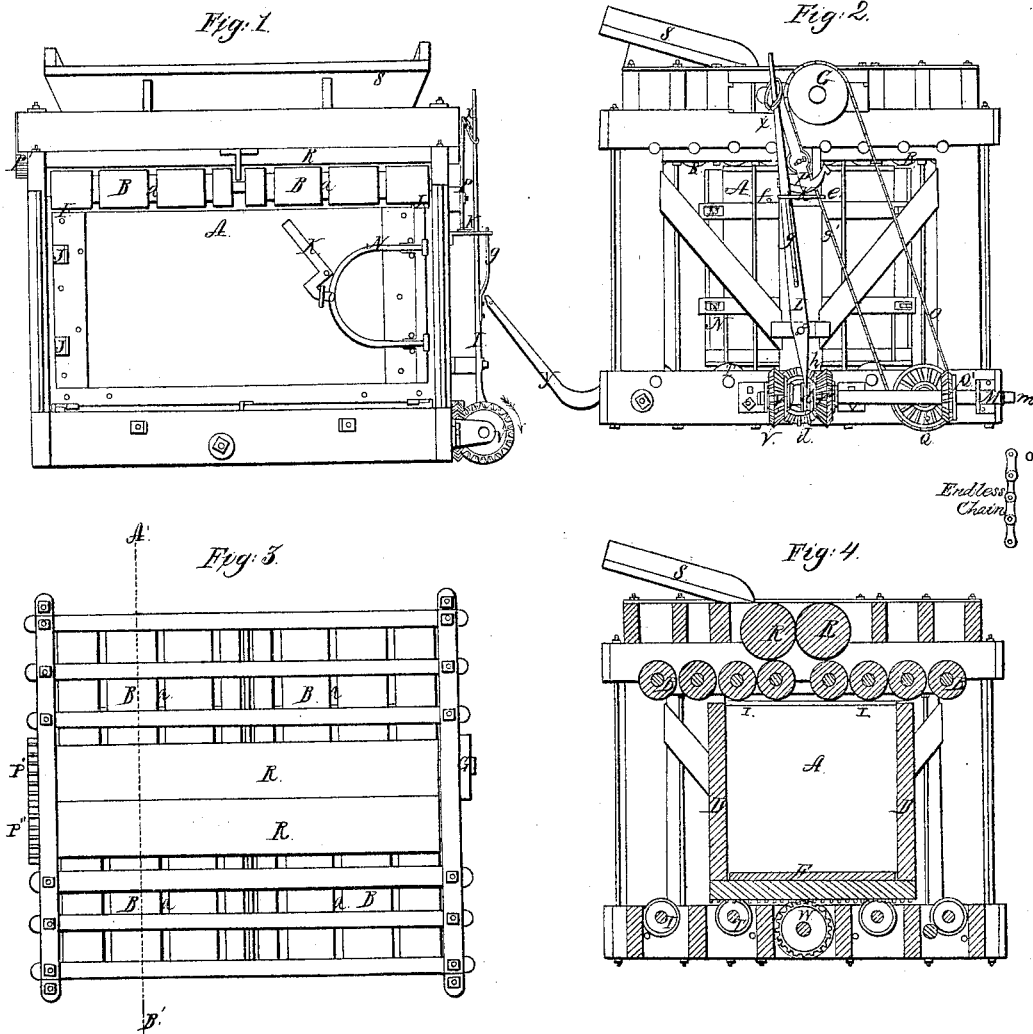


J. Price, Jr.,
Cotton Press,
No 51,212, *Patented Nov. 28, 1865.*



Witnesses:
Wm. B. Smith
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UNITED STATES PATENT OFFICE.

JACOB PRICE, JR., OF PETALUMA, CALIFORNIA.

IMPROVED CRUSHING AND BALING MACHINE.

Specification forming part of Letters Patent No. 51,212, dated November 28, 1865.

To all whom it may concern:

Be it known that I, JACOB PRICE, Jr., of the city of Petaluma, county of Sonoma, State of California, have invented certain new and useful Improvements in Crushing and Baling Machines, for crushing and baling fibrous materials, such as hay, straw, cotton, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, referring to the drawings making a part of this specification, in which—

Figure 1 represents a side elevation of a baling-machine. Fig. 2 is an end view. Fig. 3 is a plan with gearing left off. Fig. 4 is a sectional end elevation.

The nature of my invention relates to the employment or use of iron cylinders or rollers through which the material passes in continuous rolls or sheets into a baling-chamber which traverses backward and forward between rollers, folding the sheets in layers, and compressing the material until the bale is of sufficient compactness, or as long as the strength and capacity of the machine will admit, the arrangement of the machine being such that the greater the amount of material introduced into the baling-chamber, the greater becomes the pressure upon the bale.

To enable others skilled in the art to make use of my machine for baling fibrous and other materials, I will proceed to describe its construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

The principal part of my machine consists of a strong frame-work of wood or iron framed and bolted together, upon which is mounted a chute, *s*, (shown in Figs. 1, 2, and 4,) for holding the material to be baled, which is fed to the crushing-rollers *R R'*, and is crushed by them, and thence passes, in the direction indicated by the arrow, between the rollers *B B B'*. These rollers may be constructed of wood or iron, with thimbles placed upon them, with space sufficient between them for the rope or wire used in tying up the bales, and are separated from the top of the chamber *A* by strips of rubber *I I* at each end, for the purpose of securing close contact and giving motion to the rollers without too much friction.

The baling-chamber traverses backward and

forward between the metallic rollers *T T T* and *B B B B*. A reciprocating motion is given to the chamber *A* by racks firmly bolted to the bottom of it. The racks are moved and the chamber with them by the pinions *W W*, one at each end. (Shown in Fig. 4.) The chamber passing backward and forward under the rollers *B B B B*, the fibrous material, as it enters *A*, is folded over in layers until it is filled, and compression begins and continues until the bale becomes as compact as may be desired, and as more material is added the harder and more compact the bale becomes, limited only by the strength of the machine.

The sides of the baling-chamber are doors *D D*, moving on hinges *J J*, and secured, while the operation of crushing and baling is going on, by a catch, *N*, and fastener *K*, Fig. 1.

When the bale is of sufficient compactness, the doors *D D* are opened, and the wire or rope for securing it is passed through the grooves *a a*, &c., in the false bottom *F* of the chamber, and corresponding spaces or grooves *a a* in the rollers *B B*, Figs. 1 and 3, and made fast. The brace *Y* is then placed against the bale and the chamber withdrawn, thus discharging it.

The machinery for imparting the reciprocating motion to the baling-chamber consists of a shaft, *M*, which, by a crank, *m*, gives motion, alternately, to the loose bevel-gears *V* and *V'*, Fig. 2.

The anchor-pawl *P*, Fig. 2, has attached to its shaft the lever *g'*, which, as the chamber moves toward the left, is acted upon by the pin *e*, causing the pawl *P* to make a partial revolution. The pawl *P* is connected with head of the lever *L* by an india-rubber ring, *X*. As the top of the pawl moves toward the right tension is given to the rubber ring; but the lever *L* cannot obey the tension, being confined by the spring *g* in a groove in the plate to which the catch *K* is attached. In the revolution, however, the point of the pawl *P* trips the catch *K*, throwing the lever from the groove. When acted upon by the tension of the rubber ring the lever is reversed and thrown into a similar groove on the other side of the center of the pawl *P*. By this reversal the double male clutch *d* is thrown into a corresponding female clutch, *h'*, and the shaft *M*, in its continued motion, moves the bevel-wheel *V'*, instead of *V*. The baling-chamber commences

moving now toward the right. The lever g' is, after a time, acted upon by the pin f . The head of the pawl P travels toward the left, and tension is anew exerted upon the rubber ring X . The pawl moves until it trips the catch K , the lever is reversed, and the baling-chamber begins again to traverse toward the left as the gear-wheel V , having become fast, moves the gear H and the pinion W (shown in Fig. 4) attached to its shaft. Thus the operation goes on alternately and successively until the desired object is accomplished.

By this invention the shaft M of the gear-wheel Q' , gear-pulley Q , endless chain O , and pulley G , the latter being keyed to the shaft of the roller R , gives motion to it, and the spur-gearing P' and P'' , Fig. 3, communicates a similar motion to the roller R' . The crushing operation therefore goes on during the entire time that the baling-chamber is in motion.

Having thus described my machine for crushing and baling, so as to enable any person skilled in the art or science to which it most nearly appertains to make and use the same, I will now proceed to state what I desire and claim to secure by Letters Patent, to wit:

1. Giving the baling-chamber a reciprocating

motion, for the purpose of folding and pressing the sheets of material, it being crushed by the rollers as it comes from the same, by means of the racks and pinions connected therewith, and operated by the beveled wheels V and V' , lever L , male and female clutches d , h , and h' , in combination with the catch K , and rubber band X , substantially as shown.

2. The loose rollers B , B , &c., working, as described, for folding and compressing the material after it has passed into the baling-chamber, together with the grooves a , &c., in the periphery of said rollers, through which the strings, wires, bands or hoops may be placed in binding or confining the bale, substantially as described.

3. Combining the crushing-rollers and compressing-rollers with a baling-chamber having a reciprocating motion, obtained as shown.

4. The means for discharging the bale, by placing the braces Y against it, and withdrawing the chamber in the manner specified.

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