CHART PATTERNS
AFTER THE BUY

THOMAS BULKOWSKI

CHART PATTERNS: AFTER THE BUY

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CHART PATTERNS: AFTER THE BUY

Thomas Bulkowski

WILEY

To Donna McCormick.

Abundant intelligence,
A kind soul,
A giving heart,
Wrapped in a frail body.

She is discovered treasure.

CONTENTS

I used to think chart patterns were the footprints of the smart money. Now I believe the definition should include the dumb money, too, and everyone in between.

When I trade a stock, others are doing the same. We move price up or down, depending on how strongly we want to buy or sell. If enough of us buy a stock with enthusiasm and continue to buy, we force the stock to trend upward. Prolonged aggressive selling forces the stock down. That buying and selling creates patterns on the price chart, patterns that we see repeatedly.

Chart patterns have been around for decades. I expect them to be around in the coming decades, too, because the forces of buying demand and selling pressure will still be present to shape the charts. Machines may change the dynamics, but human emotion will still be there to leave the footprints.

The idea for this book came in the form of a question. What happens *after* I buy a stock showing a chart pattern?

Answering that question for 20 chart patterns took two years. The result is this reference book.

Most books focus on what triggers a buy. Fewer books focus on what happens next. I used 43,229 chart patterns pulled from bull markets to uncover the secrets to what happens after buying a stock. The results help select better buy signals so you have an increased chance of making money and avoiding disaster. All you have to do is match your setup to one of the configurations illustrated in this book.

Most chapters follow the same layout so using this reference book is easier, too. The **Behavior at a Glance** section illustrates how a chart pattern behaves, with the most important performance statistics right on the charts.

Identification Guidelines follow so even people new to chart patterns will know what to look for. And with almost 370 stock charts and illustrations, you have plenty of examples.

Next comes the **Buy** and **Sell Setups**, backed by statistics that describe how well they work.

The **Best Stop Locations** tell how often a stop in a chart pattern will trigger. That alone is worth the price of this book.

The section on **Configuration Trading** shows how your setup is likely to behave in the future. It is the heart of the book.

The **Measure Rule** tells how to set price targets and how often you can expect price to reach those targets for both up and down breakouts.

The **Trading** section gives examples of how to use the information and discusses actual trades.

You will find the **Setup Synopsis** charts at the end of each chapter to be invaluable. The charts combined the ideal setups in one location, making it easy to match your trade with what could happen after you buy.

Each chart includes labels for points of interest. Too many authors forget this step and leave you wondering where that price spike they are talking about really is.

Not so with this book.

I never leave you guessing.

But wait. There's more.

Not only do I cover the most common and popular chart patterns, I include other patterns as well. Earnings misses, price mirrors, price mountains, and straight-line runs are just a few of the chapters that fill this book.

Whether you are new to chart patterns or are an established professional, this book has the information you need to better select trades that work. This book will give you the edge that all traders and investors need in today's markets.

ACKNOWLEDGMENTS

Thomas Bulkowski is a successful investor with 35 years experience trading stocks. He is considered to be a leading expert on chart patterns and an internationally known author.

Bulkowski is a frequent contributor to *Technical Analysis of Stocks & Commodities* magazine and has written for the following magazines: *Active Trader*; *Stocks, Futures and Options*; *The Technical Analyst*; *Traders*; and *The Trader's Journal*, and his articles have appeared on numerous websites.

Before earning enough from his investments to retire from his day job at age 36, he was a hardware design engineer at Raytheon and a senior software engineer for Tandy Corporation.

His website address is www.thepatternsite.com. There you will have free and open access to hundreds of original articles, research, and blog posts written by Bulkowski.

Big M
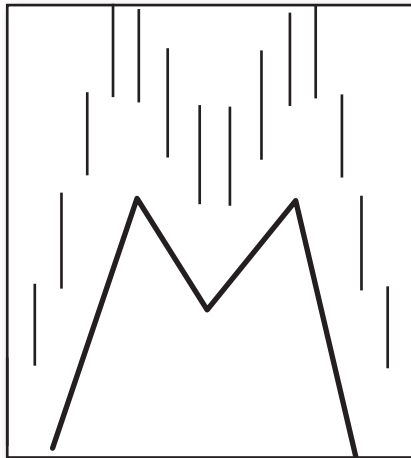
I fired up my computer and typed "big M chart pattern" into a search engine and my website (thepatternsite.com) came up first on the list. That tells me not a lot of research has been done on the big M.

You might think that the big M is a burger joint, but in technical analysis, it is a variation of a double top chart pattern. The difference between a double top and a big M is that the big M has tall sides (when it works). When it fails, the left side remains tall, but the right side is amputated.

Let us take a closer look.

■ Behavior at a Glance

Figure 1.1 shows the typical behavior after a big M chart pattern forms. The big M is shown in a slightly thicker line.

The launch price is where the uptrend begins that leads to the big M. Often the run up to a big M is a straight-line affair, not a rounded turn. The climb lasts as long as bullish enthusiasm drives price higher. Eventually, however, the stock peaks and retraces. That retrace forms the first peak of the big M.

Bulls gather and attempt a new high, but price stalls at or near the price of the first high and drops back. This up-and-down movement forms the second peak.

When price closes below the valley between the two peaks, it confirms the chart pattern as a valid one and signals a breakout. Timber!

Price drops an average of 17% below the breakout price, but that is for more than 1,300 perfect trades. Do not expect to duplicate those results. You might hurt yourself.

Comparing the ultimate low with the launch price, we find that 60% of the big Ms see price returning to or dropping below the launch price. That also means 40% remain above the launch price.

■ After a big M, the stock returns to the launch price 60% of the time.

Pullbacks

Figure 1.2 shows what happens to big M patterns 63% of the time.
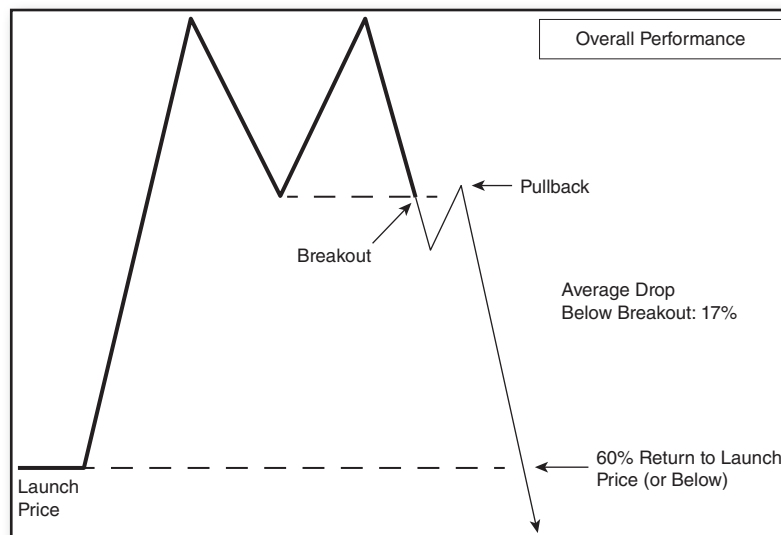
FIGURE 1.1   This is the typical behavior of a big M chart pattern.
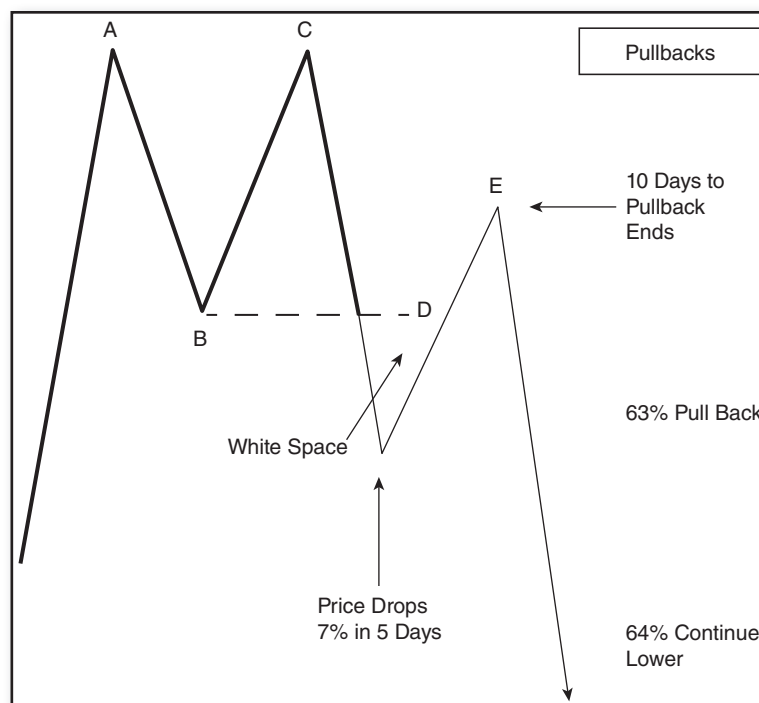
FIGURE 1.2   Statistics related to pullbacks.

A big M appears as peaks AC with B marking the lowest valley between the two peaks (the so-called confirmation, or breakout price). A close below the price of B means a downward breakout. If price closes above the highest peak (A or C) *before* closing below the breakout price (B), then you do not have a big M.

D represents a pullback when the stock returns to the breakout price within a month after the breakout. The one-month window is arbitrary, but it serves as a good benchmark. I prefer that white space appear between the breakout and pullback as shown in the figure.

After a downward breakout, price drops an average of 7% in 5 days. Price reverses and retraces the drop for 5 more days (10 calendar days total since the breakout) until it peaks again at the top of the pullback (E).

Thirty-six percent of the time price continues higher, often leaving traders with a loss on their ledgers. However, the vast majority of the time (64%) price continues lower.

■ A pullback occurs 63% of the time and price continues lower 64% of the time.

Busted Tops

Figure 1.3 shows the performance of busted big M chart patterns. A pattern busts after a downward breakout when price drops less than 10% before reversing and closing above the top of the chart pattern.
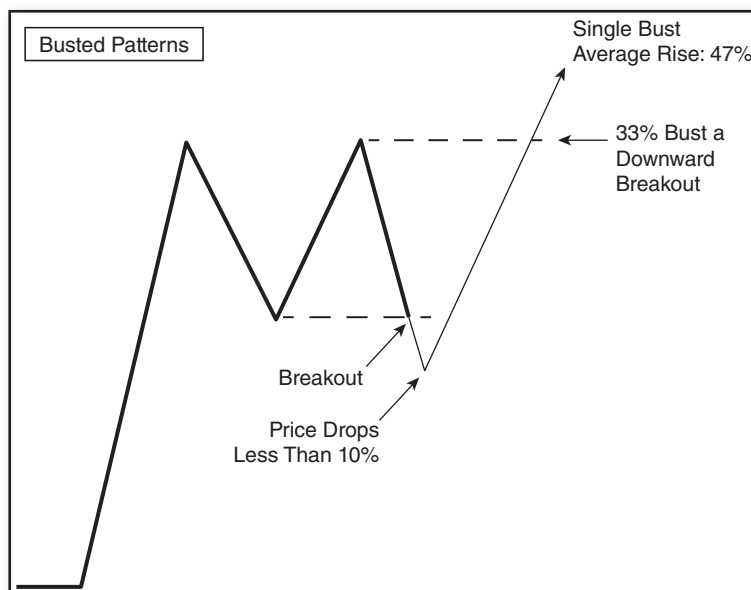
FIGURE 1.3 The average performance of big Ms that bust a downward breakout.

I found that 33% of big Ms will bust a downward breakout in a bull market. That means 1 in 3 trades will likely lose money. However, if you see a busted big M, then buy it. The average rise for a single busted chart pattern is a mouthwatering 47%. Of course, a single bust can turn into a double or triple bust, too. That is a risk. I will explain double and triple busts later or you can visit the glossary, which shows a picture (see Figure G.1).

- Big Ms bust 33% of the time.

■ Identification

Figure 1.4 shows an example of a big M chart pattern. The launch price is at A. The bulls get excited about the stock and bid it up, day after day, so that a straight-line run forms and takes price much higher, to the first top (B).

The first peak's shape can vary from rounded looking (as in this case) to a one-day needle ready to draw blood. Following the first peak, price tumbles to C when the bears take charge of the stock, often forming a V-shaped turn. The BC drop averages 10%.

The bulls counterattack and force the price back up. Those buying the stock near the first peak say, "as soon as I get my money back, I'm selling." And they are as good as their word. That forms peak D near the same price as B. The two peaks need not match the same price exactly. However, I found that the average price difference between the two is about 1%.
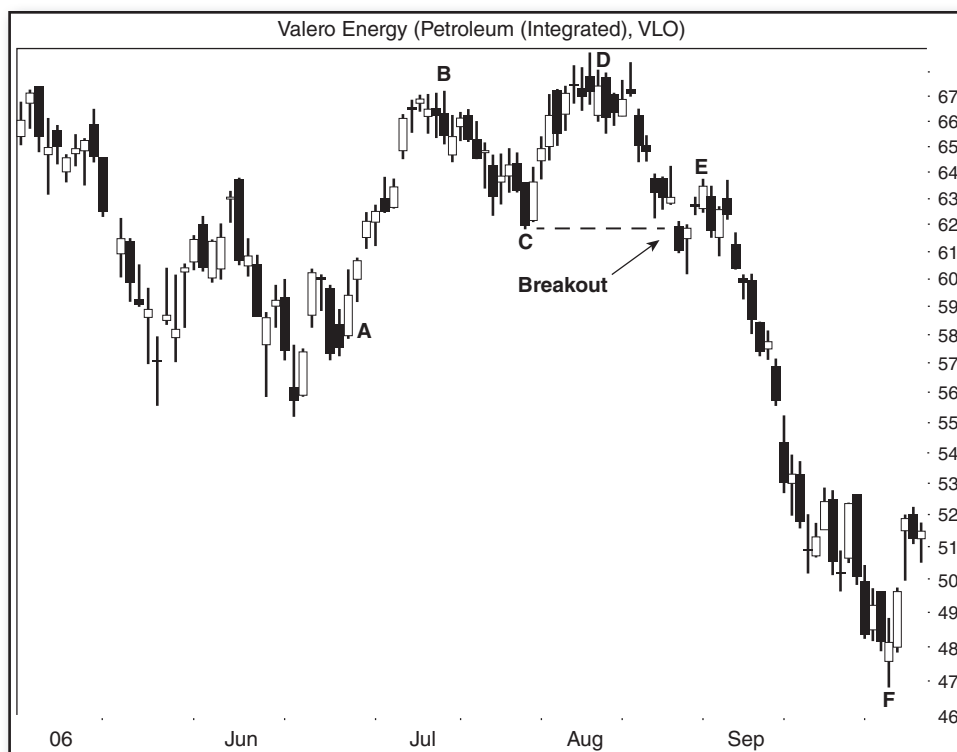
FIGURE 1.4   This big M looks like a double top with tall sides.

When people sell near the second peak, that selling pressure forces the stock lower. When it closes below the price of the valley between the two peaks (C), it breaks out and confirms the chart pattern as a valid big M. In this case, price pulls back to E before continuing lower.

Table 1.1 shows the identification guidelines for finding big Ms.

Rise. Price should rise quickly, often in a steep, straight-line run leading to the first peak. The move from A to B in Figure 1.4 shows an example of a typical move higher.

Avoid selecting potential big Ms with a rounded turn on the rise leading to the first peak. I show an example of that in **Figure 1.5**. BD is a double top, not a big M. The inset shows the difference between the two chart patterns.

■ Avoid selecting potential big Ms with a rounded-looking turn leading to the first peak.

The rise from A to B starts as a nice straight-line run, but it is not long enough when compared to the size of the drop from the first peak (B) to the valley floor (C). The AC price distance is shorter than CB.

TABLE 1.1   **Identification Guidelines**

Characteristic	Discussion
Rise	Price makes a steep move higher, often in a straight-line run, leading to the first peak.
Height	The height from the launch price to the first peak should be extensive, often twice as tall as the distance from the first peak to the bottom of the valley between the two peaks.
Twin Peaks	Two peaks top out near the same price but allow variation. The average price difference between the two peaks is about 1%.
Breakout	When price closes below the lowest valley between the two peaks, a breakout occurs and you have a valid big M. If, instead of breaking out downward, price first closes above the highest peak, then you do not have a big M.
M Shape	The chart pattern should look like an M once it completes.
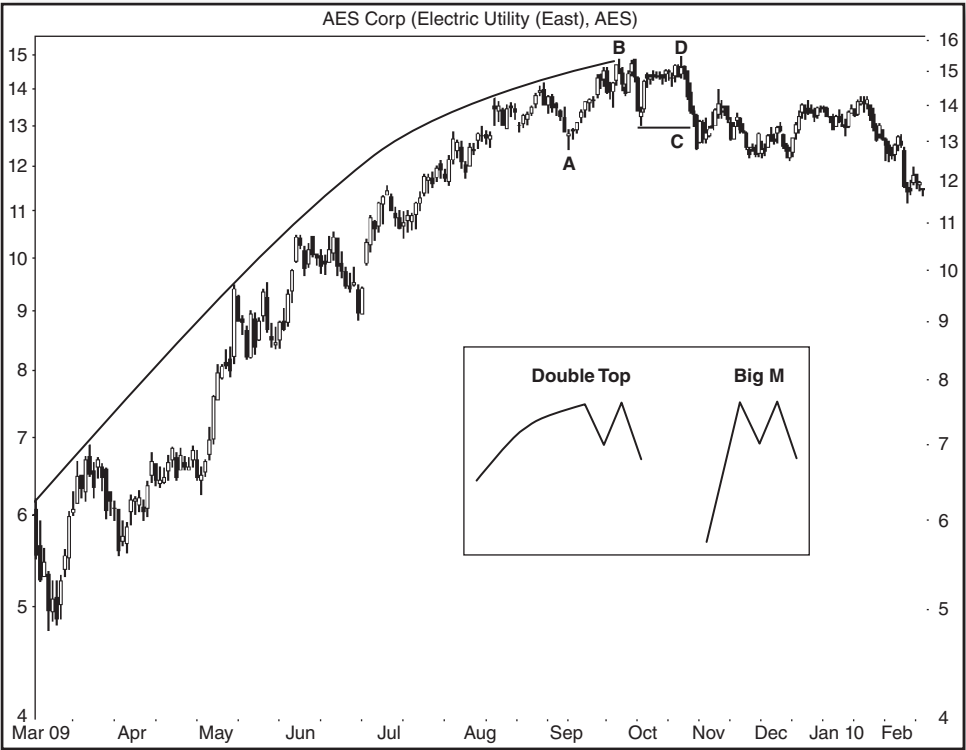
FIGURE 1.5   The ABCD pattern is a double top and not a big M because of the rounded turn leading to peak B.

For valid big Ms with peaks spaced months apart, the rise to the first peak is often more sedate (less vertical) than for big Ms with narrower peaks. Use common sense when looking for big Ms.

Height. The height of the big M is an important feature. Consider the big M in **Figure 1.6**. The launch price is at A1, and the stock flies up quickly to C1. The run is straight, almost vertical, not curved like that shown in the approach to A in Figure 1.5.

Look at the inset of Figure 1.6. The horizontal line at B marks the valley floor between the two peaks of the big M. The price difference from A to B should be at least as big as the move from B to C.

The measure is like playing horseshoes or tossing hand grenades: close is what counts, but allow variations. On the stock chart, the price change from A1 to B1 is about the same as the change from B1 to C1.

Take care when comparing the move visually. The logarithmic price scale can make a visual examination difficult. Either switch to the linear scale or whip out your calculator and tabulate the price difference if it concerns you.

■ Beware using a log scale when visually inspecting a chart pattern.
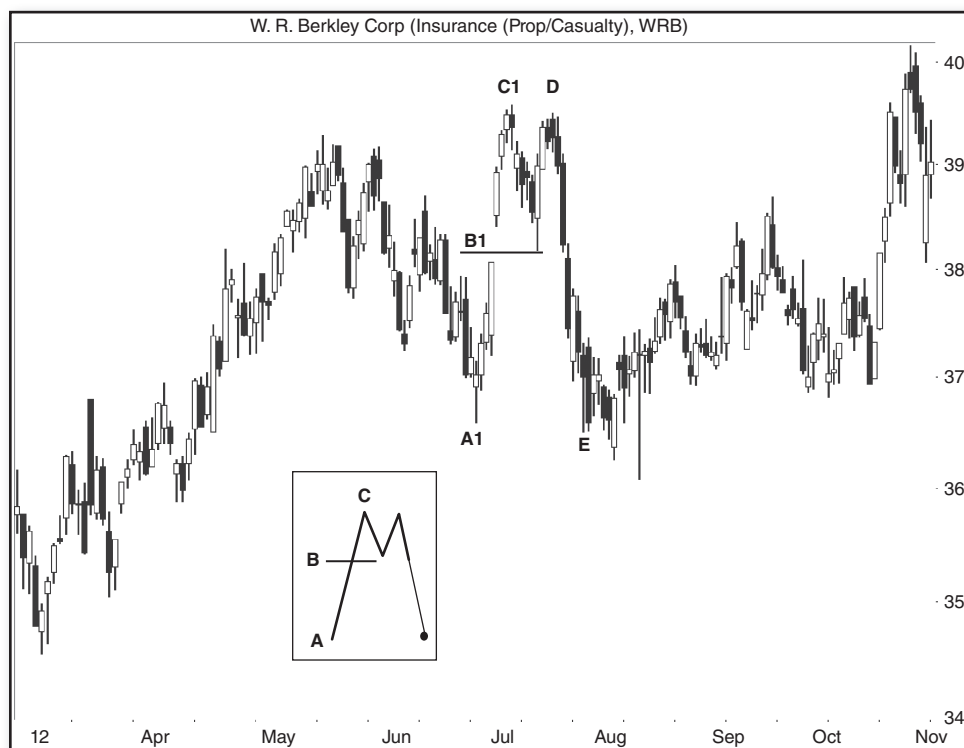
FIGURE 1.6 A swift move higher from A1 to C1 forms a big M pattern when price closes below B1 on the way to E.

Twin Peaks. Price should form two peaks in the big M. The peaks can be any shape from gently rounded turns to needle-thin spikes. Both peaks should top out near the same price.

Breakout. A breakout occurs when price *closes* below the valley between the two peaks. In Figure 1.6, that means a close below the price of B1 as the stock drops on the way to E. When a breakout happens, it changes squiggles on a price chart to a valid big M chart pattern. If price first closes above the top of the big M (C1, the taller of the two peaks in this example) before confirmation (before price closes below B1), then you do not have a big M.

M Shape. Finally, look for the overall pattern to resemble an M with tall sides. Figures 1.4 and 1.6 show this.

Identification Variation

Figure 1.7 shows an identification variation I saw many times as a big M formed. In this case, after price climbed off the March low (A), it paused and retraced for a few weeks, forming what I call a handle. Then price resumed its climb to the first peak (B), dropped some, and climbed back to the second peak (C), before plunging to E and completing the big M.
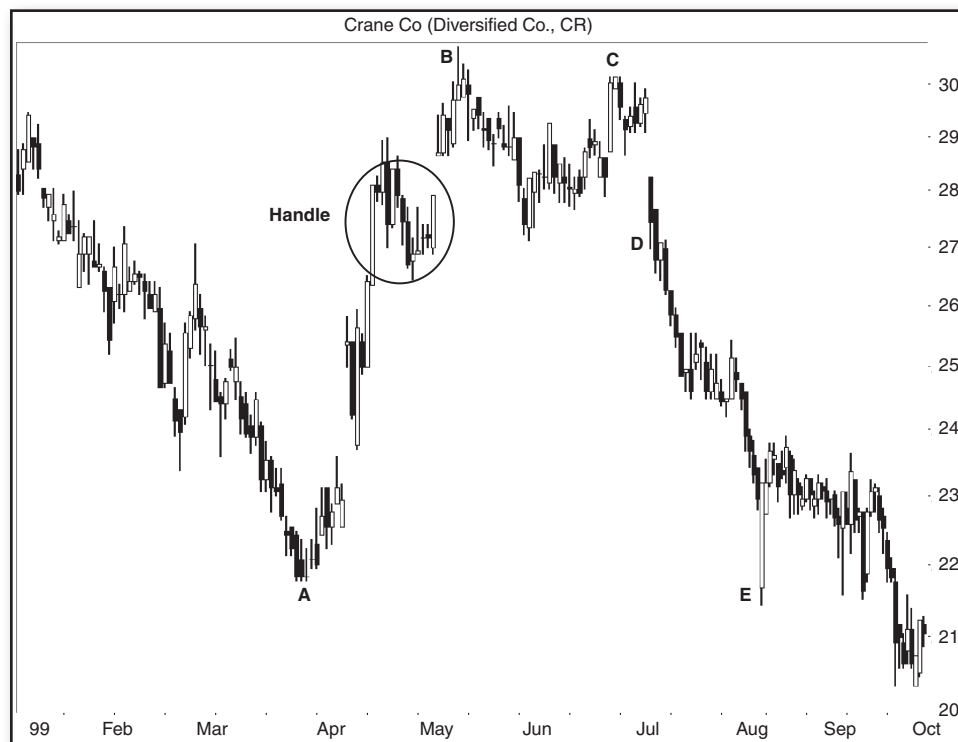
FIGURE 1.7   Price pauses on the way to forming a big M.

Handles on the way up to the first peak are rare and may obscure identification of a big M. If another handle forms on the drop to D, which mirrors the one on the left, then you probably have a complex head-and-shoulders top chart pattern. That would be a pattern with two heads and two shoulders. In such a case, you should treat it not as a big M, but as a complex head-and-shoulders top.

- A handle sometimes forms on the rise to the first peak.

- A handle on both sides of the big M means the pattern is a complex head-and-shoulders top and not a big M.

■ Buy Setup 1

The following setups use bull market data (only) from August 1996 to May 2014. I found 1,323 big Ms in 501 stocks.

Look at the inset of **Figure 1.8**. Price forms a big M (A–E) with a valley at C. Price breaks out downward and drops to E. However, the price of E is less than 10% below C. After E, the stock rises. When it closes above the top of the big M, it busts the pattern. That is the buy signal.
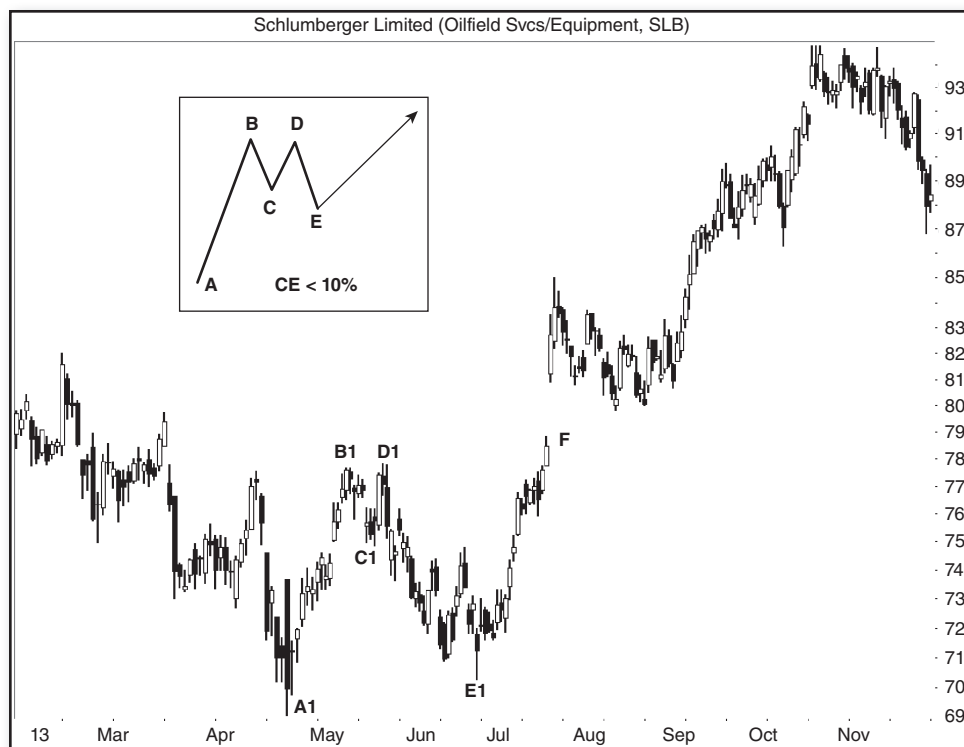
FIGURE 1.8 A busted big M leads to a good move higher.

The stock chart shows an example of a busted big M at A1 to E1. The drop from C1 to E1 measures 6% in this example, within the 10% window for busted patterns. When price climbs to F, it closes above the taller of the two peaks (D1) and busts the pattern. Since price rises more than 10% above D1 (the taller of the two peaks), it completes a single busted big M. The rise ended in July 2014 at almost 119.

Here are the steps to use this setup.

1. Qualify the chart pattern using the identification guidelines shown in Table 1.1.
2. The stock must confirm the big M by closing below the price of the valley between the two peaks (below C in Figure 1.8).
3. Price must drop less than 10% below the valley before reversing (the C to E drop).
4. Price rises and closes above the taller of the two peaks of the big M.
5. Buy at the open the next day.
6. Place a stop-loss order a penny below the bottom of the chart pattern or at a location of your choice.

Table 1.2 shows a few statistics for busted big M patterns.

1. Percentage of busted big Ms. Of the 1,323 big Ms I looked at, 33% of them busted. That means a third of the time price fails to drop more than 10% after a breakout before closing above the top of the big M. The number suggests that if you are looking for a large decline (more than 10%), then you have a 33% failure rate to start, which is huge.

2. Average rise after busting. The average rise of all types of busted big Ms (meaning single, double, and triple+ busts) is 31%.

3. Average rise after single bust. This is where busted chart patterns shine. After a big M busts, the average rise from the top of the chart pattern to the ultimate high is 47%. That gain is for big Ms that single bust only.

TABLE 1.2	Busted Big M Statistics	
Description	**Result**
1. Percentage of busted big Ms	33%
2. Average rise after busting	31%
3. Average rise after single bust	47%
4. Percentage of single busts	62%
5. Percentage of double busts	17%
6. Percentage of triple+ busts	20%

4-6. Percentage of single/double/triple+ busts. Sorting the 33% of big Ms that bust into single, double, and triple busts, we find that 62% of them bust once. Double busts cross the finish line at 17%, and three or more busts (triple+) finish at 20%.

In other words, your chance of having a single busted pattern is quite good.

■ Four Sell Setups

Figure 1.9 shows four setups, two you should look for and two you should avoid. I will discuss the performance statistics in a moment.

The trend start is the highest high or lowest low before which the stock drops or rises, respectively, at least 20%. Look for the trend start *before the launch price* of the big M. See the glossary for more details on finding the trend start.

Look at Setup 1 in the upper left of the figure. From the trend start to the first peak of the big M, the stock makes a small rise that takes a long time to reach the big M. That combination of small price rise and a long time is bad for post-breakout performance.
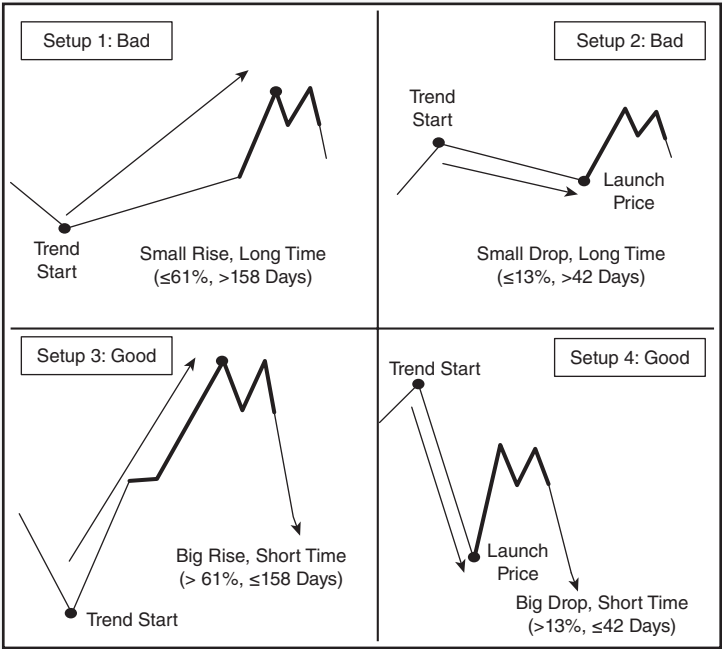
FIGURE 1.9   Four sell setups for big Ms.

Setup 2 shows another bad combination of price and time. This one has price trending *lower* to the launch price. The drop from the trend start to the launch price is small, representing a shallow decline, but it takes a long time.

Setup 3 is the first of two good variations. Look for a rising price from the trend start to the first peak in the big M. The rise should be short and yet the percentage gain should be large. That combination of short and steep can lead to a large decline after the breakout.

Similarly, Setup 4 shows a big drop in a short time from the trend start to the launch price. Those types of downdrafts tend to pull the stock lower after the breakout.

Setups 1 and 3 have price rising from the trend start and Setups 2 and 4 have it declining. A rising or falling inbound trend is important to the setups.

Setup Numbers

I measured the median time for the stock to *rise* from the trend start to the first top (158 days). The median percentage rise over that time from the low at the trend start to the high at the first top was 61%.

Using these two numbers as benchmarks, I mapped how well big Ms performed post-breakout, and **Table 1.3** shows the results. The differences between the numbers may seem minor, but a 19% drop is 46% bigger than a 13% drop. When traders speak of having an "edge," this is what they are talking about.

To reach the first peak of a big M, patterns that took longer than the median 158 days and climbed more than the median 61% showed price declining an average of 16% after the breakout.

Big Ms that had a large rise but took less time, showed the largest drops in the table: 19%. That combination corresponds to Setup 3 in Figure 1.9. When looking for big Ms that will outperform, search for a big rise (more than 61%) in a short amount of time (less than or equal to 158 days). After the breakout, the stocks tends to give back more of that rise than the other combinations of rise and time.

Since more samples will likely change these numbers, be flexible. Concentrate not on the numbers but on the shape: A big rise in a short time leads to a larger post-breakout decline. It will not always happen, of course, but that is the way to bet.

TABLE 1.3	Rising Inbound Trends: Average Loss versus Time and Percentage Drop	
Description	Big Rise (>61%)	Small Rise (≤61%)
Long time (>158 days)	−16%	−13%
Short time (≤158 days)	−19%	−17%

The worst performance comes after a small rise (less than or equal to 61%) after a long time (more than 158 days) leading to the first peak of a big M. Big Ms with that combination showed post-breakout drops averaging 13%. I show that combination in Figure 1.9, Setup 1.

To put this finding in a positive light, if you own a stock long and wish to hold onto it, then the smallest decline comes from big Ms with a small rise in a long time leading to the first top.

Table 1.4 shows the performance numbers when the inbound trend *declines* from the trend start to the launch price.

I found that the median drop was 13%, and it took 42 days for price to decline from the high at the trend start to the low at the launch price. Once I had those numbers, I could map the performance of big Ms, which Table 1.4 shows.

For example, stocks that made a big drop (more than 13%) in a short time (less than or equal to 42 days) leading to a big M, saw price decline the most after the breakout: 23%. That scenario corresponds to Setup 4 in Figure 1.9.

The worst post-breakout performance was a drop of 16%. That happened when stocks dropped less than or equal to 13% (small drop) and took longer than 42 days to reach the launch price of a big M. That combination appears as Setup 2 in Figure 1.9.

Again, use the numbers as guidance of what to look for, but pay attention to the shape of the inbound trend: short or long, steep or shallow.

Although the numbers in Tables 2.3 and 2.4 show results close to each other, give yourself an edge and trade big Ms with the best performance and avoid the worst performers. The trade may still fail, but the probabilities suggest you will do better by trading the right combination of time and price drop consistently.

Here are the steps for using the best performing setups (3 and 4).

1. Qualify the big M using the identification guidelines shown in Table 1.1.
2. Find the trend start. The trend start is the highest peak or lowest valley before which price falls or climbs (respectively) at least 20%.
3. If the trend start is above the launch price (Figure 1.9, Setup 4), then look for a steep drop of more than 13% in 42 days or fewer from the trend start to the launch price (between the black dots in the figure).

TABLE 1.4	Declining Inbound Trends: Average Loss versus Time and Percentage Drop	
Description	Big Drop (>13%)	Small Drop (≤13%)
Long time (>42 days)	−17%	−16%
Short time (≤42 days)	−23%	−19%

4. If the trend start is below the launch price (Figure 1.9, Setup 3), then look for a steep rise from the trend start to first peak (between the black dots in the figure). The rise should be more than 61% but takes 158 days or less.
5. If both steps 3 or 4 do not apply, then the probability of a losing trade increases. Consider looking for a different big M.
6. The stock must confirm the big M by closing below the price of the valley between the two peaks.
7. Short at the open or sell a long holding the day after a breakout, or place an order to short/sell a penny below the valley between the two peaks.
8. Place a stop-loss order a penny above the top of the big M or at a location of your choice.

■ Best Stop Locations

If you trade a big M, where is the best place to put a stop-loss order in case the trade blows up? **Table 1.5** shows how often price hits two stop locations.

1. **Penny above the pattern.** Placing a stop a penny above the highest peak of the big M means the chance of being stopped out is just 1%. The average loss is 9%, and those missed trades would go on to drop 16% below the breakout price. All of the numbers are averages.
2. **Within the pattern.** Stops placed somewhere between the tallest peak and lowest valley of the big M means a 69% chance of the stop being hit. The loss is small, 3%, and those trades went on to lose an average of 17%.

The numbers suggest that a stop placed a penny above the top of the big M is the best stop location, providing you can stomach a 9% loss.

I suggest you measure the potential loss from the breakout price (use the low price of the valley between the two peaks) to the stop location. If that distance represents too large of a loss, then choose a more suitable location.

■ Place a stop-loss order a penny above the top of the big M and trail it downward as price drops.

TABLE 1.5 Stop Locations for Big Ms			
Description	Chance of Being Hit	Average Loss	Missed Trades, Loss
1. Penny above the pattern	1%	9%	16%
2. Within the pattern	69%	3%	17%