July 10, 1934. S. T. SILVAY 1,965,992

MACHINE FOR FORMING BUNDLES

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Fig. 1

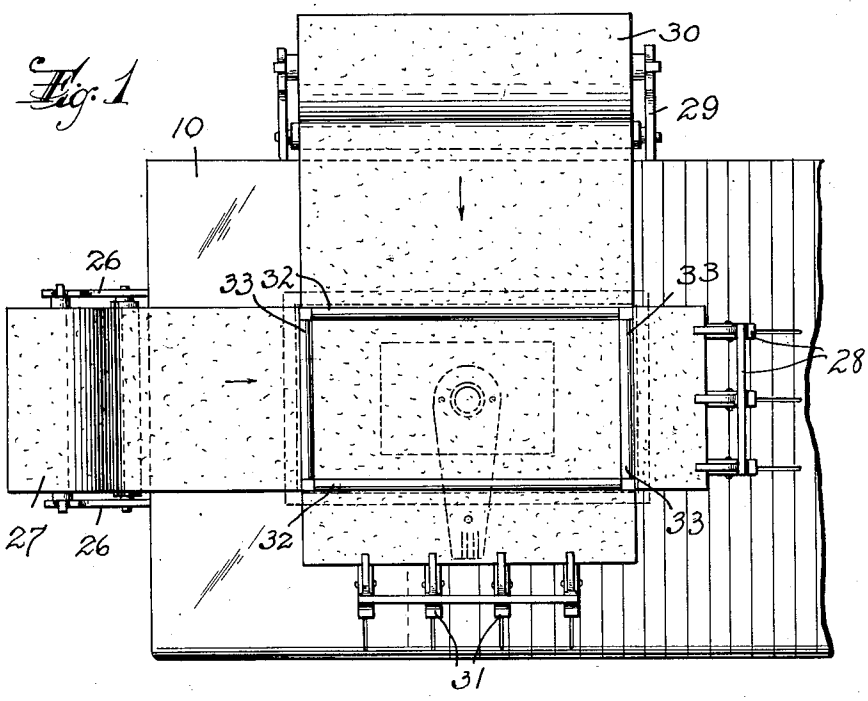


Fig. 2

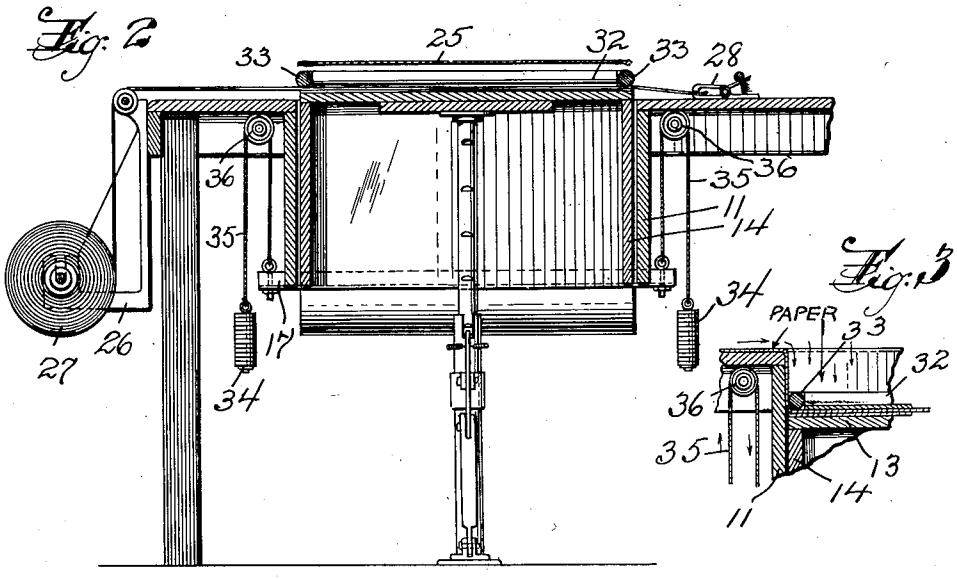


Fig. 3

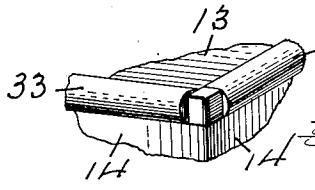


Fig. 4

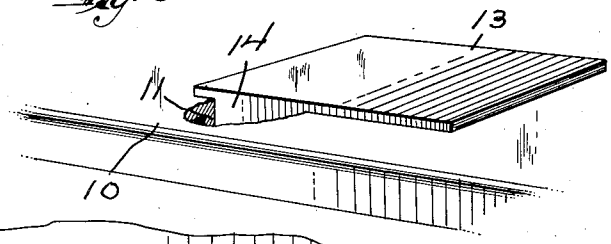
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Fig. 5



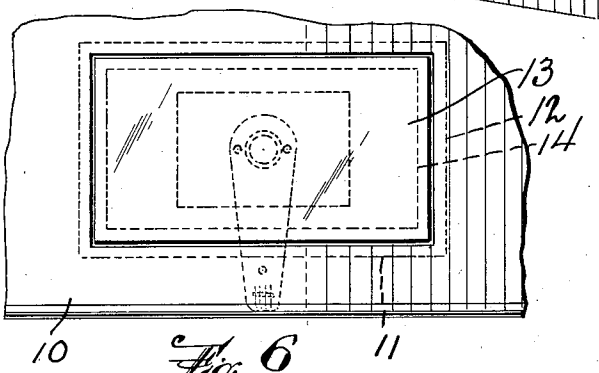
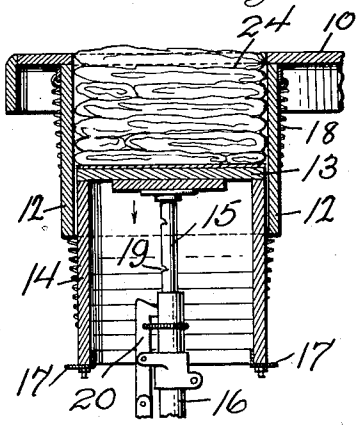


Fig. 6

Fig. 7



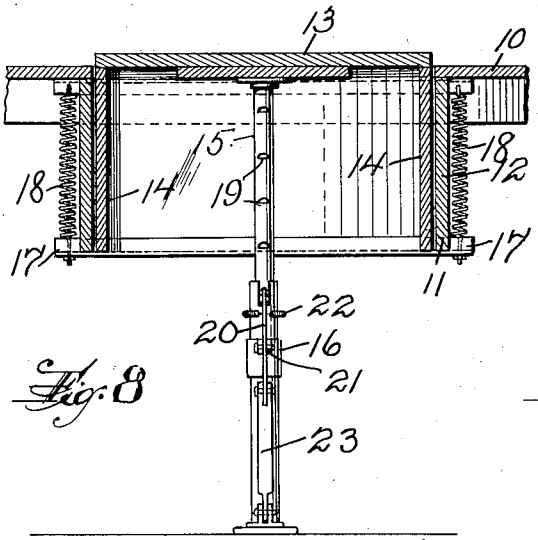


Fig. 8

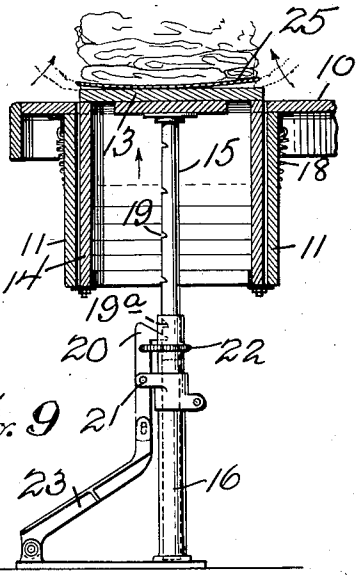


Fig. 9

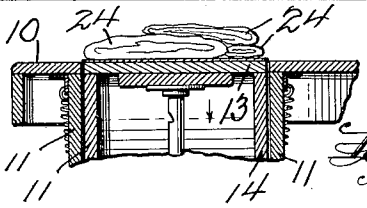


Fig. 10

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1,965,992

MACHINE FOR FORMING BUNDLES

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Application May 13, 1932, Serial No. 611,132

13 Claims. (Cl. 93—2)

This invention relates to an improved machine for forming bundles and is particularly designed for making up bundles of articles which are of various sizes and dimensions. As an example, the forming and wrapping of bundles of laundry requires the placing of articles of various sizes in folds in one bundle. Such articles as towels, sheets, napkins, stockings and other articles when put together by ordinary stacking takes considerable time and when complete the bundles are of various sizes and outline.

The object of this invention is to provide a machine which defines the limits of the bundle, holds the various articles in place until the bundle is completed for wrapping and provides bundles of the same length and width which in turn aids in easy packing and stowing in delivery cars.

The invention also resides in various details of construction which are more fully described hereinafter and finally embodied in the claims.

The invention is illustrated in the accompanying drawings in which Figure 1 is a top plan view of a machine provided with a supply of wrapping paper. Figure 2 is a central longitudinal section of the machine shown in Figure 1. Figure 3 is a detail section illustrating the parts that descend as partly depressed. Figure 4 is a detail perspective of a corner of a frame sometimes used in the machine. Figure 5 is a detail perspective of part of the support and with the platform in normal position. Figure 6 is a top view of a machine being of the simple type without fixtures for holding wrapping paper. Figure 7 is a cross section of the machine shown in Figure 6 and showing a bundle in the well.

Figure 8 is a longitudinal section of the machine shown in Figure 5. Figure 9 is a view similar to Figure 7 and showing the platform raised with the bundle ready for removal. Figure 10 is a cross-section of the top of the machine and illustrating the platform flush with the table top at the initial formation of the bundle.

The machine includes a support, usually in the form of a table and I show the table top 10 as this provides a place on which the goods are placed preparatory to being packed. The table is provided with a well having the sides 11 and the ends 12. The well is usually rectangular in shape.

Slidable in the well and fitting loosely for easy operation is a platform 13. The platform may have depending side pieces 14 also fitting inside the well. The platform is suitably supported by means which also can function to hold the platform in pre-determined positions and which can be released to enable the platform to return to normal position. A means is also provided for causing the return of the platform to normal position.

I show, as a support for the platform 13, a rod 15 which slides in a socket 16 resting on the floor. The platform is provided with bars 17 which are fastened to the springs 18. The springs are usually placed at the corners of the well and are fastened to the table top. They thus act to yieldingly hold the platform at its uppermost or normal position. The parts are so proportioned and placed that the platform rests above the level of the table top, as shown in Figures 5, 8 and 9. This is for convenience in placing fingers under the formed bundle after the articles have been assembled. This normal position is due to the engagement of the bars 17 with the bottom edges of the side walls 11 of the well.

The rod 15 is provided with notches 19 which are engaged by the pawl 20 pivoted to the outside of the socket at 21. The spring 22 embraces the socket and engages the pawl to hold it against the rod 15. The treadle 23 is connected to the pawl and is one means for manually releasing the pawl from the notches in the rod 15.

In using the machine the operator pushes the platform down to the position shown in Figure 10, where it is held by the pawl engaging the notch 19^a. The articles 24 are then placed on the platform and as the bundle becomes higher the bundle and platform are pushed down against the pressure of the springs 18. This is repeated until the bundle is completed as shown in Figure 7. During the descent of the platform it is held by the pawl 20 engaging the notches 19 which are placed say, 3 inches apart, so that bundles can be gauged as 3, 6, 9 and 12 inch bundles as to height.

When the bundle is completed the treadle 23 is pushed and the springs 18 raise the platform and its bundle to normal position as shown in Figure 9. This raises the platform and the bundle above the table which enables the fingers to be inserted under the bundle for lifting it to be placed on the wrapping paper. A piece of cardboard 25 is usually placed on the platform for holding the bundle intact when lifted and the use of this cardboard is common practice at present both in the bottom and the top of bundles.

Bundles formed in this machine have a uniform length and width and can be formed within certain heights to give a neat uniform appear-

ance to the bundles. The bundle can be tightly packed, if desired, before removing it from the machine by pressing the platform down to its lowest point and then compressing the goods on the platform.

In the machine shown in Figures 1 to 4, the operating mechanism is the same with the addition of means for supplying paper to the bundle and when it emerges the bundle can be securely fastened by its wrapper either for delivery as such or for easy and convenient handling for packing in boxes or cartons.

In the form of machine shown I show a bracket 26 on which a roll of paper 27 is supported which is secured at its end by the clamps 28. A second bracket 29 holds a similar roll 30 which roll of paper is fastened at its end by the clasp 31. These strips of paper cross each other on the platform, as shown in Figure 1. The machine is used as previously described and the paper passed down into the well with the bundle. When the bundle is completed the paper is cut off between the roll and the bundle, the ends lapped over and secured by gummed tape or by pins. In the case of heavy bundles it is necessary to provide anti-friction means for sliding along the paper as it descends into the well, otherwise, the paper would tear. I show a frame for this purpose. It is illustrated as having anti-friction edges in the form of rollers 32 on the sides and rollers 33 on the ends. This frame is laid on the paper first then the cardboard is laid on. Then the bundle is formed as above described, the frame descending and acting as a roller for the paper as shown in Figure 3. The treadle 23 is then operated and the platform and bundle rise to a point slightly above the table top. The paper at one end or side is then lowered and the bundle held by one hand and the frame is then easily slid from under the cardboard 25. The paper is then folded back over the bundle and secured. In this machine, I have illustrated the weights 34 on the strands 35 passing over pulley 36 and fastened to the bars 17 as the yielding means for moving and holding the platform at its top position.

Various changes can be made in the form and proportion of parts without departing from the scope of the invention.

I claim:—

1. A machine for forming bundles comprising a table having a well in its top, the well having vertical walls extending downwardly from the table top, a platform in the well, a yielding means for holding the platform in normal raised position and releasable means for retaining the platform in depressed position.

2. A machine for forming bundles comprising a table with a well therein, the well having vertical walls extending downwardly from the table top, a platform movable in the well, a resilient means for yieldingly holding the platform in position, means for holding the platform in predetermined positions in the well and manually operable means for releasing the holding means.

3. A machine for forming bundles comprising a table with a well therein, the well having vertical walls extending downwardly from the table top, a platform movable vertically in the well, springs for normally moving the platform upwardly, a rod supporting the platform, a pawl for engaging the rod to hold it in adjusted positions and means for manually releasing the pawl.

4. A machine for forming bundles comprising a table having a well in its top, the well having vertical walls extending downwardly from the table top, a platform slidable in the well, means for yieldingly holding the platform at its topmost position, a stop for limiting the upward movement of the platform when the platform is slightly above the level of the table, means for holding the platform at various positions within the well and means for releasing the holding means.

5. A machine for forming bundles comprising a table with a well therein, a platform movable in the well, bars on the platform to engage the bottom of the well and thereby limit the upward movement of the platform, a socket, a rod slidable in the socket and with its top end supporting the platform, the rod having notches therein, a spring-pressed pawl on the socket, a treadle connected with the pawl for releasing it from the rod, and springs connecting the bars and the table.

6. A machine for forming bundles comprising a table with a well therein, a platform movable in the well, bars on the platform to engage the bottom of the well and thereby limit the upward movement of the platform, a socket, a rod slidable in the socket and with its top end supporting the platform, the rod having notches therein, a spring-pressed pawl on the socket, a treadle connected with the pawl for releasing it from the rod, springs connecting the bars and the table, the bars being disposed to limit the upward movement of the platform when the platform is slightly above the top of the table to enable the fingers of the hand to be placed under a bundle on the platform.

7. A machine for forming bundles comprising a table having a well therein, the well having vertical walls extending downwardly from the table top a platform movable in the well and adapted to co-operate with the walls of the well in defining the shape of the bundle as the articles constituting the bundle are piled on the platform and means for releasably securing the platform at various positions in its descent.

8. A machine for forming bundles comprising a table having a well therein, the well having vertical walls extending downwardly from the table top a platform movable in the well and adapted to co-operate with the walls of the well in defining the shape of the bundle as the articles constituting the bundle are piled on the platform, means for releasably securing the platform at various positions in its descent and means for returning the platform to its uppermost position when the securing means is released.

9. A machine for forming bundles comprising a table having a well therein, a platform movable in the well and forming a bottom therefor, means for raising the platform, means for holding the platform in depressed position, means for supporting a paper strip on said table and over the well and a stop for positioning the platform normally slightly above the table top whereby the hands can be placed between the paper and the table top when the bundle is completed.

10. A machine for forming bundles comprising a table with a well therein, a platform movable in the well, and a frame having rollers at its sides and ends and of a size to fit in the well and to be used in conjunction with the platform and the walls of the well in forming a bundle.

11. A machine for forming bundles comprising a table having a rectangular well extending downwardly from the top of the table, and a rectangular platform movable in the well, where-

by crossed strips of paper can be extended at right angles on the table and across the well.

12. A machine for forming bundles comprising a table having a rectangular well therein, a rectangular platform movable in the well, whereby crossed strips of paper can be extended at right angles across the well and above the platform and a frame to rest on the crossed paper strips and having curved surfaces at its sides and ends to pass within the well when the platform descends and thus facilitate the movement of the paper when the platform descends.

13. A machine for forming bundles comprising a table having a rectangular well therein, a rectangular platform movable in the well, whereby crossed strips of paper can be extended at right angles across the well and above the platform, a frame to rest on the crossed paper strips and having curved surfaces at its sides and ends to pass within the well and permit movement of the paper when the platform descends, and clamps to hold one end of each paper strip.

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