operation to be suspended for a relatively short time.

A further object of the invention is to provide power-actuated means for this purpose of very simple character and readily operated.

A further object is the provision in a machine of this character, of a power-actuated plunger or pusher designed to be operatively engaged with the power shaft and the provision in connection therewith of automatic means for throwing off the power or disengaging the plunger from the power shaft when the plunger or pusher has arrived at one or the other of its extremities of movement.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a plan view of a machine constructed in accordance with my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a detail view of the clutch mechanism between the plunger and the power-shaft.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

While I do not wish to be limited to any specific type of bundling or scrap reeling mechanism, I have illustrated a form ordinarily in use to-day, this machine comprising a base 2, the laterally spaced standards 3, the spindle 4 upon which the scrap wire is reeled, and the roll 5 which constitutes a weight rolling on and bearing down on the bundle of wire rolled upon the spindle 4. The spindle 4 is tapering, as shown in Fig. 1, and is laterally removable from its bearings in the standards 3. The upper end of each standard 3 is vertically slotted as at 6 to receive the trunnions 7 of the roll 5. In this type of machine the scrap wire is reeled up upon the spindle 4, power of course being applied to this spindle in any suitable manner, and the roll 5 yieldingly bears upon this reel of scrap wire. As the reel or bundle of scrap wire grows larger in diameter the roll 5 will rise but it will always bear upon this reel or bundle of wire so as to compress it as much as possible. When the reel or bundle of wire has become as large in diameter as is permitted by the roll 5, the spindle 4 is withdrawn and the reel or bundle of wire drops upon the base 2. Heretofore this reel of wire has been shifted from the base by two or three men using crow-bars for the purpose and it is obvious that during this removal of the bundle the machine cannot be operated. Not only is time lost but as before remarked, the services of two or three men are required for the purpose.

In order to carry out the purpose of my invention, I provide power-operated means for shifting the bundle A of wire from the base. This power-operated means consists of a plunger or pusher designated 8. This rests at its middle upon a roller 9 mounted in a suitable supporting base 10. The forward end of the plunger 8 is formed with a laterally expanded and downwardly extending head 11 braced by flanges from the plunger bar 8. The upper face of the bar 8 is formed with rack teeth 12 for engagement with a gear-wheel 13. This gear-wheel is mounted loosely upon a shaft 14 supported in suitable bearings in the base 10. This shaft 14 is a power shaft actuated from a power source. The face of the gear wheel 13 is formed with clutch-teeth 15 and slidably mounted upon the shaft 14 is a clutch member 16 which is splined upon the shaft to rotate therewith and has free sliding

movement into or out of engagement with the clutch-face of the gear-wheel 13. The clutch member 16 is shifted by means of a handle 17 or shipper rod.

The rear end of the rack bar or plunger 8 is supported by means of a support 18 having upwardly extending guide arms or flanges 19 between which the bar 8 slides. The forward end of the bar 8 is supported by means of a supporting bar 20 mounted on brackets or legs 21. By referring more particularly to Fig. 2 of the drawings it will be noted that this supporting bar 20 is above the lowest point of the expanded head 11 of the plunger and, therefore, it will serve as a stop to limit the outward or receding movement of the plunger and prevent it being carried so far from the supporting table that time will be lost in bringing the plunger into engagement with the roll of wire when it is desired to eject said roll. I thus guard against undue movement of the rack and plunger inasmuch as the forward lateral lug 23 will engage the movable clutch member and shift the same from its engagement with the gear wheel 13 and the head of the plunger will then engage the supporting bar 21 so that no unnecessary movement of the plunger will occur.

For the purpose of throwing the clutch out of mesh in case the operator neglects to throw it out himself when the plunger has shifted to either extreme of its movement, I provide laterally projecting lugs 22 and 23 formed upon the rack-bar, these lugs having inclined faces 24 on their inner edges adapted to engage with the clutch-member 16. These clutch shifting lugs 22 and 23 are disposed respectively at opposite ends of the plunger bar 8 adjacent the ends of the rack 12 so that when the plunger bar is moving forward and the inclined face of the lug 22 comes into contact with the member 16 it will shift it outward, thus unclutching the gear wheel 13 from the shaft 14 and so that when on the other hand the plunger bar 8 is moved rearward and the lug 23 engages with the clutch member 16, the gear wheel 13 will be unclutched from the shaft 14 and the power thrown off. This will automatically prevent any breakage of the mechanism due to the carelessness of the workmen.

It is obvious that with my invention the bundle of wire when it is reeled up may be readily and quickly pushed off of the base 2 and the machine readily placed in condition for rewinding a fresh bundle of wire. It is also seen that with this arrangement only one man is needed to attend to the machine and that considerable economy in time is secured. The shaft 14 will of course be operated by any suitable power, and means of course will be provided for rotating the shaft in one direction or the other in order to shift the plunger bar 8 inward or to retract the plunger bar.

While I have illustrated what I believe to be the best form of my invention, I do not wish to be limited thereto, as it is obvious that many changes might be made without departing from the spirit of the invention.

Having thus described the invention what is claimed as new is:—

In an ejecting mechanism for wire reeling machines, the combination of a table, a supporting bar mounted upon said table above the surface thereof, guides disposed in alinement at one side of the said supporting bar, a plunger mounted in said guides and resting upon said supporting bar and provided at its end beyond said bar and over the table with a laterally and downwardly expanded head adapted to impinge against the reel to be ejected, a rack upon the upper side of said plunger, a gear-wheel mounted in that guide nearer the table and meshing with said rack, a driving shaft journaled upon said guide and extending laterally therefrom and fitting loosely within said gear wheel, a manually movable clutch member mounted upon the said shaft and adapted to engage said gear wheel, and laterally projecting lugs on the side of the plunger at opposite sides of the gear wheel having inclined faces adapted to engage said clutch member and shift the same out of engagement with the gear wheel to arrest the movement of the plunger at either end of its stroke.

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

GEORGE W. STALEY. [L. S.]

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."